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Appendix 1

Foodshed Vision

A foodshed may be defined as the geographic area within which the food for a specific population originates, as well as a mechanism for understanding the systems in place that drive the flow of that food supply.¹ Thus, the scale of our foodshed from smallest to largest includes:

- Local: yard, block, neighborhood, city, county
- Regional: Portland, OR region; Willamette Valley; State of Oregon; Columbia Basin;
- West Coast
- United States
- Mexico and Canada (The North American Free Trade Agreement guides trade in North America)
- All other countries

While our local and regional foodshed does include flows of supply and demand at all the above scales, this report is concerned with the Portland Metropolitan Foodshed. The geographical extent of the foodshed could be justifiably defined in a variety of ways. This report defines the foodshed as Columbia, Clackamas, Multnomah, Washington and Yamhill Counties and the systems that support the food supply.

The four components of the food economy are:

- Producers (Growers, Farmers) are the places and their owners that grow food. From the smallest to the largest scale, these include: yards; community gardens; public planting strips, medians and other small places; nature/the wild; and farms.
- Processors are the methods and facilities where raw foods and byproducts are processed and packaged for distribution. The extended cluster is a mix of commodity producers, specialized, niche producers, processors, distributors and packagers. From smallest to largest, these include individual processors, shared facilities/equipment, mobile processors, small-scale processors, large processors, and byproduct processing facilities.

¹ Blum-Evitts, Shemariah, *Designing a Foodshed Assessment Model: Guidance for Local and Regional Planners in Understanding Local Farm Capacity in comparison to local food needs*, Master's Thesis, May, 2009

- Distributors are the various delivery methods by which food gets to consumers, including: food clubs; community supported agriculture operations (CSAs); farm stands; farmer's markets; corner groceries; gleaners; restaurants; catering, regional markets; supermarkets; and commercial wholesale distributors.
- Consumers ingest and utilize food and its byproducts made by producers and processors at all scales and delivered by the various distribution methods described above. Consumers include: individuals/households; the landscape; institutions; animals; and fuel-based machines.

These four components of the food system economy are closely related and interact in a dynamic fashion with growers engaging directly and indirectly with consumers, processors, and distributors. The system produces several “products:” or outputs including: ecosystem services (e.g., clean water and air), incomes profits and tax revenues, regional and community identity and projects (e.g., farmers markets), increase urban and rural connections, healthy food to prevent disease, and importantly for this project – food and food products.

Appendix 2

Literature Review

APPENDIX 2
SARE - PORTLAND METROPOLITAN FOODSHED STUDY
LITERATURE REVIEW PART I
APPROACH, BACKGROUND, AND KEY ISSUES
MAY 27, 2011

Purpose

The purpose of this initial literature review is to:

1. **Approaches and Policy Frameworks.** Identify approaches to economic analyses of local and regional foodsheds and identify key policy frameworks as well as case study examples.
2. **International, National and Portland Metro Area Case Studies.** Find national and Portland Metro area information collected to date on metropolitan foodsheds and identify data gaps.
3. **Barriers and Opportunities.** Identify key issues, barriers and opportunities faced by farmers and producers (in urban/urbanizing areas) strengthening the metropolitan foodshed economy.

Executive Summary

A summary of the Approaches and Policy Frameworks, Case Studies and Barriers and Opportunities sections of the literature review follows.

Approaches and Policy Frameworks

This section summarizes eight studies that serve as a framework for how to approach an economic assessment of metropolitan agriculture. These studies cover the global context for assessing the metropolitan foodshed economy, examine the case for local, sustainable agriculture and show several examples of foodshed assessment methodologies.

Major findings include:

- Rising fuel costs, climate change, replacing food crops with biofuels, increased meat consumption and politics are all contributing to the rising cost of food all over the world.
- Rapid urbanization creates vast numbers of new consumers, often poor, who require affordable food.
- Approximately 840 million people suffer from chronic hunger and 2 billion suffer from macronutrient deficiencies.
- There are many major threats and disruptions to food security all over the world.
- The distance between consumer and producer continues to increase, while energy costs and GHG emissions also increase.
- Metropolitan regions have an opportunity to develop community-based agricultural economic development.
- Industrialization has led to efficiencies in agricultural production, as well as degraded farmland, concurrent reduction in rural vitality and decreased access to healthy, local food.

- The most direct way that expansion in local food systems could benefit local economies is through import substitution.
- Economic multipliers show that buying local food has a significant, positive impact on the local economy.
- There is a renewed relevance of smaller, integrated economic systems and supply chains in a global age, in particular appreciation of quality construction, production and service.
- Increasing food security may require: knowing where our food comes from and where it might come from; changing our consumption patterns to prioritize foods that require less land and energy to produce; measuring the potential for local foods to reduce energy use and GHG emissions; tracking different “costs” of producing and transporting foods; and estimating the capacity for population centers to supply more of their food locally.
- Urban agriculture is one way for cities to address the costly challenges of vacant land.
- There is no generally accepted definition of “local” food, although local food markets include direct-to-consumer sales, farmers’ markets, community supported agriculture operations (CSAs), farm-to-school programs, institutional purchases and local/regional markets.
- Direct-to-consumer, farmers’ market, CSA, and farm-to-school program sales all have risen dramatically over the last ten years.
- Organic production and consumption continue rapid growth.
- There is growing government support for local food, although federal policy supports commodity production.
- Some consumers will pay a premium for local food.

Case Studies

National/International

This section summarizes eight example metropolitan foodshed market analyses from various cities and counties in the United States and Canada. Jurisdictions covered include: the State of Oregon; Lane County, OR; Sacramento, San Francisco, and Oakland, California; Vancouver, BC, Canada; the Delaware Valley region around Philadelphia, Pennsylvania; the State of Ohio; North Carolina; and Treasure Valley, Idaho.

Major findings of these case studies include:

- There are several national sources of data available to assess food systems/markets, e.g. Bureau of Labor Statistics, Census of Agriculture, Oregon Employment Department, and Oregon Agricultural Information Network.
- Other sources include private data (grocery stores), interviews, and surveys.
- Parts of the food system most often studied include growers, processors, land, retail/restaurants, distribution/transportation, agri-tourism, policy/land use, waste recovery and consumers.
- Most metropolitan foodshed areas import many millions of dollars in food every year.
- In most cases, demand for food exceeds the local supply.
- There is a growing interest in locally and sustainably grown foods across the U.S.
- Oregon residents value locally grown food and local farmers.
- Demand for growing food is increasing, while demand for nursery products is declining along with the collapse of the housing market.
- Most farmers do not make enough money farming to make a living, and many hold second jobs.

- The high price of land and inheritance laws can be prohibitive for entry by new farmers.
- Agri-tourism has a great deal of potential for increasing the economic viability of farming.
- The prevalence of cheap, unhealthy food is a major threat to consumer health and the economic viability of farmers.
- There are a variety of ways to encourage residents to change their behavior and buy local and/or sustainably grown and processed food.
- Clusters of community-based food businesses create jobs, but do even more; they create collaborative groups of new business owners.
- The key “lever” driving change in some emerging food systems is commerce based on relationships of mutual trust, through clusters of firms that grow in concert with each other to create both resilience and stability.
- Oregon is one of the strongest agricultural states in the nation in terms of length of growing season, quality of agricultural soils, and the diversity and quantity of food crops that are produced. However, at the same time, our state currently ranks second among all states for the number of people who are forced to skip or reduce the size of their meals because they cannot afford enough food (*termed very low food security*).
- A 2005 USDA study showed that small Oregon farming operations or adaptive farms tend to have average gross sales per acre that are about twice as high as the overall average.
- For the same small farms, the average age of the Oregon operator is lower than for farmers in general, and the number of off-farm work days declines over time.
- While Oregon’s land use laws have protected agricultural acreage, they may also have constrained the development of adaptive farms and agricultural tourism.
- Between 2002 and 2007, the number of Oregon farms in organic production raised from 515 to 933 and from 1.3% of total farms to 2.4%.
- In 2007, 470 farms with 16,175 acres were converted to organic production in Oregon
- Between 2002 and 2007, the market value of Oregon’s organic farm sales rose from about \$9.9 million to \$88.4 million, or from 0.3% of total farm sales to 1.9%.
- As of 2007, over 75% of the total acreage (over 12 million acres) in Oregon was dedicated to food production.
- The USDA has initiated a “know your farmer, know your food” campaign educating people about buying local and supporting farmers’ efforts to build personal relationships with their customers.
- In 2005, Oregon nursery crops, bulbs, greenhouse crops, and turf were 19.1 percent of the total, but by 2009 they had declined to 15.4 percent.
- Oregon grains were 4.9 percent in 2005 and increased to 7.3 percent in 2009.
- Oregon’s dairy products sector continues to increase its share of the total, from 8.4 percent in 2005 to 9.5 percent in 2009.
- Rural Oregon has been hardest hit, with several counties – including Crook, Douglas, Jefferson, Harney and Grant – all above 15% in 2010.
- According to the Oregon Farm Bureau, three quarters of what is produced in Oregon is exported to other states and overseas with ¼ sold in Oregon.
- Oregon has less industrialized agriculture than other states because of the diversity of farm products, size of farms, with high production of specialty crops, such as fruits, vegetables, tree nuts, dried fruits and nursery crops.
- Oregon has a strong base of multi-generational, family farms and emerging farmers, such as immigrants and a younger generation with a renewed interest in farming.

- There is an opportunity to develop Oregon’s regional food infrastructure for storage, processing, marketing and distribution that supports the community food system movement, especially for small and mid-sized growers.

Portland Metro Area

There are 13 food system analysis case studies from the Portland metropolitan region summarized in this section. Topics/sources include:

- Clark County, WA
- Multnomah Food Action Plan/Multnomah County Office of Sustainability
- Bi-state Portland Metro region/Institute of Portland Metropolitan Studies
- The City of Damascus/Lynn Weigand
- Willamette Valley/Giombolini, Katy J. et al
- Clackamas County agriculture/County Soil and Water Conservation District
- Clackamas County institutional purchasing/Workforce Investment Council of Clackamas County
- Agriculture and natural resources economy/Clackamas County
- Commercial viability of Metro region agricultural lands/Oregon Department of Agriculture
- Food systems (Portland Plan Food Systems Background and Final Reports)/City of Portland
- Farmers markets/City of Portland
- Urban agriculture/Portland/Multnomah Food Policy Council

Major findings of these studies include:

- There is a wealth of existing data and example frameworks for assessing the Portland metropolitan foodshed economy.
- Major topics most commonly studied include:
 - Farmers market characteristics and sales.
 - Institutional purchasing.
 - Land.
 - Crop types and sales.
 - Food processing.
 - Characteristics of growers and other human capital.
 - Food waste
 - Water, land use, food security, policy and energy issues.
 - Consumer choices and health.
 - Demand for local food.
 - Marketing.
 - Urban agriculture.
- Portland metropolitan agriculture is a major economic engine.
- Portland metropolitan residents, organizations and governments value agriculture and locally-grown food.
- Agri-tourism is popular and has more potential, e.g. Sauvie Island Corn Maize.
- There are significant land use, policy, economic and other barriers to the long-term success of local growers.
- In a few specific areas, demand exceeds capacity for opportunities to buy and grow local food in the Portland metropolitan region. For example:

- Waiting lists for community supported agriculture operations are 100% of the current capacity (2010).
- There are over 1,300 people on the waiting list for plots in City of Portland community gardens.
- Many local governments and institutions are exploring opportunities to buy local food products.
- Gaps in the available data include:
 - Total regional imports and exports.
 - Economic multipliers for various parts of the Portland metropolitan foodshed economy.
 - Detailed needs and issues faced by local growers.
 - Gaps between jurisdictions and counties, e.g. some have assessed food processing, while others have not.
 - Types and certifications for sustainable farming methods used in local agriculture.
 - The economic impact/opportunity of food waste.

Barriers and Opportunities

This section summarizes seven studies that explore barriers and opportunities to the success of metropolitan agriculture, and in particular the success of growers. Several of the studies are also cited in previous sections.

Key challenges to consider:

- Barriers to local food-market entry and expansion.
- Linkages between growers and local markets.
- Limited processing and storage capacity.
- Methods to mitigate risk.
- Institutional and grocery store requirements.
- Threats to agricultural success include limited supply and affordability of land.
- Age profile of farmers and interest of heirs.
- Protection of farmland and the right to farm.
- Zoning and land use regulations.
- Water availability and quality.
- Inheritance laws.
- Education and training for farmers and employees, including marketing.
- Availability of experienced and well-trained labor force.
- Obstacles to the general practice of urban agriculture include: site-related, government-related, procedure-related, perception-related.

Summary of Sources

Approaches and Policy Frameworks

Severson, Kim, April 23, 2011. *Behind the Rising Cost of Food*, New York Times, <http://www.nytimes.com/2011/04/24/weekinreview/24food.html>

This article explores the continuing rise in the cost of food over the last year. As culprits, the article cites rising fuel costs, climate change, replacing food crops with biofuels, changes in how the world eats (increasing demand) and politics.

Key findings include:

- When Laurent Gbagbo tried to hold onto his presidency, his rival cut off export of the cocoa crop and prices in the United States hit a 32-year high.
- Hershey's has raised the cost of its products by 10%.
- Drought, possibly the result of climate change, is limiting the supply of coffee beans.
- Wholesale food prices rose 3.9% in February of 2011, the largest one month increase on record since 1974.
- Demand for food is driving prices up, e.g. the cost of food worldwide rose 37% from February, 2010 to this year (United Nations).
- The cost of meat is 17% higher this year than in 2010.

Summit Report: First Global Summit on Metropolitan Agriculture, Rotterdam, Netherlands, September 28-30, 2010

This report summarizes the findings of the Global Summit on Metropolitan Agriculture, put on by the Metropolitan Agriculture Innoversity. About 18 months before the summit, the Metropolitan Agriculture Innoversity was conceived by TransForum and Reos to be a new action-learning network dedicated to initiating the processes necessary to create meaningful change in the agricultural and food sectors. Its stated objective was to provide a forum for knowledge-sharing and co-creating the Metropolitan Agriculture vision and practice around the world. It would deliver three sets of results at both the global and the local levels-- initiatives, capacity-building and relationships. The summit brought together multi-stakeholder teams, including participants from agro-industry, governments, knowledge institutes and societal groups from six different global countries to talk about metropolitan agriculture.

The global context leading to the summit includes:

- In 2007, the UN famously announced that within the year half of the world's population would live in urban areas (UNFPA 2007).
- The majority of today's population increase takes place in cities; particularly in the global South, which the UN estimates will account for 93% of all urban population growth over the next four decades (ibid).
- Rapid urbanization creates vast numbers of new consumers, often poor, who require affordable food.
- Changes in consumption patterns in rapidly developing countries such as China, where more people are eating high protein meat and dairy products, can damage ecosystems and strain supplies of staple foods.
- Middle class consumers in cities in the West continue to demand high quality food, while at the same time economic downturn has resulted in growing numbers of malnourished people, high unemployment and urban out-migration.
- Cities have fewer green spaces as competition for space and resources increases.
- Pollution creates environmental health risks for many city dwellers face shortages in basic services such as electricity, health and transportation as demand outpaces supply.
- At the same time, cities depend on a globalized food system that has removed agriculture from metropolitan space, also increasing their vulnerability to economic and environmental crises.
- Technological advances in storage and transportation allow food consumed in urban areas to be produced on the other side of the planet. This, combined with high yield crops and intensive production processes, has increased the distance between consumer and producer.

- Most of these industrial production processes rely on high-input, chemically-based cultivation techniques that deplete soils. This leaves long-term yields in question as ecosystems and resources undergo severe strain. Global economic shocks can rapidly increase food prices, which disproportionately impact poor urban consumers, and globalized supply chains rely on cheap oil to get products from place to place.
- Climate change has the potential to affect cities worldwide, from sea rise and salinisation of the water table in coastal cities to significant localized climate shifts in all other areas, while also posing problems for the global food supply (Simon and Gueye 2009).
- A recent report on the Nile delta, where the city of Alexandria is located, reports that 60% of Egypt's food supply is under threat, and wheat and maize yields could be down 40% and 50% respectively in the next 30 years.
- On a global level, agriculture must aim for dramatic increases in efficiency, less intensive resource use and a reduction in external inputs. Cities possess the knowledge, infrastructure and influence necessary to act as a catalyst for these changes.

Key topics discussed at the summit include:

- The Potential of Metro Ag for Food Security – hosted by Dr. Rudy Rabbinge, Wageningen University, Netherlands and Florian Kroll, food security and environmental researcher and consultant, South Africa (Coffee Fabriek, Stage Area).
- Business Models for Linking Smaller Producers to Metropolitan Markets – hosted by Dan Carmody, Detroit Eastern Market, USA (Arabica Room) and Jan Kees Vis, Unilever, Netherlands (Havana Room).
- The Role of Reflective Learning in Practical Metro Ag Innovation Projects – hosted by Dr. Chris Peterson, Michigan State University, USA.
- Business Models for Sustainable Intensification – hosted by Dr. Peter Smeets, Wageningen University, Netherlands (Virginia Room).
- Financing Metro Ag Innovations – hosted by Kalyan Chakravathy, New Delhi, India (Coffee Fabriek, Lounge Area).
- Integrating Agriculture in Urban Spatial and City Planning – hosted by Kathryn Underwood, City of Detroit, USA and Marco van Steekelenburg, Province of South Holland (Piggleme Room).

Betz, Nathaniel and Jill K. Clark, *A Metropolitan Agricultural Supplement for U.S. Food Systems*, Center for Farmland Policy Innovation, Ohio State University, <http://cffpi.osu.edu/docs/MAS072810.pdf>

This analysis reviews relevant literature and describes the concept and opportunity for development of Metropolitan Agricultural Supplements (MAS) across the country. It describes several interrelated developments that contribute to new societal priorities in the U.S., beginning with a capitalized industrial paradigm and culminating in the formation of the metropolitan region. Finally, it articulates how the metropolitan region presents a framework within which new opportunity can be developed, particularly in the form of community-based agricultural economic development.

Some key findings include:

- The beneficial aspects of industrialization, in agriculture and other sectors, include lower prices for consumers, greater opportunity for advancement in technological inputs and

more product than necessary for minimum standards of living (at least for those with access to markets).

- Problems associated with an over-reliance on industrialism, especially for agriculture, include the degradation of quality farmland, a concurrent reduction in rural vitality and decreased access to healthy, local food.
- A global, industrialized economy is not entirely sufficient to meet community socio-economic needs or match the service, community commitment and well-rounded skill development opportunities of a truly balanced economy.
- There is a renewed relevance of smaller, integrated economic systems and supply chains in a global age, in particular appreciation of quality construction, production and service – balanced by the continued presence of a still-reliable global industrial economy.
- Methods and components of a successful supplement to conventional agriculture are helpful in understanding the potential in small to medium-scale agriculture. Two of the most prominent of these approaches are Lyson’s civic agriculture and Marsden’s rural development model with emphasis on its short food supply chains.
- The development of metropolitan-scale agricultural economic enterprise to fill these growing opportunities can be achieved through community-based agricultural economic development (CBAED). CBAED is an integrated local effort to capitalize on intrinsic resources to retain and expand the agricultural economic strengths of a region. The concept was introduced by researchers at Penn State University and is being developed by the Center for Farmland Policy Innovation at Ohio State University through a grant program supporting implementation in local communities.

Peters, Christian J., 2008. *Foodshed Analysis and its Relevance to Sustainability*. Cambridge University Press.

This article offers a working definition of a foodshed (the geographic area from which a population derives its food supply) and foodshed analysis “the study of the action or potential sources of food for a population, particularly those factors influencing the movement of food from its originto its destination....”

It explores the concept of “local food”, concluding that the threat of global food insecurity is very real, due to climate change, dwindling fossil fuel supplies and conversion of agricultural land from food to energy production.

Peters concludes that “a major challenge facing agriculture and the food system in this century will be trying to improve food security and human nutrition while using less fossil energy and reducing greenhouse gas emissions.”

Examples of the growing impacts of food insecurity include:

- Global food prices have seen an average annual increase of 15% between 2006 and 2008, relative to 1.3% between 2000 and 2005.
- Approximately 840 million people suffer from chronic hunger.
- More than 2 billion suffer from macronutrient deficiencies.
- Increases in food prices reduce the purchasing power of household incomes.

Potential solutions include:

- Know where food is coming from and where it might come from.
- Change consumption patterns, e.g.:

- reduce excess consumption of calories;
- substitute plant protein for livestock sources, which reduces land requirements of feed crops; and
- explore options for reducing the demand for foods that occupy the most land area, require the greatest energy inputs or cause the largest greenhouse gas emissions (GHG) emissions.
- To analyze how shifts to diets based on more local foods could reduce energy use or climate forcing emissions, a foodshed analysis should: trace the flow of food from its origin as an agricultural commodity on a farm to its ultimate point of consumption.
- Measure different “costs” of producing and transportation products through the system, e.g. energy consumed, GHG emitted or prices paid at each stage in the food system and for different locations.

The resulting framework would:

- Help evaluate how the geography of the food system influences its impact on the environment and the vulnerability of populations to disruptions in their food supplies.
- Help plan how the geography of food systems should change to enhance sustainability.
- Estimate the capacity for population centers to supply more of their food from local sources.

For a detailed example of how to evaluate the capacity of an urban area to localize food production, see:

Peters, C.J., Bills, N.L., Lembo, A.J., Wilkins, J.L., and Fick, G.W. In press. *Mapping potential Foodsheds in New York State: a spatial model for evaluating the capacity to localize food production*. Renewable Agriculture and Food Systems.

Kaufman, Jerry and Bailkey, Martin, 2000. *Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States*. Lincoln Institute of Land Policy Working Paper.

The report investigates the nature and characteristics of for-market city farming. The study states that urban vacant land is a costly problem for many cities which could be addressed, in part, through urban agriculture. The United Nations Development Program claimed that in 1996 urban-produced food accounted for 15% of the world’s food production.

It also finds that entrepreneurial urban agriculture projects, whether non-profit or for-profit, differ across several important dimensions, including funding sources and capacity, labor, scale, production techniques and market.

The institutional climate for entrepreneurial urban agriculture is another important consideration. Some questions to consider include:

- In general, is the local government's attitude towards entrepreneurial urban agriculture supportive, neutral or negative?
- What is the local market demand for vacant inner city land?
- Are the local government policies and regulations relevant to urban agriculture facilitative or restrictive?
- Are local foundations willing to provide funding for such projects?
- What is the attitude of state and national government representatives towards urban agriculture?

- Do local community development groups view urban agriculture as a way of creating jobs and bringing economic investment to their areas or are they skeptical of its viability?
- What are the existing local greening programs from which urban agriculture could build?
- Can urban agriculture provide welfare-to-work jobs?
Can city-produced foods help satisfy the public's increasing demand for organically grown products?

This study found that:

- City farming enthusiasts are far outnumbered by those who are skeptical about it or disinterested in it.
- Many for-market urban agriculture projects are underfunded, understaffed and confronted with difficult management and marketing issues.
- Urban agriculture is not seen as the "highest and best use" of vacant inner city land by most local government policy officials who would like to attract "better" tax paying uses on this land.
- The conventional view is that food-growing is something that takes place and belongs on rural land. The idea of turning urban areas into areas where a viable food crop could be produced is still foreign to most people.

Yet this study also found some evidence of a more hopeful reality for entrepreneurial urban agriculture:

- A diverse array of market city farming ventures exist. As of the year 2000, 70 entrepreneurial urban agriculture projects were underway throughout the country.
- Pockets of support for for-market urban agriculture ventures were found among a cadre of local and higher level government officials, non-profit community groups and local foundation staff in several cities.
- People who live close to where food-growing enterprises are located in inner city neighborhoods are generally positive about the value of such developments for their neighborhoods.
- Market city farming operations are beginning to tap into a small well of steady government and foundation sources to provide working capital for their early stages.
- A handful of entrepreneurial urban agriculture projects are beginning to show some profits. More of them are providing a variety of other social, aesthetic, health and community-building and empowerment benefits.

Martinez, Steve et al., May 2010. *Local Food Systems: Concepts, Impacts, and Issues*. USDA Economic Research Services, Economic Research Report Number 97.

This article provides a comprehensive literature-based overview of local food systems and makes the following general findings:

- There is no generally accepted definition of "local" food.
- Many definitions are based on market arrangements.
- Local food markets include direct-to-consumer sales, farmers' markets, CSAs and farm to school programs.
- Local food is most likely from small farmers who produce heterogeneous products and have short supply chains and are located in urban corridors.
- There is growing government support for local food.

- Some consumers will pay a premium for local food.
- Barriers to local food-market entry and expansion include capacity constraints, lack of distribution systems, limited marketing and uncertainties about regulations (e.g., food safety requirements). More information included in Barriers and Opportunities.

The study notes that local food markets account for small, but growing share of total U.S. agricultural sales (USDA Census of Agriculture Statistics Service):

- Direct-to-consumer marketing amounted to \$1.2 billion in current dollar sales in 2007, according to the 2007 Census of Agriculture, compared with \$551 million in 1997.
- Direct-to-consumer sales accounted for 0.4% of total agricultural sales in 2007, up from 0.3% in 1997. If non-edible products are excluded from total agricultural sales, direct-to-consumer sales accounted for 0.8% of agricultural sales in 2007.
- The number of farmers' markets rose to 5,274 in 2009, up from 2,756 in 1998 and 1,755 in 1994, according to USDA's Agricultural Marketing Service.
- In 2005, there were 1,144 community-supported agriculture organizations (CSAs) in operation, up from 400 in 2001 and 2 in 1986, according to a study by the non-profit, nongovernmental organization National Center for Appropriate Technology. In early 2010, estimates exceeded 1,400, but the number could be much larger.
- The number of farm to school programs, which use local farms as food suppliers for school meals programs, increased to 2,095 in 2009, up from 400 in 2004 and 2 in the 1996-97 school year, according to the National Farm to School Network. Data from the 2005 School Nutrition and Dietary Assessment Survey, sponsored by USDA's Food and Nutrition Service, showed that 14 % of school districts participated in Farm to School programs, and 16% reported having guidelines for purchasing locally grown produce.

Key findings on the economic development, health, food security and lowered transportation costs opportunities of local food:

- The expansion of local food markets implies that consumers in a particular area are purchasing more of their food from nearby sources and that more of the money they spend remains in their local community. Hence, local food systems have the potential to positively impact the local economy. Claims of economic development impacts, in the form of income and employment growth, are common in local foods research. (Ross et al., 1999).
- Expansion of local foods may be a development strategy for rural areas. Farmers' retention of a greater share of the food dollar by eliminating money going to the "middlemen" as a possible benefit. Roininen et al. (2006) assert that local food systems may encourage growth in local labor markets.
- The most direct way that expansion in local food systems could impact local economies is through import substitution. If consumers purchase food produced within a local area instead of imports from outside the area, sales are more likely to accrue to people and businesses within the area. This may then generate additional economic impacts as workers and businesses spend the additional income on production inputs and other products within the area (Swenson, 2009).
- Shifting the location of intermediate stages of food production and direct to consumer marketing can also be considered forms of import substitution.
- Empirical studies suggest that local foods can have a positive impact on local economic activity through import substitution and localization of processing activities. Using an input-output model (see box, "Input-Output Models and the Multiplier Effect"),

Swenson (2008 and 2009) predicted that locally produced fruits, vegetables, and meat products would increase output, employment, and labor incomes in Iowa. This was due, in part, to development of direct-marketing facilities and increases in local meat slaughtering and processing.

- Farmers' markets have been found to have positive impacts on local economies. Otto and Varner (2005) estimated that each dollar spent at farmers' markets in Iowa generated 58 cents in indirect and induced sales, and that each dollar of personal income earned at farmers' markets generated an additional 47 cents in indirect and induced income (multipliers of 1.58 and 1.47, respectively). The multiplier effect for jobs was 1.45; that is, each full-time equivalent job created at farmers' markets supported almost half of a full-time equivalent job in other sectors of the Iowa economy. Similarly, multipliers associated with farmers' markets in Oklahoma have been estimated to be between 1.41 and 1.78 (Henneberry et al., 2009).
- The magnitude of the economic impact from import substitution depends on the sources of inputs for local production and processing (i.e., whether money spent on inputs is retained locally or not) and the degree to which a local supply chain displaces local economic activity that supported nonlocal products. This could include reductions in traditional commodity marketing (e.g., grains) or industries that support distribution and marketing of nonlocal food products (e.g., supermarkets).
- Accounting for displaced economic activity within the local community reduces the positive economic impacts of localization, although estimated overall benefits are still positive. Swenson (2008) assumed that an increase in acreage devoted to local fruit and vegetable production would replace corn and soybean acreage, which partially offsets some of the predicted economic benefits. Hughes et al., (2008) account for lost spending at mainstream retail stores due to spending at farmers' markets in West Virginia. The net economic impacts of farmers' markets in the state were found to be positive, but lost sales at retail stores offset some of this impact. Farmers' markets in West Virginia were estimated to generate \$656,000 in annual labor income, \$2.4 million in industry output, and 69.2 full-time equivalent jobs. While still positive, these impacts were offset by \$463,000 in lost labor income, \$1.3 million in lost industry output, and 26.4 lost full-time equivalent jobs generated by mainstream retail stores (see table 3 in Hughes et al., 2008).
- Local food markets may stimulate additional business activity within the local economy by improving business skills and opportunities. Feenstra et al., (2003) examined the role of farmers' markets in creating and sustaining new rural businesses. Farmers' markets helped medium (\$10,000-\$99,999 gross sales) and large-scale (\$100,000 or more gross sales) enterprises to expand or complemented existing, well established businesses. For small vendors (less than \$10,000 gross sales), farmers' markets appeared to operate as a relatively low-risk incubator for new businesses and a primary venue for part-time enterprises in a nurturing environment. These types of benefits are difficult to quantify because investments in business skills and development may take years to generate observable benefits. However, business skill development may be an attractive benefit in areas where few other options are available to acquire additional skills and market experience.
- The presence of local food markets may also spur consumer spending at other businesses in a community. This spillover spending could support the retail sector in a community if, for example, a farmers' market draws consumers to an area where they would not have otherwise spent money. Lev et al., (2003) found that many farmers'

market shoppers traveled to downtown areas specifically to patronize the market and also spent additional money at neighboring businesses.

- The potential for local food systems to improve food security is conceptually similar to claims related to health benefits. That is, expanding local food options may increase the availability of healthy food items, particularly in areas with limited access to fresh food. The prevalence of healthy food items may encourage increased intake of fruits and vegetables, and improved availability may reduce problems related to food access and uncertainty. An implicit assumption in this argument is that local food systems improve access and reduce uncertainty (Cowell and Parkinson, 2003).

Swenson, David. *Economic Impact of a Diversified Small Farming Operation in Woodbury County, Department of Economics, Iowa State University*

This very short report looks at the localized economic impact of a small, diversified farm (\$153,000 in receipts) in Iowa that produces eggs, broiler chickens and beef; engages in some custom work; and realizes some feed sales.

The report found the following multipliers that may be applied to small, diversified farming operations:

Small Farm Regional Economic Impacts

	Farm Level Only	Total Regional Economy	Multiplier
Output	153,500	212,090	1.38
Labor income	40,812	59,104	1.45
Other income	17,895	29,171	1.63
Jobs	1.5	2.15	1.43

Blum-Evits, Shemariah, May 2009. *Designing a Foodshed Assessment Model: Guidance for Local and Regional Planners in Understanding Local Farm Capacity in Comparison to Local Food Needs*. Thesis submission, Graduate School of Regional Planning, University of Massachusetts Amherst.

This thesis, which was a major source in creating the SARE project’s definition of the Portland Metropolitan Foodshed, explores how to conduct a regional foodshed assessment and provides guidance on the use of foodshed assessments. Foodshed assessments determine the food needs of a region’s population and compare it to the land base needed to support that population. The thesis presents a variety of food system analysis tools, including community food assessment, community food security, food sovereignty assessment, community mapping technique and foodshed assessment. It also includes a discussion of how to determine the foodshed study area, data collected and analytical methods.

Case Studies

Oregon State University Extension Service Rural Studies Program, February 2011, *Oregon Agriculture and the Economy: An Update*.

Using data from the 2010 Census, 2007 and 2009 USDA Census of Agriculture and 2005-2009 OSU Oregon Agriculture Information Network data on sales, employment and value-added, this study is the most recent publication examining the economic impact of agriculture in the State of Oregon. The study also relies on Oregon Employment Department data and estimates

from IMPLAN and the USDA Economic Research Service (ERS). The report is an update to the 2008 *Oregon Agriculture and the Economy*.

The study analyzes the following economic impact areas:

- Farm and Ranch Production
- Farmgate Sales
- Processing
- Agricultural Support Services, Wholesale Trade, Transportation and Warehousing, Retail Trade, and Food Services and Drinking Places
- Economic Footprint
- Oregon's Economic Dependence on Agriculture
- Implications for Agriculture and Oregon

The analysis includes:

- A profile of Oregon agriculture (including organic production on its own)
- An estimate of agriculture's "economic footprint"
- Measures of the extent to which Oregon's economy depends on agriculture or agriculture's economic impacts
- Discussion the implications of these findings

Key findings include:

- In 2009, agriculture was responsible for or connected to more than 15% of all economic activity in Oregon.
- For the same year, agriculture added more than \$22 billion to Oregon's net state product, despite a decrease in the number of farms and land in farming.
- A 2005 USDA study showed that small farming operations or adaptive farms tend to have average gross sales per acre that are about twice as high as the overall average.
- For the same small farms, the average age of operator is lower than for farmers in general, and the number of off-farm work days declines over time.
- While Oregon's land use laws have protected agricultural acreage, they may also have constrained the development of adaptive farms.
- Between 2002 and 2007, the number of farms in organic production raised from 515 to 933 and from 1.3% of total farms to 2.4%.
- In 2007, 470 farms with 16,175 acres were converted to organic production.
- Between 2002 and 2007, the market value of organic farm sales rose from about \$9.9 million to \$88.4 million or from 0.3% of total farm sales to 1.9%.
- As of 2007, over 75% of total acreage (over 12 million acres) in Oregon was dedicated to food production.
- The USDA has initiated a "know your farmer, know your food" campaign educating people about buying local and supporting farmers' efforts to build personal relationships with their customers.
- In 2007, nearly two-thirds of Oregon farms reported net losses.
- In 2005, nursery crops, bulbs, greenhouse crops, and turf were 19.1 percent of the total, but by 2009 they had declined to 15.4 percent.
- Grains were 4.9 percent in 2005 and increased to 7.3 percent in 2009.
- The dairy products sector continues to increase its share of the total, from 8.4 percent in 2005 to 9.5 percent in 2009.
- Producers struggle to maintain profit while using sustainable production methods.

- Production costs, especially fuel, fertilizer and labor, continue to increase.

Opportunities:

- Policy changes can have a large impact on farmer viability, in terms of sales, jobs or value-added contributions.
- Oregon is a leader in alternative energy and there is great potential for farmers to generate additional income and increase tax breaks from leasing a small portion of their land to solar or wind turbine production.
- If a small portion of the alternative energy generated on rural and agricultural land is used within Oregon, the impact would far exceed the current level of Oregon tax dollars contributed from this development.
- There is great potential to increase demand for Oregon agricultural products by taking advantage of the very strong linkages between farmgate and restaurant plate (almost half of consumers' food expenditures are for food purchased away from home). Consumers are making the connection by seeking out eating and drinking places that highlight local food products.
- Decision makers can help develop these markets through low-cost incentive programs, customized land use regulations to encourage adaptive farming, support for research and tailor regulations to the needs of producers that are long-standing Oregon businesses.
- Strengthen development of controlled-release fertilizers, optimize plant nutrient use and minimize losses to the air and water to combat the rising cost of fertilizer dependent on imported natural gas and benefit the environment.

Hanson, Kim for Meyer Memorial Trust, December 2010, *Community Food Systems in Oregon: Opportunities to Build Capacity for Food Security, Health and Economic Vitality.*

This study relies on a wide variety of data sources to detail the state of food security, health and economic vitality in Oregon's food systems. The literature review sources include: the Center for Disease Control, Community Health Partnership, OSU Extension Service and Public Policy programs, Oregon Food Bank, Ecotrust, Oregon Farm Bureau, Oregon Hunger Relief Task Force, the Oregon Department of Education, Washington State Department of Agriculture, the USDA and Worksource Oregon Employment Department.

In addition, the authors conducted 48 interviews with nonprofit organizations, government agencies, academics, business owners and foundations; participated in five National Good Food Network webinars; three community food events.

The report defines the concept of a community food system, why these systems are important and proposes a framework for strengthening community food system work in Oregon. Areas analyzed include:

- Local food infrastructure,
- Job potential in the food and agriculture sector.
- Health, social equity and food access.
- Farm-to-school/school gardens.
- Community involvement/leadership development.
- Statewide leadership/convening.
- Food system funders and funding gaps.
- Training and research.

Key findings of the literature review include:

- Oregon is one of the strongest agricultural states in the nation in terms of length of growing season, quality of agricultural soils, and the diversity and quantity of food crops that are produced. However, at the same time, our state currently ranks second among all states for the number of people who are forced to skip or reduce the size of their meals because they cannot afford enough food (*termed very low food security*).
- In August 2010, unemployment was at 10.6%, the 7th highest in the nation.
- Rural Oregon has been hardest hit, with several counties – including Crook, Douglas, Jefferson, Harney and Grant – all above 15% in 2010.
- The current recession is affecting families with no prior history of poverty and two-parent households who are typically more immune to poverty.
- Over the past three years (2008, 2009 and 2010), Supplemental Nutrition Assistance Program applications totaled over 710,000 individuals.
- In 2010, the Oregon Food Bank Statewide Network distributed 917,000 emergency food boxes – up 17% over the past three years, with double digit increases in Washington, Coos and Curry counties.
- In 2009, 50.2% of Oregon school children were eligible for free or reduced price lunches.
- In 2009, 23% of Oregonians were considered obese, with close to 2/3 considered overweight or obese.
- Oregon has the lowest childhood obesity rate at 10%, while 16% of children aged 10-17 are obese nationwide.
- There are strong correlations between hunger, food insecurity, obesity and chronic disease.
- Low-income communities and people of color are more likely to suffer from diet-related disease than Caucasian people or affluent communities.
- According to the Oregon Farm Bureau, three quarters of what is produced in Oregon is exported to other states and overseas with ¼ sold in Oregon.
- Oregon has had less impact from industrialized agriculture because of the diversity of farm products, with high production of specialty crops, such as fruits, vegetables, tree nuts, dried fruits and nursery crops.
- Oregon has a strong base of multi-generational, family farms and emerging farmers, such as immigrants and a younger generation with a renewed interest in farming.
- There is an opportunity to develop the regional food infrastructure for storage, processing, marketing and distribution that supports the community food system movement, especially for small and mid-sized growers.

Key findings of the community food system analysis (revisit this framework for Literature Review #2):

- A community food system is a collaborative network that integrates sustainable food production, processing, distribution, consumption and waste management in order to enhance the environmental, economic and social health of a particular place.
- One of the most important aspects of sustainable community food system projects is that they increase resident participation to achieve the following goals:
 - Access to affordable, healthy food for all members of the community;
 - A stable base of family farms that use sustainable production practices and emphasize local inputs.
 - Marketing and processing practices that create more direct links between farmers and consumers;

- Improved access by all community members to an adequate, affordable, nutritious diet;
- Food and agriculture-related businesses that create jobs and recirculate financial capital within the community;
- Improved living and working conditions for farm and food system labor;
- Creation of food and agriculture policies that promote local or sustainable food production, processing and consumption;
- Adoption of dietary behaviors that reflect concern about individual, environmental and community health.

Community Planning Workshop, University of Oregon, September 2010. Lane County Local Food Market Analysis.

The primary objective of this study was to identify economic opportunities associated with the local food system.

The local food supply is defined by:

- County agricultural sales (OAIN data).
- Jobs in local food supply chain (no source).
- Food crops (OAIN).
- Food processing, storage and distribution (e.g. number of businesses and jobs in three areas (OED)).

Local demand for food is defined by:

- Residents spending on food (private study).
- Other academic research on trends/consumer demand.
- Interviews with managers from 15 major conventional grocery stores (Safeway, Fred Meyer and Albertsons).
- Projections of institutional demand.

Major findings of this study's literature review include:

- A 2006 study of the economic impacts of local fruit and vegetable production in Iowa, found that if Iowans purchased seven servings of fruits and vegetables locally for three months of the year, the direct and indirect economic benefits would amount to the creation of almost 6,000 jobs or one job per 500 residents.¹
- A 2010 analysis of increasing local fruit and vegetable production in the upper Midwest calculated jobs multipliers of 1.67 to 1.95, meaning that for every on-farm job directly created through increased production of local fruits and vegetables, up to 95% of a job is created elsewhere in the economy.²
- An equal area of land in local fruit and vegetable production can support as much as five times as many jobs as corn and soybean production.³
- A study conducted by the American Farmland Trust in 2001 showed that 52% of Americans want their food to be produced within their own state. The same study noted that 54% of the respondents reported making a purchase at a farmers market within the past year; 40% reported purchases from a farm stand in the same period.

¹ Dave Swenson, The Economic Impacts of Increased Fruit and Vegetable Production and Consumption in Iowa: Phase II (Ames, IA: Leopold Center for Sustainable Agriculture, 2006).

² Dave Swenson, Selected Measures of the Economic Values of Increased Fruit and Vegetable Production and Consumption in the Upper Midwest (Ames, IA: Leopold Center for Sustainable Agriculture, 2010).

³ Ibid.

- Another study found that 87% of consumers in Albany and Corvallis believed that the purchase of local foods to support local farms was very important or somewhat important and 89% believed purchase of local foods was important to support the local economy.
- In the same study of Albany and Corvallis, although income and demographic factors were not associated with support for local products, nearly 50% of consumers were willing to pay more for local products, compared with 35% willing to pay the same and 16% who expected to pay less.
- The University of Minnesota concluded that the supply of local food may be a larger barrier than the demand of local food and people were more concerned about freshness than they were about price.

Key Lane County findings include:

- Between 2002 and 2008, agricultural sales (including farm and forestry, nursery and livestock) increased 31%, from \$106 million in 2002 to \$140 million in 2008.
- In 2009, the saturated grass seed market and the collapse in the housing market brought sales down 18% in Lane County in 2009 to \$115 million in sales.
- The Willamette Valley has nearly 1,500 grass seed farms: however it was only introduced to the valley as a crop in the 1920s.
- Since the 1920s, grass seed has replaced many of the traditionally grown food crops in the valley, particularly wheat (see figure below).
- The near-term outlook for recovery in the non-food crop market is not good because new housing starts drive demand for grass seed. Willamette Valley farmers now have up to a two-year supply of stored grass seed.
- In 2007, Lane County had 150 nursery and greenhouse businesses, growing 850 acres, with gross sales of \$133 million, up 135% from 2006.
- Since the 2007 peak of \$1 billion, nursery sales fell to \$820 million in 2008 (nearly 17%) and many growers have gone bankrupt.
- Between 2007 and 2009, wheat sales increased by 87% in Lane County and some farmers are now turning to wheat due to increased demand caused by poor crop yield in other parts of the world.
- The local food industry accounted for over 6% of the jobs in Lane County in 2009.
- Local food production supports many different industries, including producers, distribution and transportation centers, food processors, storage facilities and grocery stores.
- In 2007, food crops were 44% of the county's agriculture sales, bringing over \$34 million into the local economy. Livestock and dairy had the largest sales, followed by miscellaneous vegetables (15% of sales) and nuts (12%).
- Consistent with the decline in non-food crops, sale of food crops increased by 54% since 2007, yielding over \$36 million in the county. While livestock decreased in this time, tomatoes, miscellaneous vegetables and grain all increased.
- When Agripac (a grower's cooperative processing food from the valley) went out of business in 2000, many Lane County farmers stopped producing food.
- In 2009, Lane County had 55 food manufacturing businesses, employing 1,498 people. However, these processors don't always source local ingredients. Interviewees are interested in using local products, but quality, price and capacity issues are a barrier.
- In 2009, there were 11 warehousing and storage establishments (not necessarily for food), employing 120 people. Anecdotally, this is down significantly from the food

storage that existed in the first part of the 20th century, when Lane County primarily served the local market.

- In 2009, there were 41 food distribution businesses operating at various scales (local, regional, national), employing 793 people.
- Chain supermarkets generate between \$24 million and \$39 million in produce sales each year.
- Local produce accounts for roughly 3% of produce sales in at Fred Meyer and Safeway stores in Eugene and Springfield.
- School districts in Lane County could potentially spend \$22.7 million on local food annually.
- The University of Oregon serves approximately 9,000 meals/day and the annual food purchasing budget is almost \$6.5 million, about 20% of this budget is spent on local foods.
- Other institutions with potential for local food purchasing include hospitals, prisons and more.
- Table I below estimates the current locally produced supply of each crop and compares it with the projected demand for consumption in Lane County. Not surprisingly, the results suggest that considerable sales leakage exists for all of the crops.

Table I. Lane County Focus Crop Supply and Demand (2007)

Crop	Supply (lb)	Demand (lb)	Variance (lb) (Supply-Demand)
Wheat	9,180,000	48,015,989	-38,835,989
Tomatoes	5,850,000	30,944,410	-25,094,410
Salad Greens	313,600	5,945,499	-5,631,899
Apples	5,304,000	17,349,731	-12,045,731
Winter Squash	450,000	1,836,673	-1,386,673

Source: "Commodity Data Sheets." *Oregon Agricultural Information Network*. Oregon State University, 2010. Web. 1 June, 2010. (supply of wheat, tomatoes and apples, sales per pound); "2007 Census of Agriculture: Oregon State and County Data." *2007 Census of Agriculture*. U.S. Department of Agriculture, Dec. 2009. Web. 1 June 2010. (supply of winter squash and pumpkins and salad greens, sales per pound); "Food Availability (Per Capita) Data System – 2007 data." Economic Research Service. U.S. Department of Agriculture, 16 Feb. 2010. Web. 1 June 2010. (demand for all crops)

Sacramento Area Council of Governments. *Sacramento Region Local Market Assessment.*

[Http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment.](http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment)

The Sacramento Area Council of Governments (SACOG) convened a Rural-Urban Connections Strategy (RUCS) project to better understand the opportunities for local food markets as well as agri-tourism. The RUCS team is working with a local market and agri-tourism working group to better understand the challenges and opportunities for a local food system and its interactions with land use policies, land supply, regulations, labor, water and other food system factors.

Total food production by county is compared to food consumption. This data is further broken down into product-specific production and consumption. These imbalances are analyzed to identify local market opportunities. The following table shows consumption as a percent of production in the SACOG area.

**TABLE 1.2:
Annual SACOG Region Consumption & Production Estimates by Food Group (in tons)**

Food Group	Production	SACOG Consumption	
	SACOG Region Production	Max SACOG Consumption Estimate (tons)	Consumption as % of Production
Fruits	487,672	407,041	83%
Vegetables	1,812,834	403,561	22%
Protein	49,204	620,975	1262%
Milk	224,367	330,873	147%
Grains	760,320	185,441	24%
Nuts, Oils, Herbs	66,941	110,639	165%
Sugars ^{3c}	43	158,737	369156%
Total	3,401,381	2,217,267	65%

* Ag Commissioner production data only includes honey, not other sugars

Source: USDA/Economic Research Service; County Agriculture Commissioners

Note: For this food group analysis, the Loss-Adjusted Food Availability Primary Weight is consistently the largest estimate, and has been used as the "Maximum SF Consumption Estimate". When estimated commodity-by-commodity, the Primary Weight is not always the largest estimate.

Economic impacts of agri-tourism include:

- Agri-tourism is a key element of the SACOG region's food system, with 450 operations, including well established brands, regions and events. More data is required to estimate economic benefit, however in El Dorado, Agriculture Commissioner Bill Stephans estimates that, according to standard economic multipliers, agri-tourism contributes \$285 million of the region's \$440 million in agriculture.
- The USDA has estimated that approximately 2.5% of farms nationwide receive income from agri-tourism operations, totaling about \$955 million.
- A 2006 New Jersey study determined that agri-tourism generated \$57.5 million in revenue for the state's farmers in 2006, part of the broader \$37 billion tourism industry.
- The research also found that for every dollar in agri-tourism sales generated on a New Jersey farm, 58 cents of additional sales are generated in a wide range of other allied businesses, resulting in an additional \$33 million in revenue.
- One practitioner provided anecdotal evidence of this kind of multiplier effect in the SACOG region. Wayne Bishop mentioned that restaurants in the nearby town of Wheatland tell him that they experience a peak in customers during the month of October, when Bishop's Pumpkin Patch is drawing thousands of out-of-town tourists each weekend.
- The 2006 New Jersey study also found that 52% of farms earned at least half of their farm income from agri-tourism and 19% of farms reporting agri-tourism did not earn any revenue from agri-tourism activities, finding value in the opportunity to engage in interactions with the public that promote awareness, appreciation and understanding of agriculture.
- Of farms involved in agri-tourism, the largest farms – those with at least 1,000 acres – have the highest per farm median recreational income. Medium-sized farms – those with

250-299 acres – have the smallest recreational income. There are some place-based variables to note, including the farm’s distance to a city with a population of at least 10,000. The greater the distance to such a city, the greater the likelihood of a farm’s participation in agri-tourism.

- On-farm profitability statistics on agri-tourism can be difficult to gather for a few reasons. First, agri-tourism operations tend to be one of many activities taking place on-farm and are seldom tracked separately. Secondly, some farmers are reluctant to admit revenues generated from such activities (or revenues in general). The Small Farm Center at UC Davis is attempting to address the profitability and economics of agri-tourism in a statewide survey conducted in January, 2009.

The regional food distribution system is evaluated, considering the needs of small- to medium-producers with the goal of reducing “food miles” of travel.

Limited but growing consumer demand for local food was cited as an opportunity and a challenge. Other challenges and opportunities are identified, including:

- Education gaps and opportunities for consumers.
- Helping farmers find the right niche, e.g. organic, ethnic, small or specialty farmer.
- Creating new distribution and processing infrastructure.
- Increasing urban residents’ connection to rural lands, farming and local food products.
- Incorporating agri-tourism as a source for increased income as well as a way to increase demand for local products, as documented in other states.
- Regulatory challenges such as complicated paperwork and licensing requirements, unclear regulatory processes and frustration with regulations that are one-size-fits-all and skewed to large size farms.
- Regulatory opportunities, such as developing land use ordinances to help facilitate the success of agri-tourism operations (“Ranch Marketing Ordinance” and “Winery Ordinance”).
- Land use issues such as: subdivision of agricultural lands for development; restrictive zoning; traffic concerns with agri-tourism; water cost and reliability.
- Labor issues, e.g. farmers don’t have the necessary skill sets, infrastructure or employee base to incorporate agri-tourism; dwindling numbers of “next-generation” farmers/children had no interest in taking over farm; diminished profitability for family farms; and finding adequate labor during harvest times, especially for smaller farms.

The study offers suggestions for how to overcome obstacles to expanding local food in the regional market, such as:

- Obstacles for farmers, e.g. working with distributors, grocery stores, restaurants, direct consumer sales, typical small business issues.
- Obstacles for distributors, e.g. product availability and greater coordination between small farmers.
- Obstacles for grocery stores, e.g. local farms need to fit grocery store needs, in-store realities.
- Challenges for farm-to-institution programs.
- Policy improvements at the state and federal level, county ordinances and complementary land uses.

Metro Vancouver, February 2011. Regional Food System Strategy.

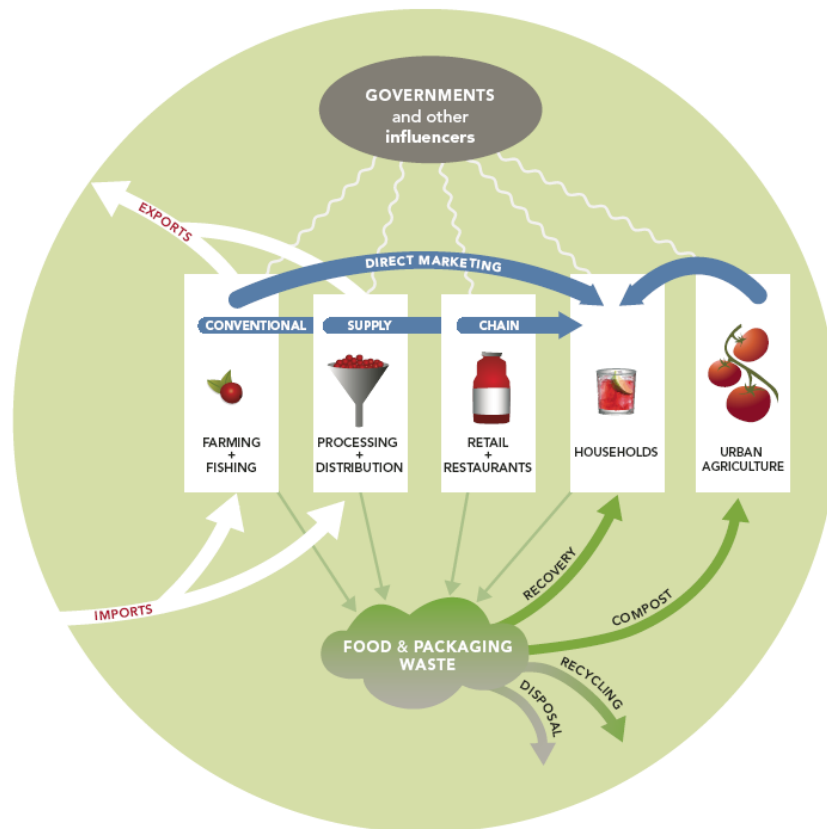
In 2008, the Metro Vancouver Board initiated a Regional Food System Strategy as part of its commitment to make a sustainable region. This Regional Food System Strategy is a policy document intended to be “a first step in creating a collaborative approach to sustainable, resilient and healthy food system that will contribute to the well-being of all residents and the economic prosperity of the region while conserving our ecological legacy.”

The strategy includes the following vision statement:

Metro Vancouver seeks to achieve what humanity aspires to on a global basis – the highest quality of life embracing cultural vitality, economic prosperity, social justice and compassion, all nurtured in and by a beautiful and healthy natural environment. We will achieve this vision by embracing and applying the principles of sustainability, not least of which is an unshakeable commitment to the well-being of current and future generations and the health of our planet, in everything we do. As we share our efforts in achieving this vision, we are confident that the inspiration and mutual learning we gain will become vital ingredients in our hopes for a sustainable common future.

This vision is illustrated by the following graphic:

Figure 2 Diagram of a Regional Food System



The Vancouver Metro area has policies intended to protect land for agriculture. To stem the tide of the loss of farmland, the British Columbian government created the Agricultural Land Reserve (ALR) in 1973. The objective of the ALR is to protect farmland in perpetuity. This visionary policy was critically important in slowing the conversion of farmland. The creation of

the ALR has not eliminated the pressures to convert farmland to other uses but it has certainly diminished the rate of conversion.

The following challenges are cited for the regional agricultural system:

- It is a challenge to make an adequate living as a farmer in Metro Vancouver.
- The current level of agricultural production in the region may not be sufficient to support a range of agricultural related businesses including processing.
- Farmland has been attractive investment for speculators who are not interested in farming but hope to eventually remove the land from ALR and convert it to other uses.
- The high cost of farmland in Metro Vancouver also constrains farmers from expanding their operations as well as practicing crop rotation important for maintaining soil quality.
- Land prices are also a significant barrier to the entry of new and young farmers to the industry.
- Operating a farm that abuts a residential neighborhood or other urban land uses introduces conflicts and new expenses.
- Low financial returns and small size of farming operations in the region mean that the ability within the farming sector to invest in research and development is low.

The plan states: “If growing more local food is an important collective objective, then governments and academic institutions must help to fill the gaps.” It identifies actors, roles, responsibilities and relevant plans and policies for implementing the strategy. It includes goals, strategies, sample actions and performance measures.

Meter, Ken, Crossroads Resource Center, March 30, 2011, *Ohio’s Food Systems – Farms at the Heath of it All.* (Revisit this report for Literature Review #2)

Building on previous research (*Mapping the Minnesota Food Industry*), this report is an economic analysis of food systems across Ohio, focusing on what is emergent in the state’s food system. Key opportunities include the growth of community-based food businesses, clusters, and emerging business owners. The framing research question is: “What initiatives are Ohioans creating in an effort to transform the Ohio food system so it becomes more responsive to the vision and needs of state residents?”

Data sources include:

- Interviews with food system practitioners (farmers, food buyers, procesors, food retailers, distributors, extension agents, and researchers) in as many parts of the state as possible.
- A review of historical literature focusing on *History of Agriculture in Ohio to 1880* and selected local histories in academic and historical libraries.
- Public sources, such as the Bureau of Economic Analysis, US Census, Census of Agriculture, Centers for Disease Control and Bureau of Labor Statistics.

Key findings include:

- Clusters of community-based food businesses are forming across Ohio.
- These clusters create jobs, but do even more; they create collaborative groups of new business owners.
- Food is a major industry in Ohio, yet the industry has suffered some erosion in recent years, despite Ohio’s rising personal income and increased food consumption.

- The most sustained rapid growth in farm sales involves direct food sales from farmers to consumers.
- The key “lever” driving change in the Ohio food system is commerce based on relationships of mutual trust, through clusters of firms that grow in concert with each other to create both resilience and stability for Ohio.
- Emergent business networks are often led by people who hold significant experience in low-income communities or developing nations.
- The distinction between for-profit and nonprofit enterprise is becoming less rigid; both types of firms seek subsidies.
- Public bodies hold a clear responsibility to support the growth of local-foods business clusters by constructing supportive infrastructure.
- Ohio agriculture (and related public policy) has long been focused on distant markets, rather than state consumers, to the detriment of the state economy.
- \$30 billion flows away from Ohio each year due to the structure of the farm and food economy; recapturing these dollars would create significant economic opportunities.
- The prevailing food system is deeply dependent upon fossil fuels, which may become prohibitively expensive, creating exceptional vulnerability for the Ohio food supply.

Delaware Valley Regional Planning Commission, January 2010. *Greater Philadelphia Food System Study.*

This study envisions and prepares for a sustainable future amidst energy and climate uncertainties. It examines agricultural resources, food distribution and the food economy in Greater Philadelphia. This study includes a rigorous food system stakeholder analysis (pp 136 – 188).

Agricultural Resources: Using data from the Census of Agriculture, National Resource Conservation Services, and other sources, this chapter looks at the characteristics of the 100-Mile Foodshed’s agricultural industry (supply). The following graphic shows the 100-mile Foodshed’s capacity to feed the local population on existing farmable lands in terms of supply and demand:

FIGURE 1.21
Greater Philadelphia’s Agricultural Land Needs

DEMAND		TOTAL AGRICULTURAL LAND NEEDS PER CAPITA (ACRES)*	=	TOTAL AGRICULTURAL LAND NEEDS FOR GREATER PHILADELPHIA (ACRES)	SUPPLY	DEFICIT
DVRPC REGION 2005 POPULATION (PERSONS)					DVRPC REGION 2007 TOTAL CROPLAND AND PASTURELAND (ACRES)**	(ACRES)
5,519,051	X	1.23	=	6,788,433	379,481	-6,408,952
DEMAND		TOTAL AGRICULTURAL LAND NEEDS PER CAPITA (ACRES)*	=	TOTAL AGRICULTURAL LAND NEEDS FOR THE 100-MILE FOODSHED (ACRES)	SUPPLY	DEFICIT
100-MILE FOODSHED 2003 POPULATION (PERSONS)					100-MILE FOODSHED 2007 TOTAL CROPLAND AND PASTURELAND (ACRES)**	(ACRES)
30,954,544	X	1.23	=	38,074,089	4,127,348	-33,946,741

*Assumes a diet that meets recommended total caloric value of 2,000 calories per person, and includes about nine ounces of cooked meat and eggs and 91 grams of fat.
**Excludes “woodland not pastured” and “land in farmsteads, buildings, etc.”

Source: USDA 2009, DVRPC 2009

Most significant agricultural resources findings include:

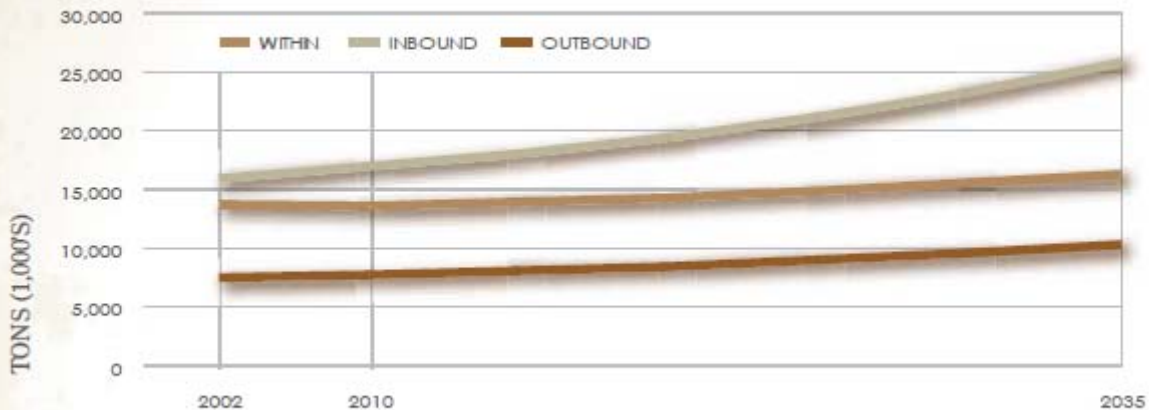
- While many people lament the 100-Mile Foodshed’s short growing season, local producers take advantage of the temperate climate, reliable rainfall, fertile soils, and groundwater resources and are employing season extension techniques. These natural

resources, combined with adaptable agricultural practices, are obvious competitive advantages and will become more important as other geographic areas grapple with water shortages, diminishing soil fertility, and the increased costs of fossil fuels.

- Greater Philadelphia's 100-Mile Foodshed is the second most densely populated area in the United States, second only to the overlapping 100-Mile Foodshed of New York City. However, the area retains about 27% of its land area in agriculture, thanks to land preservation and a history and culture of farming and food.
- The population density also makes land more expensive. All but one county has higher farmland values than the national average value of \$1,892 per acre. The 100-Mile Foodshed's land is, on average, 342% more expensive.
- Because of the 400-year old Colonial history and culture of farming, 100-Mile Foodshed farms are three times smaller than the average American farm.
- While income from agricultural sales increased by 43.4% between 2002 and 2007 in the 100-Mile Foodshed, production expenses increased at the same rate, by 43.7%. Profitable farmers are working with slim margins.
- Even though the 100-Mile Foodshed is densely populated and only 27% of the land area is devoted to agriculture, a surprisingly high proportion of land is used to raise livestock.
- Nearly one-half (46.7%) of all 100-Mile Foodshed farms report raising livestock primarily (by NAICS). Another 12.9% of farms report primarily growing oil and grains, often used to feed livestock. This is surprising because livestock requires more land and land is in short supply in a densely populated area.
- Direct sales are low, accounting for only 1.4% of all agricultural sales in the 100-Mile Foodshed. This suggests that most local food is getting to market through conventional distribution channels, like produce wholesalers, meat processors and other food processors. Those counties farther away from the Philadelphia and New York metropolitan areas grow considerably more fruits and vegetables for local processors, such as Birds Eye or Campbell's Soups.

Food Distribution: Analyzes data (primarily from FHWA's FAF database) related to how food travels through the country and to Greater Philadelphia. Identifies the region's largest trading partners, competitive advantages and exports. Case studies are used to track food items from the point of production to the point of sale. The following graphic illustrates types of food movements in the 100-mile foodshed, specifically, the amount of food in tons that moves within, inbound and outbound from the area:

FIGURE 2.5
Types of Food Movements



Source FHWA 2007, DVRPC 2009

Most significant distribution findings:

- Most food produced within the region is consumed within the region, as evidenced by the low outbound movements. This further suggests that Greater Philadelphia's demand for local food outweighs the 100-Mile Foodshed's local supply.
- Forecasted demand, based on 2002 data, will continue to exceed local supply and the region will rely more heavily on domestic trade and international imports. These forecasts can, and most likely will, shift based on energy costs, policy changes and widespread consumer choices.

The Food Economy: Explores the metropolitan area's demand for food and the food economy's various sectors, including food and beverage manufacturing, food wholesaling, food retailers and food services, among others. Some significant findings include:

- In spite of how inexpensive food is in this country relative to other expenses, 11% of American households suffer from food insecurity, however the Philadelphia region has a lower than average SNAP (Supplemental Nutrition Assistance Program) participation, except for Philadelphia County, which had nearly double the participation rate.
- Prices of food and beverages have increased at a much slower rate in the Philadelphia region than in the United States or other northeastern MSAs. As a result, the average household in Greater Philadelphia spends just \$5,600 a year on food, compared to New York (\$7,000) and Washington DC (\$7,500), although food makes up the same share (11-12%) of total household expenses in these and other northeastern MSAs, and the U.S.
- The food economy (including food retail, wholesale, processing, transportation and storage) constitute 11% of establishments and 11% of employees in Greater Philadelphia, however together they contribute a total of just 8% of the region's total economic output.
- Emerging economic opportunities include: growth in limited-service restaurants and specialty food store, regional strength in food service contractors and rising interest in locally and sustainably produced foods.

Overall findings include:

- Development and Land Use. Sprawling, low-density development threatens the viability of agriculture close to population centers and the retention of some of the most valuable soils in the United States.
- Cheap Food and Unhealthy Food. Low prices threaten the viability of farming, especially for food-producing farmers. The American diet causes health problems and there is a link between levels of income, access to healthy foods and the incidence of diet-related diseases.
- Capacity and Competition. The 100-Mile Foodshed is not sufficient to meet consumer demand. Producers often distribute their products to larger markets, thus increasing the food supply deficit. All U.S. cities are dependent on national and global imports.
- Consolidation in the Food Economy. The global food system is dominated by an increasingly consolidated pool of large, private actors with growing influence over consumers and regulators. This consolidation makes it difficult to track supply chains.
- Legislating and Planning for Change. Policies and planning processes can simultaneously create barriers and opportunities.

Unger, Serena and Wooten, Heather, May 24, 2006. *A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan*. Oakland Mayor's Office of Sustainability and University of California Berkeley, Department of City and Regional Planning.

This baseline analysis is intended to initiate discussion among Oakland City policymakers, staff and community members to consider the impact of the City's food system on areas of public concern. It explores how systems of production, distribution, processing, consumption and waste, as well as city planning and policymaking, could support the objective of having at least 30% of the City's food needs sourced from within the city and immediate region. A sample of recommendations includes:

Food Security

- Increase access to local foods for residents in federal and emergency food programs.
- Work with corner stores to transition stock from fortified alcohol and junk food to healthful and profitable products.
- Food waste recovery is an important part of the sustainable food system, because it "closes the loop."

Food Production

- Conduct a comprehensive review of current policy and zoning obstacles to urban food production.
- Adopt a plan, goals and timeline for how Oakland will produce a determined percent of its food consumption.
- Implement strategies to increase food waste diversion.

Economic Development

- The City of Oakland has a significant food wholesaling and processing cluster, with approximately 4,000 people employed in the "Food Distribution and Processing" cluster, or 4.9% of payroll employees in Oakland's "target industry clusters" and 2.2% of total employee payrolls.
- Provide assistance with location and expansion and streamlining fees and permitting processes for urban food production and processing.

- Incorporate food processing activities into wholesale market development, specifically providing job training and entrepreneurial skills that benefit low-skill or low-income workers.
- There is currently substantial untapped food retail demand in Oakland neighborhoods, especially those neighborhoods currently underserved by full-service grocery and that rely on small food retail stores with few fresh offerings.
- Approximately 85% of Oakland food retail stores are less than 3,000 square feet, suggesting that food retail policy should address small stores when attempting to improve food security and increase local food consumption.
- “Corner store conversions” offer one model for increasing fresh, nutritious produce in all neighborhoods, but particularly in low-income and underserved communities. Existing economic development tools, including Neighborhood Commercial Revitalization and Redevelopment incentives, should be employed in encouraging food retail improvements through the use of a new “Food and Façade Improvement Program.”
- Additional incentives, such as Food Retail Enterprise Zones and special certification programs like the current Green Business program could be implemented to further advance sustainable food retail goals.
- Food waste is currently the largest single material in the Oakland waste stream (i.e., waste that goes to landfills rather than being composted or recycled in some other way), representing 12% of all waste in Oakland. Oakland has initiated commercial and residential food scrap recovery programs to begin to increase diversion and recycling of food waste. Commercial food scrap recovery is excluded from the Oakland exclusive garbage franchise with Waste Management of Alameda County and is collected for profit on an open market. In 2005, 12,000 tons of commercial food scraps were diverted from the waste stream. The residential food scrap and yard trimmings recycling program, known as the “Green Cart,” diverted 34,000 tons.

Agricultural Preservation

- Adopt a local food ordinance that requires City government to purchase locally-produced and organic food (sample policy available).
- Encourage wholesale produce companies to procure goods from regional and organic farms.

Food Literacy

- Develop a healthy living and urban gardening public relations and educational campaign.
- Support and encourage more nutrition education in youth, adult and senior programs funded or administered by the City.

Center for Environmental Farming Systems, 2010. *From Farm to Fork: A Guide to Building North Carolina's Sustainable Food Economy.*

North Carolina has launched an initiative to support the development of local and regional food systems. It seeks to be a leader in this field and cites the following assets:

- a diverse agricultural economy;
- a superior educational system;
- an adaptable workforce; and
- an expanding and diverse set of dedicated partners.

The goal is to build a sustainable food system that strives to be economically viable, environmentally sound and socially just. The report includes goals and strategies as well as actions for households and individuals to take.

Meter, Ken, June 3, 2010. *Highlights of a Data Compilation. For Treasure Valley Food Coalition and Oregon Food Bank.*

This study examined data from the Greater Treasure Valley region, a nine-county region in Idaho and eastern Oregon. One key trend in the Greater Treasure Valley region has been an increase in corporate farming. Over the years 1969 to 2008, the percentage of farm income earned by corporate farms, as a percentage of farm proprietor income, rose from 10% to 55%.

Farmers gain \$221 million each year producing food commodities, spending \$600 million buying inputs from external suppliers, for a net outflow of \$400 million from the region's economy. Meanwhile, consumers spend more than \$1.7 billion buying food from outside. When this is added to farm production losses, total loss to the region is \$2 billion of potential wealth each year. This loss amounts to more than the value of all commodities raised in the region.

San Francisco Food Alliance, 2005. *2005 San Francisco Collaborative Food System Assessment. San Francisco Food Systems, The San Francisco Foundation.*

This is a comprehensive citywide food assessment, accounting for multiple sectors of the food system, including the broad range of activities involved in producing, distributing, consuming (including food retail, federal food assistance and charitable food programs) and recycling food. Its purpose is to provide a resource to help drive food related policy and decision-making. It states, "All people have a stake in how food is produced, distributed, consumed and recycled since all of our communities are intimately connected to issues of agriculture, food safety/sanitation, hunger and food accessibility, environmental sustainability and stewardship, nutrition and public health. Where our food comes from, how it is grown and consumed and subsequently recycled depends on the many contextual systems that address and meet the many challenges we face in the contemporary food system."

Key findings include:

- Production. In San Francisco, small scale production of fruits, vegetables and limited processed products occurs through urban farms, backyard, community and school gardens, as well as in nurseries and greenhouses.
 - Clear and consistent information is not publicly available around the management, upkeep, and sustainability of individual gardens, and overall support (e.g. staff, supplies, volunteers) for each community and school garden varies considerably.
 - Within San Francisco County's 31,360 acres of land, there are several large green spaces and 59 community gardens.
 - Over 800 community gardening plots are tended by nearly 700 community gardeners. Some areas of the city located far from open spaces, such as the Mission and Castro/Upper Market, tend to have a higher demand for community garden plots than can be met by the current supply.
 - Within the San Francisco Unified School District (SFUSD), about 25% of the 119 schools currently have a school garden. Community and educational gardens range in size from a few planter boxes up to a few acres. In 2003, San Francisco voters passed a school bond which included \$2 million specifically earmarked for the

greening of 17 school yards in SFUSD. Educational school gardens have also recently been incorporated into the SFUSD Facilities and Master Plan.

- Distribution. In addition to the conventional wholesale food distribution model, there are several alternative distribution pathways that focus on getting food from a farmer directly to a household, private business or public institution. Examples include CSAs, institutional purchasing and farm to restaurant programs. These pathways have been established in order to help consumers get fresher food and develop relationships with the farmer and to help farmers get a higher percentage of the food's ultimate purchase price. Shorter distribution pathways are also supported because they are less resource-intensive and less polluting.
- Consumption – retail. Retail food stores are the primary way that most people acquire food, from supermarkets, grocery stores and convenience stores to bakeries and fruit and vegetable markets. There are 1,488 retail food stores in the city, including 55 supermarkets. The city's 11 farmers' markets provide another venue for food retail where food is sold directly from the farmer or producer. Approximately 250 farms sell products at the local markets.

Portland Metro Area Data and Case Studies

Exploring the Clark County Food System (2008)

http://www.stepstohealthierclarkco.org/pdfs/Clark_County_Food_System_Report.pdf

This community food assessment draws on quantitative data about agriculture, personal and community health, resource management and food access, but also reports on a qualitative study in two Clark County neighborhoods on food access. This is a good model for community food assessments and also a strong local example to which other efforts can be compared.

The Clark County economic assessment includes data on the following topics:

- Section I: Profile of Clark County Farmers
 - Age of Principal Operator
 - Occupation Farm Education
 - Harvested Cropland in Full Ownership
- Section II: Land Base in Clark County
 - Acres in Farm Land & Agriculture Zones
 - Size of Farms
 - Type of Use on Land in Farms
 - Current Use Taxation Program
 - Natural Resource and Crop Land Conversion
- Section III: Agricultural Market in Clark County
 - Crop Diversity and Value of Sales
 - Fruit & Vegetable Diversity and Value of Sales
 - Livestock Diversity and Value of Sales
 - Direct Marketing
 - Case Study: CSA Model for Small Farm Direct
 - Further Considerations
- Section IV: Resource Management
 - Prime Agriculture Soils
 - Water Rights
 - Sheet and Rill Erosion

- Third Party Certification
- Food Waste
- Food Waste Diversion
- Further Considerations

Multnomah County Office of Sustainability, December 2010. *Multnomah County Food Action Plan: Grow and Thrive 2025, Executive Summary.*

This Action Plan identifies key statistics about local food and public health in Multnomah County and provides a definition of sustainable food. The plan identifies five food system principles and defines goals, actions and indicators in four areas: local food, healthy eating, social equity and economic vitality.

Institute of Portland Metropolitan Studies, Sheila Martin et al., October 2008. *Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in the Oregon-Washington Regional Food System.*

This report identifies trends in the sustainable food system in the bi-state Portland Metro region based on stakeholder input and data review. The analysis includes nine stakeholder-defined goals for the regional food system that also serve as measures of how sustainable a food system is. The sustainability assessment considers a variety of factors, outlined below.

Land Use

- The conversion of farmland threatens land available for agricultural production.
- Soils are affected by urbanization and suburbanization.
- Rising land values for farming vs. other uses make it more likely that farmers will sell their land. Farmers' incomes are particularly volatile from year to year.

Water

- Food system uses affect water available for competing uses.
- Water quality issues can affect irrigated farming.
- Demand for water has grown over time.

Energy

- Rising energy prices affect the cost of agricultural products.
- Using agricultural land to produce biofuel inputs affects the cost of food products.

Human Capital

- The farming workforce is aging as well as diversifying.
- Farm employment is affected by the ability of farmers to make a living wage.
- Farm employment has fallen as a share of total employment.

Capital and Investment

- The increased use of machinery and government subsidies has led to larger-scale farms emerging over the last century.
- The number of very large and very small farms has increased, while medium-sized farms have declined.
- Concentration means a larger share of farm products are produced by fewer farms.
- Most farms in Oregon are owned by families or individuals.

- The food processing industry has experienced consolidation over the past few decades. The closing of local processing plants leaves small and medium farmers without a market for their crops.

Consumer Choices and Health

- Consumers spend about 11% of their annual income on food and over 10% of that is on fruits and vegetables.
- Farmers only capture 24-27% of the value of retail price of fruit and vegetables.
- Many farmers are increasing direct marketing to consumers (CSAs, U-Pick, farmers markets, stands) to increase this share.
- Food deserts aren't common in the Portland metro area.
- Food insecurity, public health and nutrition and food safety are other measures of a sustainable food system.

The conclusions section of this report includes metrics on the status of sustainability indicators, where available, and key recommendations from stakeholders. Detailed indicators are available in Appendix A and Appendix C includes specific action items for follow up.

Weigand, Elizabeth, Master's Project Proposal, May 27, 2009. *Land Use Planning, Local Food & Sustainable Communities: Using a Form-Based Code to Support Agricultural Urbanism in Damascus, Oregon.*

This proposal introduces the idea of "agricultural urbanism," which considers agriculture and food production in the context of planning for sustainable urban areas, focused on shifting towards localized production systems. This project will focus on urban family farms inside the Damascus UGB, specifically preserving small-scale agricultural operations that can serve as production centers for urban areas.

Giombolini, Katy J. et al, Agricultural and Human Values, Posted online July 8, 2010. *Testing the Local Reality: Does the Willamette Valley growing region produce enough to meet the needs of the local population? A comparison of agricultural production and recommended dietary requirements.*

This study considers whether eating locally is feasible based on local agricultural production in the Willamette Valley. Findings indicate that current production does not meet the dietary needs of inhabitants for any of the USDA's six food groups. In the most recent analysis (2008) the region met the following share of dietary needs: 67% of grains, 10% of vegetables, 24% of fruits, 59% of dairy, 58% of meat and beans and 0% of oil. The Willamette Valley in this instance consisted of 10 counties.

This analysis is intended to be a model that can be replicated by community organizations without easily-available data and simple methods.

It concludes that although current production does not produce enough food to feed the local population, this does not mean that it cannot do so. Large percentages of locally produced crops are being exported and a good deal of agricultural land is being dedicated to non-edible crops. This report suggests that there is potential financial benefit to Willamette Valley growers. They identify next steps for creating a locally-based food system.

Clackamas County Soil and Water Conservation District, 2008. *Clackamas County Agriculture and Natural Resources... The "Other" Traded Sector.* PowerPoint presentation.

This presentation highlights key statistics on Oregon and Clackamas County's Agriculture and Natural Resources sectors and their contribution to the region's economic vitality. Findings include:

- Agriculture and food processing are the second-biggest contributors to Oregon's economy after high tech.
- Statewide, the amount of farmland has declined by 18.7% over the last 50 years.
- Clackamas is the second-largest agricultural county in the state, including:
 - 1879 square miles;
 - 215,210 acres of agricultural land;
 - 250,000 acres of forest land;
 - 5 major watersheds; and
 - 23 diverse commodities.
- It ranks first in several areas, including Christmas trees and organic farms.
- The Clackamas County Green Ribbon committee identified four core areas: forestry and ecosystems, agriculture, food processing and forest products.
- Metro's New Look ranked agricultural lands for long-term viability. It classified land as one of three types: foundation, important or conflicted. Conflicted lands are generally those on the urban fringe.

The presentation also presents the factors used by Metro in its Urban and Rural Reserves process as well as USDA Suitability Factors.

Workforce Investment Council of Clackamas County, July 2008. *Clackamas County Demand-Side Study of Business and Institutional Buyers for Locally-Grown Food.*

Clackamas County wants to take advantage of the growing interest in locally-grown food to support farmers in the county. This study was conducted to assess the demand for locally grown produce among both institutional and private sector businesses and to explore their interest in purchasing produce directly from local farmers. Given the high number of small farms in the county, added attention was given to opportunities that would benefit small to medium-size farms and allow Clackamas County farmers to sell produce to these organizations, either individually or as a group.

This study consists of 31 interviews conducted with local food and sustainability leaders, industry experts, food service managers, directors and produce buyers from retail and wholesale businesses and institutions.

Key findings include:

- Demand for local produce is growing.
- Business and institutional foodservice customers have needs that a farmer must be willing to accommodate in order to do business.
- Pricing is a key driver in produce purchasing decisions.
- Consistent, high quality product is important.
- Food safety is an issue on food buyers' minds.
- Some customer segments are more promising than others, but there is a wide variety of business and institutional customers buying local produce.
- Farm cooperatives offer a way for local farmers to band together to address a common need.
- Food processing is a competitive business bringing new challenges.

- Support for local produce buying initiatives is growing.

Select conclusions and recommendations relevant to the SARE project are:

- Networking will benefit farmers.
- A quick-reference guide to Clackamas County farms is one way to build awareness of local farms and their products.
- Workshops to assist farmers interested in pursuing the business and institutional market may be useful.
- Clackamas County farmers might benefit from some form of farm cooperative.
- While specialty food processing offers opportunity, it requires a significant investment of time and financial resources.
- Farmers may be able to increase their profitability by raising a diverse set of crops.

Clackamas County Economic Development Commission, June 2007. *The Green Economy: Agriculture, Natural Resources and Sustainable Development.*

The goal of this report is to develop a “roadmap” for Clackamas County’s Agriculture/Natural Resources/Sustainability Economic Development strategy. The County is uniquely positioned to become a model for how urban and rural areas can collaborate to maximize their collective competitive advantage in a sustainable fashion.

Key assets and challenges sited include the following:

- The County has an extensive, healthy and productive biomass base for agricultural and forestry products – partially from forest thinning.
- The County is water-rich.
- Clackamas County has 118 miles of streams in National Wild and Scenic designation.
- Agriculture and forest products are currently traded export-driven sectors bringing external capital to the County.
- The County is an agricultural powerhouse:
 - Ranked first in Oregon for the sale of nursery crops and Christmas trees.
 - Ranked second in the state in all farm sales with \$400 million in annual revenue.
 - First in the number of farms among state counties with 3,700 farms.
 - First in the number of farms (63) in certified organic production in the state, the majority of which are less than 50 acres in size.
- 215,210 acres are actively farmed.
- Most farms are small – 50% are less than 10 acres, and only 25% are larger than 21 acres in size.
- Agriculture contributes 24,085 jobs; \$23,785 average annual wage; and \$573+ million in annual payroll to the County.
- Agriculture contributes over \$1 billion in total industry output per year to the Clackamas County economy.
- Clackamas County has 955 food processing employees making over \$31.4 million in wages per year.
- The forestry and wood products industries account for 4,368 jobs, an average annual wage of \$38,751 and over \$169.3 million in wages per year. A 2.23 employment multiplier adds another 5,242 jobs and a 2.2 payroll multiplier adds over \$377.5 million more to the forestry industry.

Of the report's four goals is to cultivate a vital Metropolitan Foodshed economy which will sustain the region and its population into the future. Relevant strategies and actions to support this goal include:

- Support expansion of Clackamas Community College educational programs to meet the needs of the agricultural industry, small farmers, organic food producers and nursery and Christmas tree industries.
- Expand the Portland/Multnomah Food Policy Council to the entire region or at least to Clackamas County.
- Update land use policies to provide long term protection of agriculture and timber lands based on the Metro's "New Look" Strategy.

Oregon Department of Agriculture, January 2007. *Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands.*

As part of its *New Look at Regional Choices*, Metro asked the Oregon Department of Agriculture (ODA) to inventory and assess the region's agricultural lands and to provide suggestions relating to policy directions that may be considered in protecting the region's agriculture industry.

General description: Metro (Multnomah, Clackamas and Washington Counties) agriculture is best described as richly diverse. Food, fuel, seed, fiber and flora crops can all be found in production within the region. Intensive and extensive agricultural practices are employed, as are dry land and irrigated crop production. Many of the attributes that are key to successful and sustainable agriculture can be found within the region. Excellent soils, moderate climate, water for irrigation, access to markets and an accessible transportation system are some of the examples of the key attributes.

The vast majority of soils found in the region are considered high-value farmland soils; a good percentage of those are also designated as prime farmland. Twenty percent of the state's prime farmland and 12% of the state's high-value farmland are located in the Metro region.

Agriculture is a key traded sector in Oregon, ranking 1st in the volume of exported products and 3rd in the value of exported products. Over 80% of this production left the state, with 40% leaving the country. Metro (jurisdiction) counties play a significant role in the state's agricultural production. In 2005 the value of production in the three counties was \$714,547,000, nearly 17% of the state's total value of production. Clackamas County ranked 2nd and Washington County ranked 3rd in the state in overall farm and ranch sales. And it is easy to underestimate the value of Multnomah County. The smallest county in Oregon in terms of land area and the largest in terms of population, Multnomah County ranked 14th out of all 36 Oregon counties in farm sales.

Other quick facts:

- All three counties rank in the top five in terms of greenhouse and nursery production, the states number one ranked commodity. Metro counties account for over 50% of state production value.
- All three rank in the top five in the production of cranberries.
- Metro counties account for over 40% of the acreage in the state planted in small fruits and berries.

- Metro counties account for nearly 38% of the state sales of Christmas trees. Clackamas County ranks 1st, Washington County 6th.
- 60% of the Port of Portland's total export tonnage is agricultural products.
- Multnomah County leads Oregon in food processing with more than 22% of the payroll and 20% of the employees.

The larger metro study area includes Clackamas, Columbia, Marion, Multnomah, Washington and Yamhill counties. The area was divided into subareas and evaluated for various factors and land was classified as foundation, important or conflicted. Various data is presented for each of the 20 subareas. ODA concludes their report with a set of policy considerations related to the Urban and Rural Reserves process.

City of Portland Bureau of Planning and Sustainability, Fall 2009. *Food Systems: Portland Plan Background Report.*

The City of Portland's Food Systems Existing Conditions Report represents the first attempt to characterize a wide range of food issues as part of the City's comprehensive planning efforts. It includes a summary of what is currently known about Portland's food system, conclusions from national studies about the impact and intersections between food, health and community design, and potential policy options the City could explore to support the food system. This work was conducted as part of the Portland Plan/Comprehensive Plan Update.

Relevant context, findings and policy considerations from this work are included below. Only pre-existing available data is used, so much of the data included is at the County level.

- There is growing demand for local, sustainably grown food. This is demonstrated in part by waiting lists for community garden plots (waiting list of over 1,300 people) and CSAs (100% of current capacity) as well as the popularity of farmer's markets (growth in two or three new markets/year).
- Portland's rising rates of obesity and diabetes represent two of our greatest health challenges.

City of Portland, Bureau of Planning and Sustainability, Fall 2009. *Portland Plan Food Systems.*

Direct Marketing

Direct marketing, or the practice of selling directly by farmer to consumer, is a rapidly growing field in American agriculture. Direct market farms can be smaller-scale, even start-up operations as well as more established farming businesses. Some common faces of direct marketing include farmers markets, community-supported agriculture (CSA) operations, farm stands and U-pick operations and public markets. Some of these models are so new that little research has been done nationally or locally on their impacts. However, direct marketing still shows significant economic and social benefits to Portland, in addition to the health benefit of increasing access to healthful, local foods.

Urban Agriculture

This report provides context for urban agriculture in Oregon and Portland. Urban agriculture in Portland can be described broadly, incorporating the regional farm economy that contributes to food security and economic health; or more narrowly, referring to activities occurring primarily within the Urban Growth Boundary Oregon's land use system prioritizes development in urban areas and preservation of farm and forest land beyond urban areas. In

recent years, increased attention is being given to the importance of natural areas, open space and natural habitat within urban areas. Similar arguments for urban agriculture have begun to gain traction, especially in the current context of carbon emissions, high fuel costs and a down economy.

Urban agriculture advocates point to numerous benefits for enabling members of the public to grown their own food in cities and for supporting small, independent urban farms including reducing the distance to the market, educating urban residents about where food comes from and increasing resiliency to potential food shortages.

Institutional Purchasing

This report examines local existing conditions regarding the ability and desire of large institutions to buy local foods. Working with large institutions (e.g., governments, hospitals, universities, prisons and corporations) to buy organic, locally-grown or produced foods can have benefits for the nutritional value of the food and the amount of fossil fuels used to grow and transport it. Additionally, dollars directed towards supporting the regional food system stay in the local economy.

Barriers to seeing more institutions support the local food economy include:

- Food budgets have a very thin margin.
 - Large food service providers are able to determine prices in advance.
 - Some local governments are prohibited from favoring local products if they cost more. For example, government agencies in Oregon have the discretion to give up to a 10% premium for local food.
- Large food distributors offer a limited assortment of local products.
- Suppliers require vendors to carry a large liability insurance policy, creating a potential barrier for small producers.

Local conditions:

- A 2005 Multnomah County Corrections pilot project purchased fresh, in-season produce. The pilot led to the inclusion of sustainability criteria in their call for proposals for a five year food service contract. The County and the City of Portland both have policies directing the purchase of local goods when everything else is equal.
- 23% of Aramark (PSU's current provider) products are locally sourced (from Oregon or Washington).

Food Processing

This report examines the impact of the food processing industry on Oregon. Food processing in the U.S. is dominated by highly industrialized, larger-scale companies. Oregon has large companies like Con-Agra and Del Monte and smaller processors like Hood River Juice Co., Kettle Foods and Scenic Fruit Company.

In 2008, food manufacturing in Oregon added 1,800 jobs statewide, a 7.9% increase. This was the only manufacturing sector in Oregon to show growth during the same time period. Food processing is Oregon's third-largest industry, with \$3.4 billion in annual revenues, 18,000 workers and a \$542 million annual payroll.

More than 8,000 people in the Portland metro area are employed in the food manufacturing sector. Portland is home to the Northwest Food Processors Association (NWFPA), which has more than 450 member companies (processors and suppliers) including 86 food processors with nearly 200 production facilities throughout the Northwest (Oregon, Washington, Idaho). Its members are primarily fruit and vegetable processors but membership has expanded over the past several years to include seafood, dairy, bakeries, specialty and fresh-cut. NWFPA states that the Northwest food processing industry is a \$17 billion industry which employs over 100,000 in Idaho, Oregon and Washington.

Barney & Worth, et al., November 2008. *Growing Portland's Farmers Markets: Portland Farmers Markets/Direct-Market Economic Analysis.*

Portland's network of farmers markets are growing in number, customers, and sales. Portland's neighborhoods now hosts 18 farmers markets, with many more serving the metro region. Farmers market vendors sold \$11.2 million worth of goods in 2007; this number continues to rise faster than population growth, indicating that farmers markets are gaining market share. The Hillsdale Farmers Market weekly market sales doubled to \$70,000 between 2002 and 2007, and Hollywood Farmers Market doubled to \$60,000 between 2000 and 2007. The total economic impact of Portland's network of farmers markets was estimated to be over \$17 million in 2007; the markets produce more than 150 jobs with nearly \$3.2 million in employee compensation.

Where do the farmers come from?

According to a recent study, half of all vendors at Portland neighborhood farmers markets travel 30 miles or less to arrive at market and over 90% of the food offered comes from within 100 miles; most of these vendors are located in the Willamette Valley. This differs from some other urban areas; in San Francisco, for example, dozens of farmers drive over 100 miles to reach the urban markets. The well-established farmers markets are generally at capacity for vendors, leaving new growers or farmers who want to explore direct marketing to go to newer, often lower-sale markets. Smaller vendors generally expect sales of around \$300 per market day, versus \$2,000 per day for more established and larger vendors.

Portland/Multnomah Food Policy Council, July, 2007. *The Diggable City: Implementation Strategies and Recommendations.*

This report includes an inventory of city-owned lands that might be suitable for community gardens and other agricultural uses; provides a progress report on three pilot projects; outlines lessons learned and identifies recommendations for future urban agriculture program initiatives. The report indicates that relatively little city-owned land is available for agricultural uses. Land that is available often has a long-term purpose and not being considered for short-term uses. Community participation and support for projects on city-owned land are critical.

Recommendations include:

- Pursue urban agriculture partnerships with City bureaus.
- Expand the scope of potential properties by working with other public agencies.
- Integrate urban agriculture into City policies.

Barriers and Opportunities

Community Planning Workshop, University of Oregon, September 2010. *Lane County Local Food Market Analysis.*

Revisit the implementation section of this document for how to overcome gaps and barriers. See the following table for gaps and barriers:

Gap	Strategy	Initiator (client)	Actor	Funding Opportunities	Cost	Timeframe
Gap I: Linkages Between Growers & Local Markets	Create a Local Food Coordinator Position	County	County and City	USDA Grants, County	\$60,000-\$75,000	1-2 years
	Create an Institutional Clearinghouse	County	Local Food Coordinator	Americorps position, county or city funds, invoicing fees	As needed	1-3 years
	Optimize Food Distributor Logistics and Capacity	County	Local Food Coordinator	USDA Grants	As needed	Ongoing
	Help Distributors Market Local Food	County	Local Food Coordinator	N/A	As needed	2-3 years
	Develop Institutional Contracts that Require Local Sourcing	City	Schools and other institutions	Law school externship	No cost	1-2 years
Gap II: Limited Processing & Storage Capacity	Develop Tomato, Ben, and Squash Co-Pack Facilities	County	Processors	County, USDA grants	As needed	2-3 years
	Develop Controlled Atmosphere Storage Capacity	County	Processors	County, USDA grants	\$500,000	2-3 years
	Increase Wheat Milling and Storage Operations	County	Producers, processors, distributors	County, USDA grants	As needed	1-2 years
	Research On-Farm Processing needs of Mid-Sized Farms	County	County, university	County, USDA grants	As needed	1-2 years
Gap III: Methods to Mitigate Risk	Encourage Processor- and Distributor- Supported Agriculture	County	Producers, processors, distributors	USDA loans banks, revolving loan fund	No cost	1-2 years
	Develop "Proof of Concept" through the EWEB Demonstration Farm	EWEB	EWEB	EWEB	\$250,000	3-5 years
Gap IV: Institutional & Grocery Store Requirements	Support Food Safety Certification	EWEB	Producers, processors, distributors	EWEB, NRCS grants, county	As needed	1-2 years
	Create a "How to do Business with Lane County Grocery Stores" Manual	City	City, County, University, or other	Americorps position, USDA grants, university internships	As needed	1-2 years

University of Nebraska-Lincoln. January 16, 2009. *Sustaining Agriculture in Urbanizing Counties: Insights from 15 Coordinated Case Studies, Executive Summary.*

This study sought to identify conditions under which farming may remain viable in agriculturally important areas subject to development pressure. The study considered 15 metro areas throughout the U.S. This study was funded by USDA's Cooperative State Research, Education and Extension Service. For each, the researchers sought to identify:

- Successful agricultural products.
- Adequacy of marketing outlets for crops and livestock.
- Supply and affordability of land for farming and ranching.

- Adequacy of other production inputs.
- Future outlook for agriculture.

Data included the Census of Agriculture, a mail-in questionnaire for owners and owner-operators, and stakeholder interviews.

Key findings in each focus area are:

Markets and Marketing

- Satisfaction with markets depends on proximity to buyers and processing facilities.
- Assistance with direct marketing and diversifying products is most valued.

Farmland Protection

- Agricultural protection zoning was effective in some counties including minimum lot sizes
- Urban services boundaries in combination with minimum lot zoning.
- Purchase of development rights programs.
- Agricultural use-value assessment for property taxes.
- Right to farm protections.
- Adequacy of the supply of hand labor and other human inputs.

The report's final chapter closed with seven policy recommendations derived from the research findings for promoting viable farming in metro areas:

1. Local governments should aim to prevent conflicts between farmers and non-farmer neighbors and to resolve those that arise in ways sympathetic to farmers' interests.
2. Local governments should apply zoning policies (e.g., large minimum-lot requirements, cluster zoning, urban growth boundaries) that help to preserve an adequate land base for agriculture.
3. State governments should enable, and local authorities operate, effective programs for purchasing development rights to farmland, thereby either adding to the land base that agricultural protection zoning supports or achieving what zoning fails to realize.
4. Public and private agencies should encourage farm families to plan for the transfer of ownership and management to their children or other relatives. We found that with family successors lined up, the future of individual farms could look much brighter (e.g., current owners more likely to invest in their land and operators less likely to quit farming in the county prematurely).
5. The same agencies should encourage the launching and sustaining of farm enterprises likely to be profitable on the urban edge. Given the pervasive land constraint, consideration should be given to relatively smaller acreage operations, such as those raising high-value products including specialty crops and livestock. Direct marketing can also add revenue and assistance programs for it was the second most popular type of help requested by our surveyed farmers – second after the purpose of “diversifying or adding new products.”
6. In geographic areas lacking sufficient farmers to sustain agri-service businesses, policy makers may need to encourage adaptations by both farm operators and suppliers, such as Internet purchasing and “drop-off boxes” for equipment repair.

7. Policy makers should consider ways to provide for adequate numbers of farm workers. One tool urged by interviewed farm operators was to reform the federal government's guest worker program for migrant labor.

A Report to Community Food Matters and the Portland/Multnomah Food Policy Council, 2003. *Barriers and Opportunities to the Use of Regional and Sustainable Food Products by Local Institutions.*

Community Food Matters and the Portland/Multnomah Food Policy Council jointly undertook this study of barriers and opportunities to the use of regional and sustainable food products in local institutional food service programs. The research included interviews with key industry leaders as well as examination of related programs in neighboring Washington State. The research is useful for identifying preliminary themes pertinent to institutional purchases of regional and sustainable food products.

Common themes are:

- Customer demand is a powerful force for purchasing decisions.
- Institutions rely heavily on produce and grocery distributors for accessing product.
- Direct connections between producers and buyers is an opportunity to increase institutional purchases of regional and sustainable products (e.g., The Food Alliance).
- Other identified strategies for enhancing connections between producers and institutional purchasers included support for producers in meeting institutional purchasers' requirements and dissemination of information regarding producers and their available product.
- Contracts, bidding specifications, and prime vendor agreements often provide guidelines, requirements or restrictions on purchasing decisions that can be a barrier to the purchase of regionally or sustainably produced foods.
- Purchasers and distributors expressed a desire for more information to help them assess producers' sustainability practices.
- Price was listed as one of the most important factors in purchasing decisions by most institutions and distributors.

Martinez, Steve et al., May 2010. *Local Food Systems: Concepts, Impacts, and Issues.* USDA Economic Research Services, Economic Research Report Number 97.

As mentioned earlier, this article provides a comprehensive literature-based overview of local food systems and identifies the following barriers to local food-market entry and expansion:

- Capacity constraints for small farms.
- Lack of distribution systems to mainstream markets.
- Limited research, education and training for marketing.
- Uncertainties about regulations (e.g., food safety requirements).

Clackamas County Soil and Water Conservation District, 2008. *Clackamas County Agriculture and Natural Resources... The "Other" Traded Sector.* PowerPoint presentation.

This presentation mentioned above also presents the factors used by Metro in its Urban and Rural Reserves process as well as USDA Suitability Factors, including:

- Adjacent and "area" land use pattern.
- Agricultural land use pattern of area.
- Parcelization, tenure and ownership pattern.
- Agricultural infrastructure (labor, transportation, servicing, water availability).
- Zoning within the agricultural area.

- Location in relationship to adjacent non-resource lands.
- Location/availability of edges and buffers.
- Location in or near a metro area.
- Concentration/clusters of farms.

Farmers' Markets America and Barney & Worth, Inc, September 2008. *Portland Farmers Markets/Direct-Market Economic Analysis: Survey of Peer Communities.*

Internal challenges:

- Locations that are impermanent and limited in size.
- Financial sustainability of farmers' market organizations, including grant reliance.
- Providing reasonable salaries to maintain long-term, professional staff.
- Fast-paced, market-creating jobs with the need for more community involvement.
- Need for on-site assistance for program development and expansions.
- Keeping fees low for farmers.
- The Board trying to micro-manage decisions.
- Opening new markets - finding sufficient space, parking and farmers given the aging farm population. "We need new models."

External challenges to deal with:

- Industry not appreciating organization's size and ability to create new markets.
- State regulations that slow food producers' ability to create new products.
- Supermarkets advertising their "farmers market" and moving their produce display outdoors.
- Perception of high price - need to expand core group to second tier of shoppers.
- Green Acres Act (Minnesota) makes it difficult for retiring farmers to defer taxes by renting their acreage. Large corn growers object and want to stop hobby farms so the average market farmer has 10 to 15 acres, the largest 160 acres.

Opportunities:

- Identifying and reinforcing the WOW! experience for customers.
- Helping start young farmers through arrangements with retiring farmers, such as the lease/buy option with Growing Washington.
- Having some small, ragtag operators to give credibility. "We're leaders and we don't want to be a supermarket but can get along right next to them."

Kaufman, Jerry and Bailkey, Martin, 2000. *Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States.* Lincoln Institute of Land Policy Working Paper.

This paper, also mentioned above, presents obstacles to urban agriculture and ways of overcoming them. Obstacles to the general practice of urban agriculture fall into four broad categories: site-related; government-related; procedure-related; perception-related.

- Site-related. Contamination, security and vandalism and lack of long-term site tenure.
- Government-related. Local (policy and practicality) and State and Federal (lack of financial support).
- Procedure-related. Inadequate financial resources, recruitment and retention of qualified staff, inadequate time, small-scale projects, coordination across scattered sites and high start-up costs.
- Perception-related. Concerns about food safety, economic productivity and agriculture as a rural activity.

The following are six typical obstacles (revisit for toolkit, pp 66-79):

- Entrepreneurial urban agriculture projects cannot be sited on vacant city lots because these parcels are too contaminated.
- Entrepreneurial urban agriculture projects located in crime-ridden neighborhoods are undermined by considerable vandalism.
- Entrepreneurial urban agriculture projects are not economically viable as profit generators nor as operations seeking only to cover expenses, thus they are not worth initiating or supporting.
- Entrepreneurial urban agriculture projects are run by people who, although energetic and committed, lack the necessary management and business skills to make such ventures successful.
- Entrepreneurial urban agriculture practitioners operate too independently and fail to work together to promote the potential and overall value of city farming.
- Entrepreneurial urban agriculture projects represent a temporary land use, lasting only until “real” revenue-producing development occurs.

Urban Agriculture barriers:

- Lack of clarity in the zoning code regarding legality of selling produce coming from backyards through new CSA models; rules against selling produce from community garden plots.
- Lack of definition for urban agriculture that recognizes the scale at which UA works; zoning limitations as to where agriculture is allowed.
- Limitations to planting edible plants and trees in public rights-of-way, including fruit and nut trees and vegetable gardening.
- Limited land made available for urban agriculture projects, either from public or private sources.

The paper includes suggestions for overcoming these obstacles to entrepreneurial urban agriculture.

Additional Resources

The following is a list of additional resources compiled from the bibliographies of the studies summarized above.

National Studies

APA Policy Guide on Community and Regional Food Planning (2007)

<https://planning.org/policyguides/pdf/food.pdf>

This APA-adopted policy guide lays out seven general policies related to food planning and details specific roles that planners can play in supporting each one. This is a great overview of the issues and the relationship between food systems and the field of planning.

Community Food Security Coalition

www.foodsecurity.org

Provides information on food systems, assessing food security and protecting local produce suppliers.

Community Health and Food Access: The Local Government Role (2006)

<http://bookstore.icma.org/freedocs/E43398.pdf>

This short report highlights many food-related topics with the perspective of a local municipality; case studies, policy examples and justifications provide a good introduction to the issues surrounding food systems and governments' roles.

Establishing Land Use Protections for Farmers Markets (2009)

<http://www.healthyplanning.org/modelpolicies/farmersmarketpolicies.pdf>

These two new resources from Public Health Law and Policy contain model general plan and zoning code language for promoting and expanding community gardens and farmers markets, with some case building at the beginning. These two resources are extremely useful for jurisdictions planning to incorporate food issues into their comprehensive or general plans or zoning codes.

A Planners Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Healthy Eating (2009)

<http://myapa.planning.org/APAStore/Search/Default.aspx?p=3886>

This extensive document provides data, case studies and planning strategies to consider food systems in planning work, specifically on the subject of health. This is a great guide for planners looking to learn more about food systems and how they impact them in planning work. Specific strategies to improve food environments and facilitate healthy eating include:

- Information Generation
- Programmatic Efforts
- Plan Making and Design
- Regulatory and Zoning Reform

The Planner's Guide to the Urban Food System

www.planning.org/thenewplanner/2008/spr/pdf/PlannersGuidetotheFoodSystem.pdf

This short, colorful resource provides a simple overview of how food and planning intersect, what the food system is and how planners can take action.

Portland Metropolitan Region

Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland, Oregon (2008)

http://www.emoregon.org/pdfs/IFFP_N-NE_Portland_Food_Assessment_short_report.pdf

This assessment is based on results from 200+ surveys of North and Northeast Portland residents of certain zip codes. Surveys were targeted to reach lower-income individuals. Findings include information on accessing healthful foods, nutrition, interest in local foods and more. Other parts of the reports cover recommendations, summaries of other information-gathering and exploration of the role of faith communities in building food security.

Portland/Multnomah County Food Policy Inventory (2002)

Prepared by the Portland/Multnomah Food Policy Council

This inventory was written shortly after the Portland/Multnomah Food Policy Council was formed, and tries to provide a "lay-of-the-land" look at City, County and other agencies that impact the food system either explicitly or implicitly. Provides an interesting look back at the state of food policy before the FPC was on the scene.

The Price of Eating Right: Oregon Trail at Farmers Markets (2005)

Prepared for the Oregon Food Bank by New Territories Research. Available through the Bureau of Planning and Sustainability

Kaiser Permanente funded this study to improve local produce options for low-income residents. Over 100 food stamp users were interviewed about their use of farmers markets and use of EBT (electronic benefits transfer is the “credit card” version of food stamps) at farmers markets.

The Prospect for Expanding Portland’s Farmers Markets: Are Growers Ready to Ramp Up the Supply? (2008)

Barney & Worth, Inc. and Globalwise, Inc.

This study examines the capacity of Portland’s farmers markets to expand in the future, looking at both local consumer demand and regional farmer/vendor supply. The analysis of regional agricultural supply capacity was conducted to determine the ability of direct market producers to adequately supply existing and expanded/additional farmers markets in Portland.

Regional Equity Atlas: Metropolitan Portland’s Geography of Opportunity

<http://www.equityatlas.org/>

The Coalition for a Livable Future’s (CLF) report and interactive website has detailed maps and analysis on many equity and access indicators, including a discussion on food access. Some specific Portland information is available from CLF directly. The report focuses largely on region as a whole.

A Snapshot of Local Food Production in the City of Portland and Multnomah County (2002)

By Jennifer Bell. Field Area Paper for the MURP degree

This scholarly paper gives a snapshot view of Multnomah County agricultural production using state-collected statistics. A policy analysis and GIS mapping lays out a path to increasing local food production. While somewhat dated, the document provides a clear case for moving urban agriculture forward.

Appendix 3

Portland Regional Food System Economic Analysis

Cogan Owens Cogan, LLC
with data from

Metro Portland (Oregon), Local Farm & Food Economy, May 2011
Ken Meter, Crossroads Resource Center

Oregon Agriculture and the Economy: An Update
Oregon State University Extension Service Rural Studies Program

Introduction

The Portland metropolitan area is well known nationwide for its cutting edge sustainability vision and urban development and farmland protection framework. The region has a large number of productive small farms within and near urban areas. There is a growing interest in, and support for, locally grown, sustainable food. This interest is driven by rising concerns over public health, food security, transportation costs, climate change, economic turmoil and the search for a more community-based, sustainable lifestyle. There is growing support for farmers markets, community supported agriculture, community gardens, local healthy food school programs and institutional purchases of fresh, locally grown produce. Increasing locally-sourced fruits and vegetables is also a goal of the Regional Food Bank.

Western Sustainable Agriculture Research and Education (SARE) is funding a study to examine key agricultural trends, identify producer needs and define strategies to strengthen the local food production system. The goals of the study are to:

- Define the Portland Metropolitan Foodshed; identify related agricultural and economic trends and develop a needs assessment based on input from producers and other stakeholders.
- Assemble a regional toolkit of strategies to support evolution of a sustainable Portland Metropolitan Foodshed.
- Work with the City of Damascus, Oregon to test the toolkit on a local level.
- Develop a research and educational program that supports these goals and supports small and medium farmers in the region.

This Portland Region Food System Economic Analysis portion of the SARE study seeks to examine the nature and size of the Portland regional food market. The analysis draws heavily from a study by Ken Meter of the Crossroads Resource Center, *Metro Portland (Oregon), Local Farm & Food Economy* and *Oregon Agriculture and the Economy: An Update* from the Oregon State University Extension Service Rural Studies Program. For the purposes of this study, the Portland region includes Clackamas, Columbia, Multnomah, Washington, and Yamhill counties. This is a smaller region than the standard Metropolitan Statistical Area, which also includes Clark and Skamania Counties in Washington.

Oregon Food Economy

There are approximately 38,500 farms in Oregon growing 220 different commercially-grown agricultural crops. Approximately 85% of Oregon farms are operated by sole proprietors and another 10 to 12 percent are family partnerships or corporations. The farm gate value of Oregon's agricultural sector is valued between \$4-5 billion, with 70% coming from crops and the rest from livestock.¹

Oregon agricultural acreage declined seven percent between 1997 and 2007. There are 1,422 fewer farms in 2007 than in 1997 and the average size of a farm shrunk from 442 to 425 acres. This decline has been slowed to some degree by the increase in the number of adaptive farms of fewer than 50 acres. Adaptive farms are typically smaller farms that produce a variety of outputs and tend to have average gross sales per acre approximately twice the overall average.

¹ "Crops" refers to plants produced by farmers, including grains, fruit, nuts, vegetables, Christmas trees, nursery or ornamental crops, grass seed, vegetable seedlings and many other products. "Livestock" sales include animals (Cattle, hogs, poultry, sheep, etc.) or products derived from these animals (milk, eggs, leather, offal, etc.)

There are approximately 16.5 million acres of farmland in Oregon, over half of which are occupied by cattle ranching and farming operations. As shown in Table 1, smaller acreages are used for food crops, such as grains, vegetables, and fruits and nuts.

Table 1. Oregon farmland acreage by type (2007)

Type	Acres	Share (%)
Grain farming	2,097,777	12.8
Vegetable farming	242,192	1.5
Fruit & nut farming	253,189	1.5
Greenhouse, nursery, & floriculture production	264,844	1.6
Other crop farming (hay, mint, other crops)	2,815,956	17.2
Cattle ranching & farming	9,409,053	57.4
Hog & pig farming	12,975	0.1
Poultry & egg production	41,530	0.3
Sheep & goat farming	205,664	1.3
Horse & other equine production	673,445	4.1
Other animal production	383,022	2.3
Total	16,399,647	100.0

Source: U.S. Department of Agriculture, *2007 Census of Agriculture*, Table 46 (February 2009).

Since 2002, the number of Oregon farms in organic production has nearly doubled with the number of farms increasing from 515 to 933 farms. Table 2 shows the market value of organic farm sales has increased dramatically from just under \$10 million in 2002 to more than \$88 million in 2007.

Table 2. Organic Agriculture, Oregon (2002 and 2007)

Category	2002	2007
Total land used for organic production (acres)	N/A	92,405
% of total farmland	N/A	0.6
Number of farms in organic production	515	933
% of total number of farms	1.3	2.4
Land being converted to organic production (acres)	N/A	16,175
Farms being converted to organic production	N/A	470
Market value of organic farm sales (\$000)	9,933	88,379
% of total market value of farm sales	0.3	1.9

Sources: U.S. Department of Agriculture, *2007 Census of Agriculture*, Table 43 (February 2009) and *2002 Census of Agriculture*, Table 2 (June 2004).

Five of Oregon's processing sectors make up 62.3 percent of processing sales in Oregon: frozen food manufacturing (\$1.9 billion); dairy (\$1.9 billion); fruit and vegetable canning, pickling, and drying (\$1.6

billion); breweries, wineries, and distilleries (\$1.3 billion); and bakery goods, pasta, and tortilla manufacturing (\$906 million).

Table 3 divides the Oregon food economy into seven sectors and summarizes agricultural sales, employment, and value-added expenditures for 2009. Processing made up the largest portion of agricultural sales, with an output of more than \$12 billion, followed by food services (\$7.7 billion) and production (\$4.3 billion). Food services employed more than half of all employees in Oregon’s food economy and produced more than \$4 billion of added value.

Table 3. Oregon Agricultural Output, Employment and Value Added (2009)

Aggregated sector	Output—Sales (\$000)	Employment (full- & part-time jobs)	Value added (\$000)
Production	4,321,666	54,120	1,607,990
Processing	12,355,613	31,308	2,232,797
Ag. support services	238,105	7,762	182,820
Wholesale trade	2,568,297	12,958	1,689,559
Transportation & warehousing	743,518	4,859	356,620
Retail trade	980,933	16,369	828,492
Food services & drinking places	7,696,380	133,365	4,026,638
Total agriculture	28,904,512	260,742	10,924,917
Total all Oregon sectors	278,803,857	2,177,594	153,024,613
Portion agriculture (%)	10.4	12.0	7.1

Source: Oregon State University Extension Service, Rural Studies Program, February 2011

These expenditures and employment have a broader impact on Oregon’s economy. Each agricultural sector influences a wide range of suppliers. These indirect expenditures include purchases for food, medical services (e.g. veterinarians), and retail goods among others. Table 4 shows the direct and indirect expenditures that make up the footprint of Oregon’s food economy.

Table 4. Oregon Agriculture Direct and Indirect Expenditures (2009)

Aggregated sector	Output—Sales (\$000)	Employment (full- & part-time jobs)	Value added (\$000)
Production	5,745,810	62,885	2,622,376
Processing	20,541,299	98,815	6,991,892
Ag. support services	501,025	9,847	325,967
Food services & drinking places	14,610,626	188,036	7,944,652
<i>Subtotal—Production, processing, ag. support services, and food services & drinking places</i>	<i>41,398,759</i>	<i>359,583</i>	<i>17,884,887</i>
Wholesale trade	4,636,806	30,368	2,928,210
Transportation & warehousing	1,418,687	10,873	759,378
Retail trade—Food and beverage	1,641,518	22,067	1,223,297
Total agriculture	49,095,771	422,891	22,795,773
Total all Oregon sectors	278,803,857	2,177,594	153,024,613
Portion agriculture (%)	17.6%	19.4%	14.9%

Source: Oregon State University Extension Service, Rural Studies Program, February 2011

Table 5 represents the external demand from outside Oregon for goods and services related to the major parts of Oregon’s food economy, with processing showing the greatest demand.

Table 5. External Demand for Oregon Agriculture (2009)

Aggregated sector	Total (\$000)	Share (%)
Production	2,686,808	2.95
Processing	7,448,031	8.17
Ag. support services	48,323	0.05
Food services & drinking places	934,845	1.03
Wholesale trade	520,527	0.57
Transportation & warehousing	156,202	0.17
Retail trade	184,636	0.20
Total agriculture	11,979,372	13.14
Total all Oregon sectors	91,159,458	100.00

Source: Oregon State University Extension Service, Rural Studies Program, February 2011

As much as 80% of the agricultural products produced in Oregon are sold out-of-state and half of that is exported to foreign countries. The impacts of the external demand for agriculture throughout the Oregon economy are summarized in Table 6.

Table 6. Summary of Oregon Agricultural Economic Impacts (2009)

Aggregated sector	Output—Sales (\$000)	Employment (full- & part-time jobs)	Value added (\$000)
Production	4,884,028	52,128	2,143,749
Processing	14,666,472	71,612	5,016,120
Ag. support services	101,683	1,999	66,155
Food services & drinking places	1,774,688	22,840	965,002
<i>Subtotal—Production, processing, ag. support services, and food services & drinking places</i>	<i>21,426,871</i>	<i>148,578</i>	<i>8,191,027</i>
Wholesale trade	939,760	6,155	593,472
Transportation & warehousing	296,560	2,049	156,800
Retail trade	308,974	4,154	230,255
Total agriculture	22,972,165	160,936	9,171,553
Total all Oregon sectors	278,803,857	2,177,594	153,024,613
Portion agriculture (%)	8.2	7.4	6.0

Source: Oregon State University Extension Service, Rural Studies Program, February 2011

Portland Regional Food Economy

The food economy can be divided into four sector components: production, processing, distribution and consumption. Table 7 provides information for food-related businesses in the Portland region according to these sectors. Consumption comprises more than half of the annual payroll and two-thirds of the employees in the Portland regional food economy.

Table 7. Food-Related Businesses in the Portland Region (2008)

Sector	Business Type	Number of Firms	Employees	Annual Payroll
Production	Agricultural Supply	103	916	\$37 million
Production	Farm and Garden Machinery Wholesalers	43	414	\$18 million
Production	Farm employees	-----	21,429	\$450 million
Production	Farm operators	9,233	11,418	(\$53 million)
	<i>Production Sub-Total</i>	<i>9,379</i>	<i>34,177</i>	<i>\$452 million</i>
Processing	Food Manufacturing	239	8,536	\$329 million
Processing	Beverage Manufacturing	98	1,596	\$47 million
	<i>Processing Sub-Total</i>	<i>337</i>	<i>10,132</i>	<i>\$376 million</i>
Distribution	Grocery Wholesalers	275	7,917	\$336 million
Distribution	Farm Product Wholesalers	28	224	\$22 million
Distribution	Alcoholic Beverage Wholesalers	49	2,340	\$102 million
	<i>Distribution Sub-Total</i>	<i>352</i>	<i>10,481</i>	<i>\$460 million</i>
Consumption	Food & Beverage Retail	992	21,616	\$531 million
Consumption	Food Services and Drinking Places	5,090	79,497	\$1.153 billion
	<i>Consumption Sub-Total</i>	<i>6,082</i>	<i>101,113</i>	<i>\$1,684 million</i>
	Total	16,150	155,903	\$2,972 million

Data cover the Portland Metropolitan Statistical Area; population of 2.2 million. Non-farm employment is drawn from U.S. Bureau of the Census, County Business Patterns. Farm data is compiled from Bureau of Economic Analysis regional economic profiles for the seven counties in the Portland Metropolitan Statistical Area. "Payroll" for employees is taken from total cost of farm labor reported by the region's farms. "Payroll" for farm operators is net cash income from farming for metro area farms.

Production

Land

The Portland region's 9,233 farms encompass more than 500,000 acres, amounting to three percent of the state's farmland and 24 percent of Oregon's farms. As shown in Table 8, Clackamas County has the greatest number of farms (3,980) and farm acreage (182,743) in the Portland metro area, followed by Yamhill County (2,155/152,212), Washington County (1,761/127,984), Columbia County (805/52,102) and Multnomah County (563/17,832). The region has seen a decrease in the number of farms since 2002. The most prevalent farm size is 10-49 acres with a total of 4,138 farms (45%) with an average size of 63 acres. Approximately 78 percent of farms are less than 50 acres (7,174 farms) while only one percent 1,000 acres or more.

Table 8. Region Farm Types (2007)

Farm Typology (2007)	Clackamas		Columbia		Multnomah		Washington		Yamhill		Portland Metro	
	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres
Limited-resource	500	14,029	98	2,981	68	2,691	221	6,037	258	9,822	1,145	35,560
Retirement farms	969	37,341	220	13,068	136	N/A	365	15,465	467	28,663	2,157	65,903
Residential/lifestyle	1,668	35,341	360	20,960	191	4,324	670	15,567	899	29,902	3,788	106,094
Farming occupation/ lower sales	461	17,703	100	6,748	81	2,515	229	13,043	216	12,419	1,087	52,428
Farming occupation/ higher sales	72	8,237	8	N/A	20	N/A	49	8,446	39	8,341	188	25,024
Large family	48	12,733	4	N/A	17	2,095	46	13,879	32	13,615	147	42,322
Very large family	88	32,778	2	N/A	20	6,207	70	32,973	57	46,453	237	118,411
Nonfamily	183	24,581	13	8,345	30	N/A	111	22,574	147	31,631	484	87,131
Total	3,989	182,743	805	52,102	563	17,832	1,761	127,984	2,115	152,212	9,233	532,873

Farms in the Portland region have 297,465 acres of harvested cropland. Approximately 27 percent (2,481 farms) have a total of 90,391 acres of irrigated land, 144 of which receive irrigation water from the U.S. Bureau of Reclamation.

The average value of land and buildings per farm is \$665,945; 83 percent of the state average of \$804,145. The region's farmers received an average combined total of \$61 per year million in subsidies (11-year average, 1999-2009), mostly to raise crops such as wheat or corn that are sold as commodities, not to feed the region's residents.

2,128 (23%) farms use conservation practices such as no-till, limited tilling, filtering field runoff to remove chemicals and fencing animals to prevent them from entering streams. 1,873 (19%) farms use rotational management or intensive grazing and 101 farms generate some electricity on the farm.

Sales

Portland region farms sell \$799 million of products (food and fiber) per year (1969-2009 average). Sales of nursery crops, ornamental shrubs, Christmas trees and grass seed make up a large share of these sales. Even major food items (fruits, nuts and berries; poultry and eggs; and milk and dairy) are often sold as commodities for further processing, not as food for direct human consumption. Furthermore, these products are often exported out of the region.

Portland region farms sold more than \$1 billion worth of products in 2007, as shown in Table 9. Nursery and ornamental products make up the majority of these sales, totaling more than \$600 million. Food sales totaled approximately \$392 million in 2007. The top-selling food products were fruits, nuts and berries at \$139 million followed by forage products (\$86 million) and poultry and eggs (\$59 million).

Table 9. Top Products Sold by Portland Region Farms (2007)

Product	Food Sales	Nonfood Sales	Total Sales
Nursery and ornamentals*		\$608,000,000	\$608,000,000
Fruits, nuts & berries	\$139,000,000		\$139,000,000
Forage*	\$86,000,000		\$86,000,000
Poultry & eggs	\$59,000,000		\$59,000,000
Christmas trees*		\$54,000,000	\$54,000,000
Vegetables	\$46,000,000		\$46,000,000
Milk & Dairy*	\$34,000,000		\$34,000,000
Cattle & calves	\$20,000,000		\$20,000,000
Wheat*	\$8,000,000		\$8,000,000
Horses*		\$5,000,000	\$5,000,000
Total	\$392,000,000	\$667,000,000	\$1,059,000,000

*Sales totals incomplete due to data suppression by USDA.

More than \$943 million of crops were sold in 2007 (88% of sales). Over \$128 million of livestock and products were sold by 3,945 farms (12% of sales), a 15 percent decrease in the number of farms selling livestock and 9 percent increase in sales since 2002. Approximately 71 percent (6,553 farms) of the region's farms sold less than \$10,000 of products in 2007. Their aggregate sales of more than \$13.4 million amounted to about one percent of the region's farm product sales. 896 farms (10%) sold more than \$100,000 of products, an aggregate total of over \$1 million, about 94 percent of the region's farm product sales.² Approximately 66 percent (6,077) of the region's farms reported net losses in 2007, similar to the Oregon average of 65 percent. In 2002, 719 farms received \$3.2 million of federal subsidies.

The \$1 billion of crops and livestock sold in 2007, represents 24 percent of state agricultural sales. Farm product sales were 23 percent higher than the 2002 level of \$869 million. Total farm production expenses were \$879 million, an increase of 28 percent over 2002.

Vegetables & Melons

In 2007, 402 farms produced vegetables on 13,833 acres of land, 367 of which sold \$46 million of vegetables and potatoes. This was a decrease of 26 percent in the number of farms and an increase of 29 percent in sales over 2002.

Fruits

The Portland region has 1,413 orchards on 29,955 acres of land. A total of 1,530 farms in the region sold fruit, nuts, or berries, for total sales of \$139 million. This represents a 12 percent decline in the number of farms and an 84 percent increase in sales over 2002.

Grains, Dry Edible Beans, Oil Crops, and Others

In 2007, 188 of the Portland region's farmers sold 1,239,355 bushels of wheat, mostly winter wheat, raised on 14,079 acres.³ The region's wheat crop sold for more than \$8 million.⁴ 106 farms raised

² Sales data for Columbia County were suppressed by USDA to protect confidentiality, so these totals do not include sales from that county.

³ In addition, three Columbia County farmers raised wheat, but their acreage and production totals were suppressed by USDA in an effort to protect confidentiality.

⁴ This total does not include sales from Columbia County, which were suppressed by USDA to protect confidentiality.

443,678 bushels of oats on 5,839 acres. This is 41% of Oregon's oat-producing farms. 21 farms in the region produced barley and 10 farms raised corn.⁵

Cattle and Dairy

In 2007, 2,796 farms in the Portland region held an inventory of 63,252 cattle and calves. 2,224 farms sold 29,504 of these cattle for \$20 million. 74 farms sold more than \$34 million of milk or dairy products.⁶ 2,296 farms produced 155,947 dry tons of forage crops (hay, etc.) on 64,080 acres of cropland. Of these, 1,693 farms sold \$86 million of forage.⁷ In addition, 53 farms produced 76,359 tons of corn silage on 3,394 acres.⁸

Other Livestock and Animal Products

In 2007, 1,104 farms in the Portland region raised laying hens and 777 farms sold \$59 million of poultry and eggs.⁹ The region has 117 broiler chicken producers with a total inventory of more than 10.9 million birds. Of these, 3.2 million were held in Clackamas County, 7.7 million in Yamhill County, 360 in Columbia County and 300 in Multnomah County.¹⁰

596 farms sold more than \$5 million of horses.¹¹ 261 farms hold an inventory of 7,263 hogs and pigs and 313 farms sold \$1.8 million of hogs and pigs. 650 farms held an inventory of 11,517 sheep, lambs, and goats and sold \$932,000 worth.¹²

Nursery, Landscape and Ornamental Crops

In 2007, 1,278 farms sold \$608 million of ornamental and nursery crops, by far the highest-ranking product sold by the region's farms. There was a 17 percent decrease in the number of farms, but a 19 percent increase in sales over 2002.¹³ 770 farms sold more than \$54 million of Christmas trees.¹⁴

Direct and Organic Sales

In 2007, 1,796 farms in the Portland region sold \$12 million of food directly to consumers. This is a 10 percent decrease in the number of farms selling direct (1,999 in 2002) and a 117 percent increase in direct sales (\$5.7 million in 2002). Direct sales account for 1.2 percent of the region's farm sales, three times the national average. Farmers in the region make up 29 percent of the farms selling direct and account for 22 percent of Oregon's direct sales (\$56 million of direct sales in Oregon in 2007 and \$21 million in 2002). Multnomah County farms led the region in direct sales with \$4.8 million, an increase of 388% over direct sales in 2002. 249 farms in the region sold organic foods (\$21 million of sales) from 6,549 acres. This is 28 percent of Oregon farms (799) selling organic representing 24 percent of state sales (\$88 million). 74

⁵ Acreage and production data for Columbia and Multnomah Counties was suppressed by USDA in an effort to protect confidentiality.

⁶ Sales data for Columbia and Multnomah Counties were suppressed by USDA to protect confidentiality, so these totals do not include sales from these counties.

⁷ Sales data for Columbia County were suppressed by USDA to protect confidentiality, so these totals do not include sales from that county.

⁸ Four Columbia County farmers also raised corn for silage, but their acreage and production totals were suppressed by USDA in an effort to protect confidentiality.

⁹ Inventory data for Clackamas County was suppressed by USDA in an effort to protect confidentiality.

¹⁰ Inventory data for Washington County farms were suppressed by USDA in an effort to protect confidentiality.

¹¹ Sales data for Columbia County were suppressed by USDA in an effort to protect confidentiality.

¹² Sales Yamhill County were suppressed by USDA in an effort to protect confidentiality.

¹³ Note that sales data from the 32 farms in Columbia County selling nursery crops were suppressed by USDA in an effort to protect confidentiality, so these sales are not included in this total.

¹⁴ Sales data from the 42 farms in Columbia County selling Christmas trees were suppressed by USDA in an effort to protect confidentiality.

farms market through community supported agriculture (CSA) and 697 farms produce added-value products on the farm.

Income

Portland region farmers sell \$799 million of products per year (1969-2009 average), spending \$740 million to raise them, for an average gain of \$59 million each year.¹⁵ In nine of the past forty-one years the farm sector experienced a negative cash flow from raising products (though clearly some individual farms made money).¹⁶ Overall, farm producers have enjoyed gains of \$2.5 billion since 1969. However, 66 percent of the region's farms and ranches reported a net loss in 2007.¹⁷

Portland area farmers and ranchers earned \$203 million less by selling products in 1969 than they earned in 2009 (in 2009 dollars). During this time, many livestock producers abandoned farming as a result of low margins. Sales of livestock and related products fell 56 percent, from \$249 million in 1969 to \$112 million in 2009, while crop income rose 131 percent from \$373 million to \$862 million. The most steadily increasing cost of production is hired labor, at a cost of \$443 million in 2009.

Farmers and ranchers earn another \$72 million per year of farm-related income — primarily rental income for land and insurance payments (41-year average for 1969-2009). Federal farm support payments averaged \$8 million per year for the region over the same years. Many farm families rely deeply on off-farm income.

Crop income rose 131% from \$373 million in 1969 to \$862 million in 2009 (2009 dollars). The most steadily increasing cost of production is hired labor, at a cost of \$443 million in 2009. Portland region farmers spent an estimated \$475 million in 2007 buying inputs that were sourced outside the region. This creates a significant flow of money away from the region.

Expenses

Farm production expenses totaled more than \$739 million in 2007 as shown in Table 10. Hired labor makes up more than one third of farm expenses at \$301 million, followed by supply purchases (\$77 million), feed purchases (\$62 million) and depreciation (\$62 million).

¹⁵ Bureau of Economic Analysis

¹⁶ Bureau of Economic Analysis farm income data differ from Agriculture Census data. For Metro Portland, BEA farm income data is lower, while expense figures are also lower, for an overall lower net income. For one thing, BEA data ends in 2009, while USDA data are from 2007. BEA says the major difference between USDA and BEA data sets is that BEA data offer a fuller accounting of depreciation costs, in line with international standards. BEA also says it hopes to update its computer model.

¹⁷ 2007 Agricultural Census

Table 10. Farm Production Expenses, 2007

Expense	Cost
Hired Labor	\$301 million
Supply Purchases	\$77 million
Feed Purchases	\$62 million
Depreciation	\$62 million
Seed Purchases*	\$52 million+
Fertilizer	\$41 million
Contracted Labor	\$40 million
Loan Interest	\$37 million
Pesticides	\$34 million
Gasoline/Fuel/Oil*	\$33 million+
Total	\$739 million+

*Seed purchase and gas/fuel/oil data from Columbia County were suppressed by USDA to protect confidentiality.

Processing and Distribution

The Oregon food processing and distribution sector includes 197 companies not including final food preparation at retail supermarkets or other food-related businesses downstream of the initial food processors.¹⁸ In addition to food processing, the expanded food cluster also includes farm production, packaging and machinery, transportation and warehousing. The sector generates \$6.1 billion in added value and directly employs more than 23,000 workers (2006).¹⁹

Processing

There is no comprehensive study of food processing available for the Portland region. As discussed earlier, five processing sectors make up \$7.6 billion or 62.3 percent of processing sales: frozen food manufacturing; dairy; fruit and vegetable canning, pickling, and drying; breweries, wineries, and distilleries; and bakery goods, pasta, and tortilla manufacturing.

In 2009, processing comprised the largest portion of direct agricultural sales in Oregon, with an output of more than \$12 billion. The processing sector employed 31,308 people and contributed more than \$2 billion in value added expenditures. This sector has an even broader impact on Oregon's economy when looking at direct and indirect expenditures, accounting for more than \$20 billion in sales, employing approximately 98,000 people and contributing nearly \$7 billion in value added expenditures.

In the Portland region food sector, food manufacturing generates \$500 million in personal income, while retail food workers earn about \$670 million, and dining service workers earn \$1.6 billion. Estimated change in net assets for all households in the region was a combined loss of \$9.4 billion in 2009 alone, after several consecutive years of losses (BLS).²⁰

Distribution

No existing data source is known that accurately measures internal and external regional food supplies. The minimum level of internal supply can be considered to be direct farmer-to-consumer sales, which is still not totally accurate since direct sales may be distant sales through the internet, or farm-stand sales

¹⁸ Includes companies of at least 20 employees or estimated annual sales of \$1 million or more.

¹⁹ Oregon Business Plan (www.oregonbusinessplan.org)

²⁰ This total was calculated by multiplying the average household change in net assets (reported in surveys of consumers by the Bureau of Labor Statistics Consumer Expenditure survey) by the number of households in the region.

outside of the region. All the same, this is a fairly reliable tally that sets a rough minimum of internal food trade: 1.5 percent of farm sales, and 0.25 percent of the region's consumer market.

Other foods that are not sold directly from farms to consumers are still locally traded, for example, milk sold by Portland region farms to processors in the region who sell that milk inside the region, or meats that are raised, processed, and consumed within the region, and so forth. The difficulty in measuring such items is that once a gallon of milk, for example, enters a processing plant tank, it can no longer be differentiated from other milk in the tank. It cannot be considered a truly local product unless the creamery sells only its products to local consumers. While this may happen to a considerable extent in the Portland area, such milk (or meat or produce) is inherently a commodity that may be traded anywhere.

Similarly, a gallon of milk may be processed in the region, but the farm where it was produced may be distant. A consumer that buys such a gallon of milk has no assurance unless the dairy has committed itself to only sourcing milk from local cows. Many "local" dairies are forced to supplement their milk supply from distant states to keep their plants fully productive as local supplies cycle through strong or lean times.

This study uses a cautious estimate that roughly 90% of the food eaten in the region is sourced outside of the region. This estimate is based upon the experiences of other states, and upon interviews with local purveyors. The most ambitious estimates of local consumption come from Vermont, a state that, like Oregon, has created considerable focus on local foods. Estimates from practitioners in Vermont range from 3% to 8% of food consumed in the state being sourced from local farms. As a first estimate until more detailed work can be accomplished, then 90 percent seems like a useful baseline. Most consumers, even in a state that has a long history of attention to local foods, still buy at stores such as Wal-Mart that are only beginning to source locally. Nor do farmers always gain significant income from such trades that are made through large-scale infrastructure.

Many local food buyers have made even more discriminating choices. Lewis and Clark College, for example, uses a food vendor that buys products from local farmers, supporting sustainable farming practices that keep profits with local growers that can be reinvested into the community. Indeed, the directness of the purchase may be far more significant than food miles as a measure of a strong community-based food economy.

Consumption

The 1.8 million residents of the Portland region received \$72 billion of income in 2009. Real personal income has increased more than three-fold since 1969, in part based upon a near-doubling of population. Food consumption has consequently increased, as has the retail price of food — yet farm income has declined.

Portland region residents purchase \$4.8 billion of food each year; \$2.8 billion to eat at home.²¹ Most of this food, an estimated \$4.3 billion, is sourced outside of the region. \$12 million of food products (1.5 percent of farm cash receipts, and 0.25 percent of local consumer needs) are sold by 1,796 Portland region farmers directly to consumers, but not always to Portland region consumers, since these may include internet sales.

²¹ This total was calculated by multiplying the average household expenditure on food (reported in surveys of consumers by the Bureau of Labor Statistics Consumer Expenditure survey) by the number of households in the region.

442,229 residents (26%) earn less than 185 percent of the federal poverty guideline. At this level of income, children qualify for free or reduced-price lunch at school. Thus, in a farm region, more than one out of every four people has uncertainty about their ability to purchase essential foods. These lower-income residents constitute a significant market spending \$900 million each year buying food, including \$359 million of SNAP benefits (formerly known as food stamps) and additional millions of WIC coupons.

Food-Related Health Conditions (2009)

Approximately 24 percent of Portland region residents reported in 2009 that they eat five or more servings of fruit or vegetables each day. 76% do not. This is a key indicator of health, since proper fruit and vegetable consumption has been connected to better health outcomes. 55 percent of the region’s adults report they engage in at least 30 minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20 or more minutes three or more days per week. 60 percent of the region’s residents are overweight (36%) or obese (24%) and 7% of the region’s residents have been diagnosed with diabetes.²² Medical costs for treating diabetes and related conditions in the metro region are estimated at \$1 billion per year.²³

Food Consumption in the Portland Region and Selected Areas²⁴

Portland region residents purchase \$4.8 billion of food each year; \$2.8 billion to eat at home. Home purchases break down in the following way: If regional consumers purchased only 15 percent of the food they need for home use directly from farmers in the metro region, without an intermediary, this would produce \$417 million of new farm income in the region — an amount equivalent to half of the 2007 farm sales in the region.

Tables 11 through 16 illustrate current food eaten at home and possible target markets for the region and its counties.

Table 11. Portland Region: Markets for Food Eaten at Home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	605
Fruits & vegetables	512
Cereals and bakery products	357
Dairy products	299
Other, including sweets, fats, & oils	1,011

Clackamas County residents purchase \$1 billion of food each year; \$598 million to eat at home. Home purchases break down in the following way:

²² Source: Centers for Disease Control.

²³ Source: American Diabetes Association medical cost calculator.

²⁴ Source: Bureau of Labor Statistics.

Table 12. Clackamas County: Markets for Food Eaten at Home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	130
Fruits & vegetables	110
Cereals and bakery products	77
Dairy products	64
Other, including sweets, fats, & oils	217

Columbia County residents purchase \$132 million of food each year; \$77 million to eat at home. Home purchases break down in the following way:

Table 13. Columbia County: Markets for Food Eaten at Home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	17
Fruits & vegetables	14
Cereals and bakery products	10
Dairy products	8
Other, including sweets, fats, & oils	28

Multnomah County residents purchase \$1.9 billion of food each year; \$1.1 billion to eat at home. Home purchases break down in the following way:

Table 14. Multnomah County: Markets for Food Eaten at Home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	245
Fruits & vegetables	207
Cereals and bakery products	144
Dairy products	121
Other, including sweets, fats, & oils	408

Washington County residents purchase \$1.4 billion of food each year; \$831 million to eat at home. Home purchases break down in the following way:

Table 15. Washington County: Markets for Food Eaten at Home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	181
Fruits & vegetables	153
Cereals and bakery products	107
Dairy products	89
Other, including sweets, fats, & oils	302

Yamhill County residents purchase \$263 million of food each year; \$153 million to eat at home. Home purchases break down in the following way:

Table 16. Yamhill County: markets for food eaten at home (2009)

Food	\$ Millions
Meats, poultry, fish, and eggs	33
Fruits & vegetables	28
Cereals and bakery products	20
Dairy products	16
Other, including sweets, fats, & oils	56

Conclusions and Opportunities

Farmers gain \$59 million each year producing food products, spending \$475 million buying inputs sourced outside the region, for a total outflow of \$416 million from the region's economy. Meanwhile, consumers spend more than \$4.3 billion buying food sourced outside the Portland region. Thus, total loss to the region is \$4.7 billion of potential wealth *each year*. This loss amounts to nearly five times the value of all farm products now raised in the region. The amount of food imported to the region is greater than the entire food production of the State of Oregon.

The most important dynamic to be addressed with regard to farming in the Portland metro area is the extent to which farmers currently do not produce primary foods for consumers to eat. The overwhelming majority of the region's farm sales (\$662 million) are devoted to grass, sod, grass seed, Christmas trees, and ornamental plants. Another \$300 million of sales is devoted to the care and feeding of animals that are destined for manufacturers (essentially these animals are raw materials for industrial processing), with no assurance that the products derived from them will meet local consumer needs.

The Portland region produces large quantities of fruits, nuts, and vegetables, which typically are exported as commodities in bulk. Only a small fraction is sold locally. While it may seem like a simple matter to divert the sales of, for example, pears or apples from distant markets to local consumers, this is not as simple as it seems because a well-entrenched infrastructure ensures that exports are favored and local distribution channels may be very small or financially weak. Moreover, the local market may be too small and too scattered to wholly attract the attention of local export-based growers.

The concept of exporting food products is widely understood and practiced. At least 90 percent of food crops currently produced in the region are exported. An additional strategy is import-substitution where actions are taken to substitute local products and services for those currently imported. Both exporting and import-substitution are valid strategies. Import-substitution is not a widely practiced economic development strategy, but seems to have great potential given the size and nature of food imports into the Portland region.

PSU graduate student Mike Mertens, in conducting a study of potential for food production in Clackamas County, Oregon, found that there is significant opportunity to grow a variety of types of local food to substitute for a large portion of currently imported food crops, especially fruits and vegetables. He plans to explore the economic opportunities for localizing a portion of the regional food system in future work.

Early adaptors who focus on import-substitution often begin with high-value products that can be stored easily, since perishable items may spoil. Thus, frozen meats, bottled milk and storable dairy products or high value fruits and vegetables with some shelf-life are typically the first ones to be offered. These foods have often been purchased first by people of high incomes while low-income consumers feel they have little access to these quality foods.

Crops with longer shelf-lives, such as root vegetables and those that cannot be shipped, such as local cane berries and strawberries may find larger regional markets. In addition, because of the relatively large food processing industry in the state there may be opportunities to expand processed products for distribution locally and for export.

One recent trend is exhibited by the growers in the Willamette Valley who have begun to shift away from grass seed production (often as suburban housing starts fell, decimating landscaping markets) toward edible beans and wheat. Farmers hope this wheat will be milled locally, but few local mills exist. Nevertheless, this is a significant break from farm production that is deeply dependent on housing starts and one that ultimately threatens the very near-urban regional base on which farmer's farm, since new housing is often built on urban growth boundary expansions on farm lands.

Data on limited resource growers and production (small farms) shows that farms of all sizes may make important contributions. Small farms may be far more productive per acre (there are farms across the U.S. selling for as much as \$100,000 per acre),²⁵ and are definitely more capable of responding flexibly to changing circumstances, such as rising oil prices, or changes in climate, than larger farms that are more locked into high cost energy consumption, commodity crops and less-flexible production systems.

Yet small farms also have significant limitations. Without co-operative equipment, transportation, processing and distribution schemes, small farms will have little market power and are unlikely to produce enough food for the regional population. Large farms may require years to ramp up from smaller operations, but they promise more stable and diverse production over longer periods of time. An ideal food system would foster both small and large farms and would find ways where larger farms will use their size to create benefits for the small, such as participating in joint distribution or purchasing inputs co-operatively, rather than forcing small farms into competition.

Key changes will also need to be made if the Portland region is to have more self-reliant farms. Season extension through solar-heated greenhouses, inexpensive hoop houses (high tunnels) or cold frames will be essential to increase productivity. Increasing the efficiency of transportation from farmer to consumer will be critical as oil prices escalate. Diversifying cropping and livestock production and making more use of crop rotation and both animal and green manures, will help build soil fertility and reduce runoff. Fueling a food system on green energy (biofuels, solar, wind and ground source thermal energy) may provide a competitive advantage relative to export-based agriculture as oil supplies wane.

There are two key elements to the food system of the future than cannot be addressed solely at the farm level. First, the essential component of a strong Portland regional food system will be infrastructure that creates local food trade efficiencies. Our current incentive system, including tax credits and public investment, has favored long-distance transport of food and other commercial items. If we apply similar incentives to promote the growth of regional food systems, through neighborhood and county food storage areas, root cellars, community kitchens for small-scale processing and human-powered distribution networks, farms of many sizes may thrive. The key public investment appears to create this supportive infrastructure.

²⁵ Based on farm interviews with producers across the nation, some of whom are reluctant to have their names publicized. One Georgia farm reports sales of \$100,000 per acre, but does not wish to be identified (interview with farm manager). The STOGROW student-run farm at St. Olaf College reported sales of \$25,000 on a one-quarter acre farm in an interview with the former farm manager. Growing Power in Milwaukee claims sales of \$200,000 per acre (personal communication from staff). Greensgrow Gardens in Philadelphia sells \$900,000 of products from a one-acre farm in Central City Philadelphia, but much of these sales are brokered from nearby nurseries and produce farms.

Second, policy should help create clusters of businesses that develop mutual dependency. For example, the Columbus, Ohio ice cream maker, Jeni's Splendid Ice Creams, refuses to expand production unless their milk supplier, Snowville Creamery, has sufficient capacity to expand in kind. Oregon has long been a leader in fostering collaborative networks and could be a national leader in fostering such business clusters.

A final need of the regional food system is long-term sustainability and resiliency. To achieve sustainability the regional food system should support the Triple Bottom Line (Ecology, Community, and Economy). Farms that do business from the Triple Bottom Line will create mutual trust and respect within the region. New technology can serve as the servant of these social, economic and ecological purposes. Regional investment funds will be required to ensure that local visions can be backed with solid commitments of capital and ensure that interest payments will recycle back into the Portland region to continue meeting local challenges.

Appendix A

Agriculture Census 2007: County Highlights

Clackamas County

- 3,989 farms, a 15% decrease since 2002.
- 182,743 acres in farms, a decrease of 15% since 2002.
- \$397 million of products sold by farms, an increase of 20% over 2002.
- Crop sales totaled \$335 million (84% of sales).
- Livestock sales totaled \$62 million (16% of sales).
- Government payments to farmers totaled \$222,000, a decrease of 26% since 2002.
- The most prevalent farm size (by acres) is farms of 10-49 acres, with 1,770 (44% of all farms).
- Next most prevalent farm size was 1-9 acres, with 1,506 farms.
- Clackamas County ranks second in Oregon for sales of farm products.
- The county also ranks second in the state for sales of crops.
- Ranks first in Oregon, and first in U.S., for sales of Christmas trees, with \$47 million.
- Ranks first in the state for acreage of Christmas trees, with 23,295.
- Ranks 1st in Oregon for acreage of nursery stock, with 12,859.
- Ranks first in Oregon for sales of poultry and eggs, with \$41 million.
- Ranks 1st in the state for inventory of laying hens.
- Ranks first in Oregon for inventory of pullets to produce laying hen stock.
- Ranks 1st in Oregon for sales of horses, with \$2.3 million.
- Ranks 2nd in the state for sales of hogs and pigs, with \$994,000.
- Ranks 4th in the state for inventory of mink.
- Ranks 4th in Oregon for acres devoted to hazelnuts.
- Ranks sixth in Oregon for sales of vegetables, with \$19 million.
- Ranks 7th in the state for sales of fruits, nuts, and berries, with \$28 million.
- Ranks 9th in Oregon for aquaculture sales, with \$516,000.
- Cattle and calf sales totaled \$8 million.
- The most prevalent farm size (by sales) is farms selling less than \$1,000, with 1,242 (31% of the county's farms).

Columbia County

- 805 farms, a 8% decrease since 2002.
- 57,758 acres in farms, a decrease of 7% since 2002.
- Sales of farm products for county farms were not released by USDA in an effort to protect confidentiality. Total farm product sales had been \$28.7 million in 2002.
- Columbia County ranks 26th in Oregon for farm product sales.
- The county ranks second in Oregon, and fourth in the U.S., for acreage devoted to short-rotation woody crops (shrubs and other nursery items).
- Government payments to farmers totaled \$181,000, an increase of 52% over 2002.
- The most prevalent farm size (by acres) is farms of 10-49 acres, with 396 (nearly half of all farms).
- Columbia County ranks 3rd in Oregon for inventory of rabbits, with 3,630.
- Ranks 6th in state for inventory of laying hens, with 5,944.
- County farms and ranches hold an inventory of 10,679 cattle and calves.

- Ranks 7th in Oregon for sales of nursery and ornamental crops, but sales were not reported by USDA.
- Ranks 9th in Oregon for acres of nursery stock.
- Ranks 10th in state for sales of, and acreage devoted to, Christmas trees.
- The most prevalent farm size (by sales) is farms selling less than \$1,000, with 245 (30% of the county's farms).

Marion County

- 2,670 farms, a 17% increase since 2002.
- 307,647 acres in farms, a decrease of 10% since 2002.
- \$587 million of products sold by farms, an increase of 36% over 2002.
- Crop sales totaled \$485 million (83% of sales).
- Livestock sales totaled \$102 million (17% of sales).
- Government payments to farmers totaled \$1.0 million, an increase of 15% over 2002.
- The most prevalent farm size (by acres) is farms of 10-49 acres, with 1,031 (39% of all farms).
- Marion County is the largest farm producer in the state of Oregon, ranked by sales.
- The County is also ranks 22nd in the U.S. for sales of crops.
- Marion County ranks fourth in Oregon for sales of livestock and related products.
- Ranks 1st in Oregon, and 7th in the U.S., for sales of nursery and ornamental crops, with \$244 million in sales (42% of county farm products sales).
- Ranks first in the state for sales of hogs and pigs, with \$1.6 million.
- Ranks first in Oregon, and 3rd nationally, for sales of mink and their pelts.
- Ranks 2nd in the state, and 6th in the U.S., for sales of forage crops, with \$117 million.
- Ranks 2nd in Oregon, and 3rd in the U.S., for sales of Christmas trees, with \$20 million.
- Ranks second in the state, and second in the nation, for acreage devoted to grass seed.
- Ranks 2nd in Oregon for acreage devoted to vegetables, with 25,012.
- Ranks 2nd in the state, and 2nd in the U.S., for acreage devoted to Christmas trees, with 13,794.
- Ranks second in Oregon, and third in the U.S., for acres of nursery stock, with 11,531.
- Ranks 2nd in the state for sales of poultry and eggs, with \$28 million.
- Ranks second in Oregon for inventory of laying hens.
- Ranks 2nd in the state for inventory of pullets to produce laying hen stock.
- Ranks 3rd in Oregon for sales of fruits, nuts, and berries, with \$57 million.
- Ranks 3rd in the state for sales of milk and dairy products, with \$57 million.
- Ranks 4th in Oregon for inventory of broiler chickens, with 523,501.
- Ranks fourth in the state for sales of vegetables, with \$43 million.
- Ranks 9th in Oregon for sales of horses, with \$677,000.
- The most prevalent farm size (by sales) is farms selling less than \$1,000, with 750 (28% of the county's farms).

Multnomah County

- 563 farms, a 21% decrease since 2002.
- 28,506 acres in farms, a decrease of 17% since 2002.
- \$84 million of products sold by farms, an increase of 25% over 2002.
- Crop sales totaled \$82 million (97% of sales).
- Livestock sales totaled \$2 million (3% of sales).

- Government payments to farmers totaled \$227,000, an increase of 285% over 2002.
- The most prevalent farm size was farms of 10-49 acres, with 240 (43% of all farms).
- Ranks 4th in Oregon and 11th in U.S. for acreage of nursery stock, with 4,127.
- Ranks 5th in state for sales of nursery and ornamental crops, with \$60 million.
- Ranks sixth in state for land in berries, with 1,178 acres.
- Ranks 8th in Oregon for sales of vegetables, with \$12 million.
- Cattle and calf sales totaled \$852,000.
- Hog sales totaled \$11,000.
- The most prevalent farm size (by sales) is farms selling less than \$1,000, with 122 (22% of the county's farms).

Washington County

- 1,761 farms, a 7% decrease since 2002.
- 127,984 acres in farms, a decrease of 2% since 2002.
- \$311 million of products sold by farms, an increase of 34% over 2002.
- Crop sales totaled \$295 million (95% of sales).
- Livestock sales totaled \$16 million (5% of sales).
- Government payments to farmers totaled \$809,000, a decrease of 26% from 2002.
- The most prevalent farm size was 10-49 acres, with 716 (41% of all farms).
- Washington County ranks 5th in Oregon for sales of farm products.
- The county ranks 3rd in the state for crop sales.
- Ranks 3rd in Oregon, and 12th in the U.S., for sales of nursery and ornamental crops, with \$199 million.
- Ranks 3rd in Oregon, and 3rd in the U.S., for acreage devoted to hazelnuts, with 5,608.
- Ranks third in the state, and 6th in the nation, for acreage of nursery stock, with 5,106.
- Ranks 4th in Oregon for sales of fruits and nuts, with \$53 million.
- Ranks fourth in the state for sales of hogs and pigs, with \$466,000.
- Ranks 5th in Oregon for sales of horses, with \$989,000.
- Ranks 7th in state, and 8th in the U.S., for acreage devoted to grass seed, with 30,411.
- Ranks 7th in Oregon for inventory of broiler hens.
- Ranks 8th in Oregon for acres of wheat, with 9,752.
- Ranks eighth in Oregon for sales of grains, with \$8 million.
- Ranks eighth in state for inventory of pheasants.
- Ranks 8th in state for sales of Christmas trees, with \$3.2 million of sales.
- Ranks eighth in Oregon for sales of poultry and eggs, with \$588,000.
- Ranks 9th in state for inventory of laying hens, with 4,821.
- Sales of forage crops totaled \$25 million.
- Sales of milk and dairy products totaled \$7 million.
- Vegetable sales totaled \$7 million.
- The most prevalent farm size (by sales) was farms selling less than \$1,000, with 487 (28% of the county's farms).

Yamhill County

- 2,115 farms, a 9% decrease since 2002.
- 180,846 acres in farms, a decrease of 8% since 2002.

- \$278 million of products sold by farms, an increase of 33% over 2002.
- Crop sales totaled \$230 million (83% of sales).
- Livestock sales totaled \$47 million (17% of sales).
- Government payments to farmers totaled \$1.8 million, an increase of 76% over 2002.
- The most prevalent farm size was farms of 10-49 acres, with 1,012 (48% of all farms).
- 31 farms worked more than 1,000 acres.
- Yamhill County ranks 7th in Oregon for sales of farm products.
- Ranks 1st in state for inventory of broiler hens, with 1.3 million.
- Yamhill County ranks first in the U.S. for acreage of hazelnuts, with 7,574.
- Ranks 1st in state for acreage of grapes, with 5,888.
- Ranks 3rd in Oregon for sales of poultry and eggs, with \$17 million.
- Ranks third in state for sales of horses, with \$1.5 million.
- Ranks 4th in state, and 5th in U.S., for acreage of grass seed, with 49,684.
- Ranks fourth in Oregon for sales of nursery and ornamental crops, with \$121 million (43% of sales).
- Ranks fourth in state for sales of forage crops, with \$45 million.
- Ranks fifth in Oregon for sales of fruits and nuts, with \$51 million.
- Ranks 5th in Oregon for sales of milk and dairy products, with \$21 million.
- Ranks 6th in state for sales of hogs and pigs, with \$303,000.
- Ranks 7th in Oregon for sales of Christmas trees, with \$3.3 million.
- Ranks 8th in state for acreage of vegetables, with 4,000.
- Ranks 8th in Oregon for inventory of laying hens, with 5,037.
- The most prevalent farm size (by sales) is farms selling less than \$1,000, with 622 (29% of the county's farms).

Clark County, Washington

- 2,101 farms, a 32% increase since 2002.
- 78,359 acres in farms, an increase of 11% since 2002.
- \$53 million of products sold by farms, a decrease of 3% over 2002.
- Crop sales totaled \$22 million (42% of sales).
- Livestock sales totaled \$31 million (58% of sales).
- Government payments to farmers totaled \$115,000, a decrease of 44% since 2002.
- The most prevalent farm size was farms of 10-49 acres, with 1,043 (50% of all farms).
- Next most prevalent farm size was 1-9 acres, with 705.
- 12 farms had more than 500 acres.
- Clark County farms ranked first in Washington State for the inventory of rabbits.
- Ranks 2nd in Washington State for acreage devoted to Christmas trees, with 1,176.
- Ranks 3rd in the state for sales of Christmas trees, with \$3 million.
- Ranks 3rd in Washington State for sales of sheep and goats, with \$342,000.
- Ranks fourth in state for acreage of berries, with 1,335.
- Ranks eighth in Washington State for sales of poultry and eggs, with \$10.6 million.
- Ranks 9th in state for acreage planted to corn for silage, with 1,883 acres.
- Ranks 9th in state for acreage of oats, with 405.
- Ranks 10th in Washington State for sales of horses, with \$917,000.

- 1,793 (85%) farms sold less than \$10,000 of products.
- 53 farms sold more than \$100,000 of products.

Appendix B

State of Oregon Agricultural Data

Agriculture Census 2007: Oregon Highlights

- Ranks first in the nation in sales of Christmas trees, with \$117 million of sales.
- Ranks 1st in U.S. for acreage devoted to Christmas trees, with 66,816.
- Ranks 1st in nation for acreage devoted to grass and sod, with 557,000 acres.
- Ranks 3rd in U.S. for sales of nursery and ornamental crops, with \$989 million.
- Ranks 3rd in nation for sales of forage crops, with \$698 million.
- Ranks 4th in U.S. for sales of fruits and nuts, with \$516 million.
- Ranks 9th in nation for sales of sheep and goats with \$21 million.
- Ranks 9th in U.S. for acreage devoted to vegetables, with 149,665.
- Ranks 10th in U.S. for sales of vegetables, with \$339 million.
- Oregon had 38,553 farms in 2007, slightly less than its 40,033 farms in 2002.
- Total sales of farm products totaled \$4.4 billion, a 37% increase over 2002.
- \$3.0 billion of farm sales (68%) came from selling crops.
- \$1.4 billion of farm sales (32%) came from selling livestock and products.
- Government payments increased 47% over 2002 levels, to \$76 million.
- The most prevalent farm size was 10-49 acres, with 14,000 farms.
- The next most prevalent farm size was 1-9 acres, with 9,600.
- The third most prevalent farm size was 50-179 acres, with 7,500 farms.
- 2,500 farms managed more than 1,000 acres.
- 11,763 farms sell less than \$1,000 of products.
- 4,678 farms sell more than \$100,000 of products.
- After subsidies are taken into account, 65% of Oregon farms reported to the Agriculture Census that their operation suffered a net loss in 2007.
- 6,274 state farms earned \$56 million selling products directly to consumers. This is a 2% decrease in the number of farms, and a 163% increase in direct sales.
- Direct food sales from farms accounted for more value than the state's 14th-largest product, chicken eggs.
- 933 farms devoted 92,405 acres to organic production. This included 45,834 acres of harvested cropland, 41,844 acres of pastureland, and 16,175 acres on 470 farms undergoing organic conversion.
- 799 of these organic farms sold \$88 million of organic products, including \$42 million of crops (this may include ornamental and greenhouse crops), \$3 million of livestock and poultry, and \$43 million of products from livestock and poultry (such as milk or eggs).
- 3,799 farms receive irrigation water from the U.S. Bureau of Reclamation.
- 311 farms market through community supported agriculture (CSA).
- 2,807 state farms produce value-added products.
- 9,327 farms use conservation methods.
- 9,694 farms practice rotational management or intensive grazing.
- 631 farms generate energy or electricity on the farm.

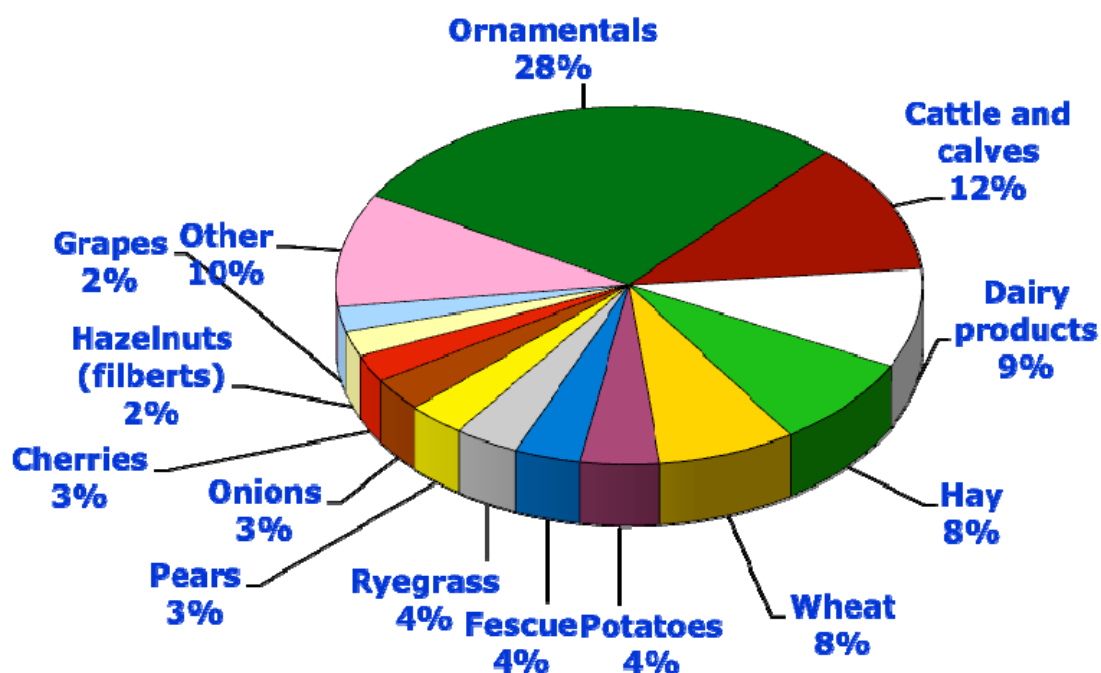
Top Oregon Farm Products, 2009 (Economic Research Service)

At \$56 million, direct sales from farmers to consumers amounts to more value than sales of the 14th-ranked product, chicken eggs.

Rank	Product	Sales (\$ millions)
1	Greenhouse/nursery	972.1
2	Cattle and calves	405.7
3	Dairy products	305.1
4	Hay	282.9
5	Wheat	259.7
6	Potatoes	149.3
7	Fescue	123.6
8	Ryegrass	122.9
9	Pears	107.3
10	Onions	104.0
11	Cherries	83.7
12	Hazelnuts (filberts)	79.4
13	Grapes	76.8
14	Chicken eggs	47.2
15	Hops	43.2
16	Mint	43.0
17	Blueberries	37.9
18	Corn, sweet	37.6
19	Blackberry group	32.9
20	Apples	26.5
21	Beans, snap	24.3
22	Corn	23.3
23	Bluegrass, kentucky	19.9
24	Sugar beets	16.6
Total		3,387.3

Broiler hens were also listed among Oregon's top 25 products, but sales figures for these products were not released by ERS to protect confidentiality.

Top Farm Products in Oregon, 2009



Source: USDA Economic Research Service

Farm Types in Oregon (2007 Census of Agriculture)

Only 14 percent of farms in Oregon (5,293 of 38,553) are considered farms of considerable means, according to the Census of Agriculture's typology (this includes farms marked as "higher sales," large family farms, very large family farms, or non-family farms, below). USDA reports this data for the state as a whole, but not for individual counties in the study area.

Farm Types by Category, State of Oregon

Farm Type	Number	Percent
Limited resource farms	5,503	14%
Retirement farms	9,126	24%
Residential/lifestyle farms	13,807	36%
Farm occupation/lower sales	4,824	13%
Farm occupation/higher sales	1,181	3%
Large family farms	899	2%
Very large family farms	1,246	3%
Non-family farms	1,967	5%
Totals	38,553	100%

The following farm definitions are used by USDA in creating the tables in this section:

Rural residence farms. Specific typologies included in rural residence farms are limited-resource,

retirement, and residential lifestyle farms.

- Limited-resource farms. Small farms with sales less than \$100,000 in 2003 and low operator household income in 2003 and 2004. Household income is low if it is less than the poverty level in both 2003 and 2004 or if it is less than half the county median income both years.
- Retirement farms. Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).
- Residential/lifestyle farms. Small farms whose operators report they had a major occupation other than farming (excludes limited-resource farms with operators reporting a non-farm major occupation).

Intermediate farms. Includes farming occupation/lower-sales and farming occupation/higher-sales farms.

- Farming occupation/low-sales. Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).
- Farming occupation/high-sales. Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

Commercial farms. Includes large, very large, and nonfamily farms.

- Large family farms. Farms with sales between \$250,000 and \$499,999.
- Very large family farms. Farms with sales of \$500,000 or more.
- Nonfamily farms. Farms organized as non-family corporations or cooperatives, as well as farms operated by hired managers.

The data shows that only 109 farms in the state are owned and operated by a farmer under 25 years of age, while 29 percent of Oregon farms are operated by someone over 65 years.

Farm Types by Age of Owner, State of Oregon

	Under 25	25 to 34	35 to 44	45 to 54	55 to 64	65 & over
Limited resource farms	27	185	512	1,322	1,615	1,842
Retirement farms	0	0	47	298	2,620	6,161
Residential/lifestyle farms	24	687	2,193	5,389	4,434	1,080
Farming occupation/lower sales	33	293	673	1,555	1,423	847
Farming occupation/higher sales	9	113	130	351	362	216
Large family farms	2	51	94	267	280	205
Very large family farms	1	60	128	416	402	239
Non-family farms	13	106	308	47	529	464
Totals	109	1,495	4,085	10,145	11,665	11,054

This categorization of farms shows that limited resource farms may sell as much as \$99,000 of products, and that even lifestyle or retirement farms may sell well over \$100,000. Conversely, non-family farms may sell very low amounts.

Farm Types by 2007 Sales, State of Oregon

Farm Type	All farms	Less than \$1,000	\$1,000 to \$2,499	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999
Limited resource	5,503	2,081	979	786	648	554
Retirement	9,126	3,162	1,444	1,304	1,112	996
Lifestyle farms	13,807	5,034	2,654	2,004	1,554	1,284

Farms/lower sales	4,824	1,128	500	459	507	725
Farms/higher sales	1,181	-----	-----	-----	-----	-----
Large family farms	899	-----	-----	-----	-----	-----
Very large family farms	1,246	-----	-----	-----	-----	-----
Non-family farms	1,967	358	110	98	113	171
Total	38,553	11,763	5,687	4,651	3,934	3,730

Farm Type	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1 million or more
Limited resource	299	156	-----	-----	-----	-----
Retirement	526	332	250	-----	-----	-----
Lifestyle farms	586	434	257	-----	-----	-----
Farms/lower sales	728	777	-----	-----	-----	-----
Farms/higher sales	-----	-----	1,181	-----	-----	-----
Large family farms	-----	-----	-----	899	-----	-----
Very large family farms	-----	-----	-----	-----	642	604
Non-family farms	133	139	251	178	178	238
Total	2,272	1,838	1,939	1,077	820	842

Note: Category names have been shortened in this chart to provide space for data entries.

Census of Agriculture data also show that limited-resource farms may be quite large and that “large” farms by sales may be very small in acreage.

Farm Type by Acreage, State of Oregon

Farm Type	1 to 9	10 to 49	50 to 69	70 to 99	100 to 139	140 to 179
Limited resource	1,576	2,242	320	308	251	181
Retirement	2,085	3,743	580	623	448	397
Lifestyle farms	4,583	5,762	723	663	471	361
Farms/lower sales	966	1,631	257	320	271	261
Farms/higher sales	49	155	65	72	47	52
Large family farms	19	61	36	54	45	32
Very large family farms	14	78	33	35	54	46
Non-family farms	254	470	117	107	112	88
Total	9,546	14,142	2,131	2,182	1,699	1,418

Farm Type	180 to 219	220 to 259	260 to 499	500 to 999	1,000 to 1,999	2,000 or more
Limited resource	99	71	208	138	48	61
Retirement	155	135	408	277	56	119
Lifestyle farms	208	121	367	277	124	147
Farms/lower sales	139	108	333	197	158	183
Farms/higher sales	51	42	198	120	102	228
Large family farms	27	19	120	158	86	242
Very large family farms	35	41	157	202	195	356
Non-family farms	82	61	155	162	129	230

Total	796	598	1,946	1,531	998	1,566
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Note: Category names have been shortened in this chart to provide space for other entries.

Farms of all sizes produce all crops, including grains.

Farm Type by Crops Produced, State of Oregon

Farm Type	Grains & Oilseeds	Vegetables & Melons	Fruits & Nuts	Nursery & Ornamentals	Other Crops
Limited resource	32	132	389	527	914
Retirement	86	125	903	732	1,953
Lifestyle farms	94	196	1,178	1,207	2,404
Farms/lower sales	116	98	461	462	890
Farms/higher sales	151	32	200	148	273
Large family farms	110	36	146	92	256
Very large family farms	138	105	127	184	326
Non-family farms	84	70	362	310	401
Total	811	794	3,766	3,662	7,417

No large family farms produce poultry or eggs, nor do very large family farms raise hogs.

Farm Type by Livestock or Derivatives Produced, State of Oregon

Farm Type	Beef Cattle	Milk & Dairy	Hogs & Pigs	Poultry & Eggs	Sheep & Goats
Limited resource	1,757	36	57	159	412
Retirement	3,089	43	76	209	500
Lifestyle farms	4,661	65	196	369	949
Farms/lower sales	1,535	27	61	104	191
Farms/higher sales	300	29	6	1	4
Large family farms	183	42	6	-----	6
Very large family farms	160	144	-----	29	4
Non-family farms	386	46	23	20	37
Total	12,071	432	425	891	2,103

Cattle Feedlots and Aquaculture or Other Animals, State of Oregon

Farm Type	Cattle Feedlots	Aquaculture & Other
Limited resource	100	988
Retirement	175	1,235
Lifestyle farms	368	2,120
Farms/lower sales	79	800
Farms/higher sales	12	25
Large family farms	9	13
Very large family farms	12	17
Non-family farms	23	205
Total	778	5,403

As mentioned above, 65 percent of the farms in Oregon reported a net loss when responding to the Census of Agriculture in 2007. A more precise set of data covering the net gains and losses is shown below. Gains and losses occurred that were both large and small.

	Total
Net cash farm income (number of farms)	38,553
Net cash farm income (\$1,000)	903,728
Farms with net gains (number)	13,455
Gain of:	
Less than \$1,000	1,483
\$1,000 to \$4,999	2,886
\$5,000 to \$9,999	1,596
\$10,000 to \$24,999	2,175
\$25,000 to \$49,999	1,580
\$50,000 or more	3,735
Farms with net losses (number of farms)	25,098
Loss of:	
Less than \$1,000	2,362
\$1,000 to \$4,999	9,486
\$5,000 to \$9,999	5,142
\$10,000 to \$24,999	4,815
\$25,000 to \$49,999	1,970
\$50,000 or more	1,323

This data is further analyzed by the Census of Agriculture to show net gains and losses by size of farm, measured both by the number of acres and the amount of sales. These data show, that while of course large farms earn more money overall than small ones, there are both profitable small farms, and large farms that lose money. Only the smallest farms, those from one to nine acres, showed losses for the entire category.

Looking at the net cash income by sales, however, shows some different trends. All of the categories of farms with sales less than \$25,000 show an overall loss for the category. This suggests that these small farms are highly dependent on off-farm jobs, and are perhaps arranging their finances to show a net loss in an effort to reduce taxes. Surprisingly, farms with less than \$10,000 of sales lost a combined total of \$98 million.

Three-fourths of the net cash income earned by Oregon farms was earned by farms selling more than \$1 million of products, yet losses occurred even for these largest of farms.

Farms with Net Gains and Losses by Acreage of Farm, State of Oregon

	1 to 9	10 to 49	50 to 69	70 to 99	100 to 139	140 to 179
Net cash farm income (farms)	9,546	14,142	2,131	2,182	1,699	1,418
Net cash farm income (\$1,000)	-18,427	10,207	23,106	30,049	26,791	21,501
Farms with net gains (number of farms)	2,212	3,668	775	903	695	653
Gain of:						
Less than \$1,000	504	622	98	80	32	43

\$1,000 to \$4,999	818	1117	175	163	134	141
\$5,000 to \$9,999	325	513	124	131	105	97
\$10,000 to \$24,999	318	617	146	180	145	105
\$25,000 to \$49,999	116	366	65	142	90	110
\$50,000 or more	131	433	167	207	189	157
Farms with net losses (number of farms)	7,334	10,474	1,356	1,279	1,004	765
Loss of:						
Less than \$1,000	903	1,017	112	94	80	37
\$1,000 to \$4,999	3,583	4,138	407	395	226	192
\$5,000 to \$9,999	1,419	2,347	312	261	215	167
\$10,000 to \$24,999	1,067	2,016	297	335	275	184
\$25,000 to \$49,999	284	679	150	127	118	118
\$50,000 or more	78	277	78	67	90	67

	180 to 219	220 to 259	260 to 499	500 to 999	1,000 to 1,999	2,000 or more
Net cash farm income (farms)	796	598	1,946	1,531	998	1,566
Net cash farm income (\$1,000)	26,046	20,495	137,029	190,647	162,887	273,397
Farms with net gains (number of farms)	378	285	1,112	942	711	1,121
Gain of:						
Less than \$1,000	26	8	21	25	11	13
\$1,000 to \$4,999	39	31	141	66	34	27
\$5,000 to \$9,999	41	29	100	78	31	22
\$10,000 to \$24,999	78	71	159	152	92	112
\$25,000 to \$49,999	62	55	197	122	125	130
\$50,000 or more	132	91	494	499	418	817
Farms with net losses (number of farms)	418	313	834	589	287	445
Loss of:						
Less than \$1,000	19	19	52	18	8	3
\$1,000 to \$4,999	104	69	197	104	34	37
\$5,000 to \$9,999	86	50	123	87	38	37
\$10,000 to \$24,999	95	80	202	125	60	79
\$25,000 to \$49,999	67	39	130	98	62	98
\$50,000 or more	47	56	130	157	85	191

Farms with Net Gains and Losses by Sales, State of Oregon

	Less than \$1,000	\$1,000 to \$2,499	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999
Net cash farm income (farms)	11,763	5,687	4,651	3,934	3,730	2,272
Net cash farm income (\$1,000)	-98,108	-32,077	-25,011	-19,041	-10,470	6,846
Farms with net gains (number of farms)	1,064	767	1,214	1,599	2,026	1,516
Gain of:						
Less than \$1,000	236	407	413	254	125	24
\$1,000 to \$4,999	246	227	655	902	579	160
\$5,000 to \$9,999	151	49	62	316	638	237
\$10,000 to \$24,999	197	47	49	64	577	723
\$25,000 to \$49,999	140	20	23	45	74	330

\$50,000 or more	94	17	12	18	33	42
Farms with net losses (number of farms)	10,699	4,920	3,437	2,335	1,704	756
Loss of:						
Less than \$1,000	797	653	493	251	118	22
\$1,000 to \$4,999	4,461	2,292	1,362	730	406	132
\$5,000 to \$9,999	2,395	999	717	524	304	125
\$10,000 to \$24,999	2,052	737	614	526	493	181
\$25,000 to \$49,999	685	186	192	222	261	165
\$50,000 or more	309	53	59	82	122	131

	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 or more
Net cash farm income (farms)	1,838	1,939	1,077	820	842
Net cash farm income (\$1,000)	29,648	80,711	106,700	176,139	688,392
Farms with net gains (number of farms)	1,364	1,528	887	714	776
Gain of:					
Less than \$1,000	13	9	----	1	1
\$1,000 to \$4,999	78	36	2	1	----
\$5,000 to \$9,999	78	45	12	4	4
\$10,000 to \$24,999	292	167	38	11	10
\$25,000 to \$49,999	540	289	69	39	11
\$50,000 or more	363	982	766	658	750
Farms with net losses (number of farms)	474	411	190	106	66
Loss of:					
Less than \$1,000	17	7	4	----	----
\$1,000 to \$4,999	57	39	4	1	2
\$5,000 to \$9,999	43	23	7	4	1
\$10,000 to \$24,999	98	74	24	13	3
\$25,000 to \$49,999	117	81	46	8	7
\$50,000 or more	142	187	105	80	53

Appendix C

Key Data Sources

Bureau of Economic Analysis data on farm production balance

<http://www.bea.doc.gov/bea/regional/reis/>

Food consumption estimates from Bureau of Labor Statistics Consumer Expenditure Survey

<http://www.bls.gov/cex/home.htm>

U.S. Census of Agriculture

<http://www.nass.usda.gov/census/>

USDA/Economic Research Service food consumption data:

<http://www.ers.usda.gov/data/foodconsumption/>

USDA/ Economic Research Service farm income data:

<http://ers.usda.gov/Data/FarmIncome/finfidmu.htm>

Centers for Disease Control: Behavior Risk Factors Surveillance System

BRFSS <http://apps.nccd.cdc.gov/brfss-smart/>

National Association of County and City Health Officials (NACCHO)

Big Cities Health Inventory <http://www.naccho.org/>

Appendix 4

Grower Survey



Growing a Sustainable Portland Metropolitan Foodshed

GROWERS SURVEY

Please help us identify existing key challenges and opportunities to strengthen agriculture in the Portland region by taking our growers survey. Results from the survey will help us define the situation and needs of growers in the regional food economy.

GENERAL INFORMATION

1. What were your annual gross farm sales in 2009?
\$ _____
2. How many acres were involved in generating the gross farm sales in Question #1?
_____ acres
3. How many acres do you own v. lease?
_____ acres own
_____ acres lease
4. What is the primary source of the gross farm income in Question #1?
_____ % from crops
_____ % from non edible crops
_____ % from livestock
_____ % from value added and processing
_____ % other
5. What county is your residence located?

6. What is the age of the principal owner(s) of this farm?
_____ years of age
7. Do you plan to transfer land/farm ownership?
a) No
b) Yes

If Yes, to whom will you be transferring ownership?

- i Family member
- ii Employee
- iii Neighbor
- iv Sell for a nonagricultural use
- v Donate to a nonprofit organization
- vi Transfer to a family trust
- vii Transfer to a land trust
- viii Other _____

If Yes, is your plan formalized in a legal document, such as a will?

- a) No
- b) Yes

If Yes, do you need assistance in the following areas?

- a) Legal
- b) Tax
- c) Other _____

8. Is your main business goal to obtain farm tax deferral from your county tax assessor's office?

- a) No
- b) Yes

9. Do you perform additional processing or packaging to your products before your sell to a customer?

- a) No
- b) Yes

If Yes, what percent of your gross farm sales come from processing or/and packaging your products?
____%

10. Does your farm activity require non-farm supplemental income to stay in business?

- a) No
- b) Yes

MARKETING INFORMATION

11. How do you connect to your customers? Select all that apply.

- a) In person
- b) Phone
- c) Website
- d) Facebook
- e) Twitter
- f) Other _____

12. Do you need help connecting with you customers?

- a) No
- b) Yes

If Yes, what types of help do you need?

13. Are you aware of existing methods for customer connections, such as Food Hub, etc.?

- a) No
- b) Yes

14. Could a "Brand" add value to your products and markets, such as a "Willamette Valley Grown" etc.?

- a) No
- b) Yes

15. Where do you currently market/sell most of your farm products?

16. Are you satisfied with your current market outlets?

- a) Yes
- b) No

If No, what other market opportunities would you like to pursue?

17. Which of the following geographic markets are the targets for you in the next five years?

- a) International
- b) National
- c) West Coast
- d) Metro Area
- e) Other _____

18. How much of your annual farm sales are generated from organic production?

- a) None
- b) Some
- c) All

If some or all of your production is organic, do you use organic production as:

- a) Marketing tool
- b) Stewardship practices
- c) Safety practice to family and employees
- d) a) and b)
- e) b) and c)
- f) a) and c)
- g) All three
- h) Other _____

What type of third party certification system do you use?

- a) None
- b) Food Alliance
- c) Oregon Tilth
- d) Salmon Safe
- e) USDA Organic
- f) Oregon Department of Agriculture
- g) Other _____

19. How far do you travel to market or sell your farm products?

_____ miles

20. Are there crops or livestock that you would like to grow that you currently are not?

- a) No
- b) Yes

If Yes, what types of crops or livestock?

21. What technology would help you in marketing your products?

- a) Website
- b) Facebook
- c) Twitter
- d) Other _____

22. Are there barriers for you to effectively marketing your product?

- a) No
- b) Yes

If Yes, what are those barriers?

23. Do you need assistance with marketing support?

- a) No
- b) Yes

If Yes, what help do you need?

OPERATIONS INFORMATION

24. Are you satisfied with the size and productivity of your operation?

- a) No, I would like to increase my output/revenues
- b) No, I would like to reduce my costs
- c) No, I would like to both expand my output/revenues and reduce my costs
- d) Yes, I am satisfied with the size and productivity of my operation

25. Would you like to increase your land base?

- a) No
- b) Yes

If yes, the reason to increase your land base is to:

- i. Meet the demand in your current market strategy
- ii. Potentially create a new market opportunity not otherwise obtainable with current acreage
- iii. Gain economies of size with equipment
- iv. Have family member(s) that would also like to farm and this would allow them the ability to farm as well
- v. Other _____

26. If you were to expand your business, how would you pay for additional farm inputs, equipment, land, buildings or other expansion?

- a) Commercial lender
- b) FHA
- c) Self/Family
- d) Investors
- e) Other

27. Are you interested in joining a Cooperative or other similar organization?

- a) No
- b) Yes

If Yes, what is the most important reason?

- i. New market opportunities
- ii. Expanding your current market,
- iii. Access to equipment that you don't currently have access to
- iv. Lower cost
- v. Better access to inputs

28. Besides yourself, how many family members work for your farming operation full-time?

29. How many family members work for your farming operation part-time?

30. How many non-family employees work for your farming operation?

What percent of your employees in Question #30 are:

_____ % migrant
_____ % local

Is your labor force stable (available when needed)?

- a) No
- b) Yes

Is your labor force adequately skilled for the tasks expected of them?

- a) No
- b) Yes

31. What do you need to increase your capacity to generate new markets, increase revenues, or reduce costs?

32. What is the biggest barrier to producing your product for your market?

33. What technology would help you in producing your products?

REGULATORY INFORMATION

34. Do you have conflicts in your ability to produce your products in a safe and efficient manner?

- a) No
- b) Yes

If Yes, what is the main conflict?

- i. Noise
- ii. Dust
- iii. Transportation
- iv. Vandalism/theft
- v. Other _____

If Yes, whom do you have the most conflict with?

- i. Non)farm neighbors
- ii. Other farmers
- iii. Local government
- iv. Other _____

35. What other regulatory barriers do you face?

- a) Water rights and supply
- b) Air quality rules
- c) Farmers markets rules and regulations
- d) Land use, permitted uses within zoning
- e) Certification systems
- f) Tax structure
- g) Labor laws
- h) Transportation access
- i) Other _____

36. What is your chief regulatory challenge?

- a) Land use
- b) Water pollution
- c) Water supply
- d) Air quality
- e) Labor regulations
- f) Certification systems (e.g., USDA Organic, Oregon Tilth, other)
- g) Diversification on site (e.g, agricultural tourism or processing on site)

37. What level of government is the most important to your operations?

- a) International (World Trade Organization)
- b) Federal/National
- c) State
- d) Regional (Metro)
- e) County
- f) City
- g) Cooperative Extension
- h) Soil and Water Conservation District
- i) Other _____

38. Where are the opportunities to expand your markets?

39. What are the pros and cons related to organic certification or other certification?

40. What is the most important need to improve your operation?

41. How has increased awareness of environmental stewardship changed your operations?

THANK YOU for your time in completing this survey.

This survey is part of a project sponsored by the Western Sustainable Agriculture Research and Education. To learn more about Western SARE, please visit <http://wsare.usu.edu> or call 435.797.2257.

To learn more about this project or get involved, please visit www.pdxfoodshed.com or call Bob Wise at 503.225.0192.

Please mail your completed survey to:

SARE c/o Cogan Owens Cogan, LLC
813 SW Alder, Suite 320
Portland, OR 97205

Appendix 5

Phase I Data collection results

- Phase I survey results
- Phase I interview results

SARE Farmers and Growers Survey Summary

September 30, 2011

The Portland metropolitan area is well known nationwide for its cutting edge sustainability vision, urban development and farmland protection framework. The region has a large number of productive small farms that are located within and near urban areas. There is a growing interest in, and support for, locally grown, sustainable food. This interest is driven by rising concerns over public health, food security, transportation costs, climate change, jobs and the economy, and the search for a more community-based, sustainable lifestyle. There is growing support for farmers markets, community supported agriculture (CSA), community gardens, local healthy food school programs and institutional purchases of fresh, locally grown produce. Increasing locally-sourced fruits and vegetables is also a goal of the Regional Food Bank.

Western Sustainable Agriculture Research and Education (SARE) is funding a study to examine key agricultural trends, identify producer needs and define strategies to strengthen the local food production system. The goals of the study are to:

- Define the Portland Metropolitan Foodshed, identify related agricultural and economic trends and develop a needs assessment based on input from producers and other stakeholders.
- Assemble a regional toolkit of strategies to support evolution of a sustainable Portland Metropolitan Foodshed.
- Work with the City of Damascus, Oregon to test the toolkit on a local level.
- Develop a research and educational program that supports these goals and supports small and medium farmers in the region.

As part of this study, an online survey was distributed to farmers and growers in the Portland region. The survey was completed by 81 growers and farmers. Along with interviews conducted with five core farmers in the regional foodshed, the results of this online survey of farmers and growers reflect a range of farming operations and will be used to show the impacts of urban development on small and mid sized farming operations. A summary of survey results follows.

1. What were your annual gross farm sales in 2009?

Farmers' annual gross sales ranged from \$0 to \$1.6 million with a median of \$22,000. Eight respondents reported sales of \$500,000 or more. Several respondents indicated \$0 in sales because they did not start farming until 2010.

2. How many acres were involved in generating the gross farm sales in Question #1?

More than 4,200 acres were involved in generating gross sales, with individual responses ranging from zero to 850 acres. The average number of acres is approximately 53 with a median of six acres.

3. How many acres do you own v. lease?

More than 90 percent of respondents own the land they farm and 79 percent lease farmland. Approximately two-thirds of the total acreage is owned and one-third is leased.

4. What is the primary source of the gross farm income in Question #1?

- Sixty-seven respondents reported that crops represent a portion of their gross farm income; 55 indicating crops are the primary source of income.
- Thirty-two respondents indicate that a portion of their gross farm income is generated by livestock; 13 indicate it is the primary source of income.
- Nineteen farmers report that value added and processing activities account for a portion of their gross farm income and the primary source of income for three respondents.
- Twelve respondents report that they generate revenue from non-edible crops; they are the primary source of income for one respondent.
- Seven respondents receive income from other sources such as herb and vegetable starts, honey, compost products and educational services; two indicate that these are the primary source of the gross farm income.

5. What county is your residence located?

County	Residences
Multnomah	21
Clackamas	20
Washington	12
Yamhill	6
Benton	5
Linn	4
Columbia	3
Lane	2
Polk	2
Clark, WA	1
Coos	1
Deschutes	1
Marion	1

6. What is the age of the principal owner(s) of this farm?

The average age of principal farm owners is approximately 47 years old with a median age of 46.

7. Do you plan to transfer land/farm ownership?

Approximately 56 percent of respondents do not plan to transfer land/farm ownership.

If you answered yes to question #7, to whom will you be transferring ownership?

Ownership Recipient	Responses	Percent
Family member	19	66%
Transfer to family trust	6	21%
Employee	2	7%
Donate to a nonprofit organization	1	3%
Transfer to land trust	1	3%

Other:

- Don't know (2)
- Adding LLC members but also exploring other structural options

- Already a land trust
- Combination of Land Trust and sell for non- ag use
- If not an employee then to a business partner
- Partner
- The next generation of UFC volunteers

If you answered yes to question #7, is your plan formalized in a legal document, such as a will?
 Approximately 72 percent of respondents do not have their plans formalized in a legal document.

If you answered yes to question #7, do you need assistance in the following areas?
 More than 86 percent of respondents need assistance with legal issues. 80 percent need assistance with tax issues. One respondent indicated they need assistance with a business plan for a new operator.

8. Is your main business goal to obtain farm tax deferral from your county tax assessor’s office?

Less than eight percent of respondents indicate that obtaining farm tax deferral from their county tax assessor office is their main goal.

9. Do you perform additional processing or packaging to your products before your sell to a customer?

Approximately 35 percent of respondents perform additional processing or packaging to their products before selling them to a customer.

10. Does your farm activity require non-farm supplemental income to stay in business?

More than 68 percent of respondents’ farm activity requires non-farm supplemental income to stay in business.

11. How do you connect to your customers? Select all that apply.

Method	Responses	Percent
In person	45	96%
Website	34	73%
Phone	27	64%
Facebook	23	46%
Twitter	4	6%

Other:

- Email (9)
- Local Harvest, Food Hub and other websites (8)
- Farmers markets (2)
- Signage (2)
- Farm networking
- Flyers at local stores
- Meetings, like the farmer-chef connection
- Networking through customers
- Paper advertising

12. Do you need help connecting with your customers?

Approximately 30 percent of respondents indicate they need help connecting with customers.

13. Are you aware of existing methods for customer connections, such as Food Hub, etc.?

More than 86 percent of respondents are aware of existing methods for customer connections such as Food Hub.

14. Could a “Brand” add value to your products and markets, such as a “Willamette Valley Grown” etc.?

Nearly 62 percent of respondents indicate a brand could add value to their products and markets.

15. Where do you currently market/sell most of your farm products?

- Farmers markets (37)
- CSA (34)
- On farm, farm stand, direct sales to customers/friends/local community (23)
- Restaurants (14)
- Wholesale (8)
- Food Hub, Local Harvest, Farm Loop, Craigslist, Facebook (6)
- Grocery stores (3)
- Portland (3)
- Distributors (2)
- Other farmers (2)
- Buying clubs
- Cooperative
- Farm supply outlets
- Food carts
- Garden stores
- Livestock auction yard
- Madras
- Processor
- Retail nurseries
- Statewide
- U-Pick

16. Are you satisfied with your current market outlets?

Nearly 37 percent of respondents are not satisfied with their current market outlets.

17. Which of the following geographic markets are the targets for you in the next five years?

Geographic Market	Responses	Percent
Metro Area	65	93%
West Coast	11	16%
International	3	4%
National	2	3%

18. How much of your annual farm sales are generated from organic production?

More than 56 percent of respondents indicate that all of their farm sales are generated from organic production. 12 percent responded “some” and 32 percent said “none.”

If some or all of your production is organic, do you use organic production as:

Organic Production Method	Responses	Percent
Marketing tool	37	67%
Stewardship practices	55	100%
Safety practice to family employees	49	89%

What type of third party certification system, if any, do you use?

Certification System	Responses	Percent
None	50	76%
Oregon Tilth	15	23%
USDA Organic	2	3%
Food Alliance	1	2%
Oregon Dept of Ag	1	2%
Salmon Safe	1	2%

19. How far do you travel to market or sell your farm products?

The distance that respondents travel to market or sell their products ranges from a zero (on farm sales only) to several hundred miles. For farmers who do travel, the average distance traveled is 46 miles with a median distance of 30 miles.

20. Are there crops or livestock that you would like to grow that you currently are not?

58 percent of respondents indicate that there are crops or livestock they would like to grow that they currently are not.

21. What technology would help you in marketing your products?

Technology	Responses	Percent
Website	48	96%
Facebook	25	50%
Twitter	8	16%

Other:

- Radio (2)
- Software for live inventory on interactive website for ordering
- A major marketing campaign explaining CSA
- Better online storefront
- Don't know
- News coverage
- Not familiar enough with Twitter to know
- Print media
- We are active on our site and facebook, but I'm sure twitter could serve us in some fashion
- We have a web page but need to expand our marketing
- We use all these, they help

22. Are there barriers for you to effectively marketing your product?

More than 52 percent of respondents indicate that there are barriers to effectively marketing their products. Barriers include:

- Not enough time (17)
- Access to capital (9)
 - Expand marketing and outreach/delivery (2)
 - Develop an online presence
 - Host on-farm events
 - Abattoir capacity
- Lack of marketing expertise (7)
- Regulations (5)
 - Food safety laws (4)
 - Organic certification
- Need to educate customer base (3)
- Acronym “CSA” (2)
- Seasonality of markets (2)
- Cheap food imported from low-wage countries
- CSA market saturation
- Failing economy
- Gray area for small-scale produce selling within the city
- Non-farm employment
- Unethical/untruthful competition

23. Do you need assistance with marketing support?

More than 59 percent of respondents indicate a need for assistance with marketing support.

24. Are you satisfied with the size and productivity of your operation?

Twenty percent of respondents indicate they are satisfied with the size and productivity of their operation. Of the 80 percent who are not satisfied:

Response	Responses	Percent
Would like to both expand output/revenues and reduce costs.	41	51%
Would like to increase output/revenues.	22	27.5%
Would like to reduce costs.	1	1.3%

25. Would you like to increase your land base?

Fifty percent of respondents would like to increase their land base.

If you answered yes to question #25, the reason to increase your land base is to:

Reason	Responses	Percent
Potentially create a new market opportunity not otherwise obtainable with current acreage	23	62%
Meet the demand in current market strategy	20	54%
Gain economies of size with equipment	16	43%
Have family members that would also like to farm and this would allow them the ability to farm as well	10	27%

Other:

- Increase sustainability of operation through long-term rotations and soil building
- Increase the fertility sustainability of the farm through increasing herd size
- Our nonprofit model seeks to improve communities
- Provide jobs for family so we are self-sustainable
- Seed saving
- To provide incubator services for others who would like to enter into the field of small scale intensive farming
- Train new farmers

26. If you were to expand your business, how would you pay for additional farm inputs, equipment, land, buildings or other expansion?

Payment Method	Responses	Percent
Self/Family	53	84%
Commercial lender	14	22%
Investors	12	19%
FHA	2	3%

Other:

- CSA membership (3)
- Fund raising efforts; grants (3)
 - New Farmers grants
 - Rainwater harvesting
- Can't due to lack of access to capital (2)
- After we purchase the farm, can rent/borrow equipment from parents who are also farmers
- Farming operation is separate from our food product, from our farm crop. The food business would have to be invested in by private investors.
- Have about exhausted own savings and resources
- Micro-financing.
- Need all of the above
- Planning on investing in another small food business by way of a zero-interest micro loan. In addition putting all gross profit back into the business to expand and grow and will continue to do so for the next 5 years.
- Private lender
- Working with MercyCorps NW matched savings program

27. Are you interested in joining a Cooperative or other similar organization?

- Approximately 57 percent of respondents are interested in joining a cooperative or other smaller organization.

If you answered yes to question #27, what is the most important reason?

Reason	Responses	Percent
Access to equipment	13	29%
New market opportunities	14	31%
Better access to inputs	6	13%
Expand current market	6	13%
Lower cost	6	13%

28. Besides yourself, how many family members work for your farming operation full-time?

Responses ranged from zero to five with an average of one additional family member working for farming operations full-time.

29. How many family members work for your farming operation part-time?

Responses ranged from zero to ten with an average of 1.4 family members working for farming operations part-time.

30. How many non-family employees work for your farming operation?

Responses ranged from zero to 100 with an average of seven and median of one non-family employees working for farming operations.

What percent of your employees in Question #30 are local?

More than 88 percent of respondents use local employees and nearly 60 percent use migrant workers.

Is your labor force stable (available when needed)?

More than 83 percent of respondents indicate that their labor force is stable.

Is your labor force adequately skilled for the tasks expected of them?

80 percent of respondents said that their labor force is adequately skilled.

31. What do you need to increase your capacity to generate new markets, increase revenues, or reduce costs?

- Capital (10)
- Land/water rights (10)
- Time (10)
- Labor (6)
- Equipment/mechanization (4)
- Lower costs (4)
- Stronger economy (4)
- Higher prices (2)
- Less corporate competition (2)

- Management assistance (2)
- Marketing assistance (2)
- Reduced regulations (2)
- Ability to butcher more livestock
- All-season farmers market
- Better distribution
- Better educated customer base
- Higher, more efficient production
- Local access to organic inputs and sustainable packaging
- Partner
- Rainwater harvesting storage
- Specialize/more processing

32. What is the biggest barrier to producing your product for your market?

- Weather (13)
- Capital (13)
- Land (12)
- Labor (9)
- Regulations (7)
- Time (7)
- Low prices/values/profits (3)
- Processing/packaging (3)
- Fuel costs (2)
- Water access/costs (2)
- Certification process

33. What technology would help you in producing your products?

- Propagating/harvesting (14)
- Packaging/processing (7)
- Greenhouse/hoop houses (5)
- Information technology/management software (4)
- Water storage/efficiency/irrigation (4)
- Certified commercial kitchen (2)
- Compost turner (2)
- Energy efficiency (2)
- Refrigerated storage (2)
- Weather forecasting (2)
- Extension agents
- High tunnels
- Pesticides
- Tool lending library

34. Do you have conflicts in your ability to produce your products in a safe and efficient manner?

77 percent of respondents have conflicts in their ability to produce their products in a safe and efficient manner.

If Yes, what is the main conflict?

- Neighbors/pesticide and herbicide drift (4)
- Government regulation (3)
- Transportation (2)
- Vandalism/theft (2)
- Sanitation
- Time
- Unclear definition of safe food requirements.

If Yes, whom do you have the most conflict with?

Barrier	Responses	Percent
Local government	8	47%
Non-farm neighbors	7	41%
Other farmers	2	12%

Other:

- Federal regulations
- GAP
- Local regulations
- Neighbors
- State regulations

35. What other regulatory barriers do you face?

Barrier	Responses	Percent
Certification systems	26	53%
Land use, permitted uses	26	53%
Water rights and supply	22	45%
Labor laws	17	35%
Farmers markets rules and regulations	16	33%
Tax structure	10	20%
Transportation access	2	4%
Air quality rules	2	5%

Other:

- Food safety regulations (5)
- Certification costs
- DEQ
- Unfair off shore supplies that undercut markets
- Water quality protection
- Zoning regulations

36. What is your chief regulatory challenge?

Challenge	Responses	Percent
Certification systems	23	42%
Diversification on site	11	20%
Labor regulations	10	18%
Land use	5	9%
Water supply	5	9%
Water pollution	1	2%
Air quality	0	0%

37. What level of government is the most important to your operations?

Government	Responses	Percent
State	22	36%
County	17	27%
Federal	7	11%
Soil and Water Conservation District	6	10%
Cooperative Extension	5	8%
City	4	7%
Regional (Metro)	1	2%
International	0	0%

38. Where are the opportunities to expand your markets?

- Local/on-farm/local markets/schools (10)
- CSA (6)
- Consumer awareness/education (4)
- Metro region (4)
- Restaurants (4)
- Everywhere (3)
- Portland (3)
- Value added markets (3)
- Direct marketing during off-season (2)
- Farmers markets (2)
- I-5 corridor, Seattle to San Francisco (2)
- Internet (2)
- Nationally (2)
- Agritourism
- Beer, wine and spirits production
- Collective gardens on public lands
- Each customer buying more
- Farm supply outlets
- Internationally
- Nursery
- Other farms
- Tri-county area
- Wholesale/stores

39. What are the pros and cons related to organic certification or other certification?

Pros	Cons
Marketing/branding/market expansion (11)	Cost (29)
Credibility/consumer confidence (10)	Administrative process (19)
Price (3)	Minimal benefit (11)
Right thing to do (2)	Lax certification laws/meaningless (7)
Support (2)	Too restrictive/lower yield (5)
	Customers unlikely to pay for increased production costs (3)
	Scarcity of organic livestock feeds (2)

40. What is the most important need to improve your operation?

- Infrastructure/equipment (13)
- Capital/money/financing/ (11)
- Labor (8)
- More profit/reduced costs (6)
- Land (5)
- Customer demand/public education (4)
- Government support/regulatory changes (4)
- Partner/management succession (3)
- Water (3)
- Marketing (2)
- Time (2)
- Decentralized distribution system
- Education/training
- Better weather
- Better processing

41. How has increased awareness of environmental stewardship changed your operations?

- No change; have always been environmental stewards (17)
- Changed practices; improved/added value (6)
- Improved pasture/farm management (7)
- Increased consumer education/interest (6)
- Fewer chemicals (5)
- Reason for farming (4)
- Conserve energy (3)
- Increased biodiversity (3)
- Improved water quality/management (3)
- None (2)
- Recycle plastic (2)
- Invested in organic certification

SARE Farming Interest Survey Summary

October 6, 2011

The Portland metropolitan area is well known nationwide for its cutting edge sustainability vision, urban development and farmland protection framework. The region has a large number of productive small farms that are located within and near urban areas. There is a growing interest in, and support for, locally grown, sustainable food. This interest is driven by rising concerns over public health, food security, transportation costs, climate change, jobs and the economy, and the search for a more community-based, sustainable lifestyle. There is growing support for farmers markets, community supported agriculture, community gardens, local healthy food school programs and institutional purchases of fresh, locally grown produce. Increasing locally-sourced fruits and vegetables is also a goal of the Regional Food Bank.

Western Sustainable Agriculture Research and Education (SARE) is funding a study to examine key agricultural trends, identify producer needs and define strategies to strengthen the local food production system. The goals of the study are to:

- Define the Portland Metropolitan Foodshed, identify related agricultural and economic trends and develop a needs assessment based on input from producers and other stakeholders.
- Assemble a regional toolkit of strategies to support evolution of a sustainable Portland Metropolitan Foodshed.
- Work with the City of Damascus, Oregon to test the toolkit on a local level.
- Develop a research and educational program that supports these goals and supports small and medium farmers in the region.

As part of this study, an online survey was distributed to people potentially interested in becoming farmers in the Portland region. The survey was completed by 12 respondents. Survey results help gauge local interest in new farming operations. A summary of survey results follows.

1. What has been your exposure to the agriculture industry?

Exposure	Responses	Percent
Worked or currently work on a farm that generates revenue	4	33%
Worked or currently work in a garden that is not operated as a business	2	17%
Interested in exploring the operation of a revenue generating farm	6	50%

2. What has sparked your interest in farming?

56 percent of respondents are interested in improving the quality of food available in the region. 44 percent indicate that the potential of farming as a business sparked their interest in farming. Other responses include:

- Worked for Nash’s Organic Produce but mostly because growing food, marketing, and cooking foster connections between all of us.
- Getting out of the city to live a closer relationship with nature.
- Work for the Farm Service Agency in SW Washington and am an advocate for USDA programs that will benefit smaller scale farmers who are often organic or transitional.
- Think the quality of food available in the Portland area is great, and am interested in producing

food for Portland consumers.

- Interested in improving the quality of food available in the region.
- Connection between food, environment, and community; and the ability to do what I love for a living.

3. How did you become introduced to the idea of farming as a business?

- Was the produce manager at an urban food co-op, started to source from farms; then visit them, then volunteer at them.
- It has been in the family.
- From reading about it.
- Small Farmer's Journal, working horses in harness, growing my family's vegetables, my mother and great aunt, eating.
- A windfall nearing retirement that allowed me to buy land.
- I purchased several acres of farmable land.
- It is a personal choice. Grew up on a farm, moved to the city, graduated from different colleges, worked in the corporate world, very tired of the office work, and ready to work outdoors.
- I worked at Sunbow Farm in Corvallis and prior to that, served as an Agricultural Advisor for the US Peace Corps in Mongolia (partnered with Mercy Corp and USAID) working with herders to start vegetable production for the first time in their histories between 2003-2005. Prior to that, lifelong agricultural experiences at grandparents farm in Eastern Kentucky.
- I worked for a restaurant that bought products from local growers, then I apprenticed at a local farm to learn about running a small farm as a business.
- I have family members that are farmers and friends that are farmers and I work in the farmers market industry.
- Myself.
- Was a farm apprentice for one year and got to see the internal business operations as well as take some classes about Whole Farm Management.

4. What assistance have you received in moving toward the goal of operating a successful farm?

- None. (4)
- Tons of verbal support.
- Research, research, research. Educating myself.
- Currently enrolled in Multnomah County's Beginning Urban Farming Apprenticeship (BUFA) program.
- Food Bank provides assistance towards our urban farm in North Portland. We have been given rain barrels by the food bank. Also, neighborhood partnerships have led to a successful neighborhood egg co-op, and work share projects on Sauvie Island. We have received no assistance from federal/USDA programs or grants.
- None. I have moved myself toward operating a farm by continuing to work on local farms and by completing OSU's growing small farms class.
- Aero. There's not a lot of encouragement out there for this kind of thing.
- Partial scholarship to growing farms program.
- Apprenticeship classes; mentor.

5. What barriers are currently preventing you from moving forward with your plans for operating a farm as a business?

- Not enough farmers markets, places to sell produce. Cost of food is very low. Farming is huge huge amounts of work and it is almost impossible to make a living/have health care. Also very few banks interested in giving loans to farmers for land. Certification for organic status is very costly.
- Allocating the necessary time.
- Funding and available labor.
- My daughter has one more year of high school.
- Capital acquisition.
- Little demand for locally and naturally grown foods.
- In general, the barriers experienced by the producers in Western Washington are a result of county taxation but also the absence of farm programs sponsored by the USDA that could benefit small scale, or just simply organic producers.
- Money. I don't have enough money to start my own operations, and I can't survive without making a paycheck. Also, I'd like to gain a little more experience and knowledge about tractoring and building farm infrastructure (greenhouses, irrigation lines, etc.)
- Land, capital.
- Practical experience.
- Capital. Access to land (goes back to capital). Market analysis (need a place to grow, and need to know there is a diverse market opportunity there so that I can make a living/keep farming). Health Insurance (goes back to having capital). Having a business partner (I don't want to farm alone).

6. What kinds of assistance do you feel would help lower those barriers?

- Government support and increased awareness of the actual cost of food.
- Low interest loans for starting new project.
- Knowing what crops would likely have the most chance for success.
- 1)FoFF has offered to provide help with convincing local conventional farmers to transition, 2) How to find reliable help as I set up infrastructure, 3) Grant opportunities.
- Just completing my education, toward my end.
- Education about resources and opportunities for grants and other funding sources for organic farming.
- More education and increase awareness of the people of Portland Metro area about the benefits of local, seasonal, organically/naturally grown food.
- I think about this often, but I have yet to come up with a program that would help farmers from the National USDA office. I think that those who own agriculturally designated land should be provided with incentives to keep the land in ag. Much like the FSA's DCP program, there needs to be incentives paid that make the landowners want the land kept tillable, versus trying to find ways to get the land rezoned in order to sell it for a subdivision. In addition, I feel that since crops are being subsidized at the national level by the USDA in the grain producing areas of the nation, subsidies could also be paid to organic producers to offset some of their heavy labor costs. The main thing that needs to change is education. People need to be educated about the values of organic food and more importantly, local food. Perhaps incentives could be paid to local producers and local buyers by the USDA for the savings of fuel in transportation of distant grown food, chemical inputs, environmental impacts, etc. We simply need an education campaign that

explains the cons to purchasing the cheapest food produced and explains how the rest of the world pays for their food. People need to buy local to help local economies, help the environment, improve health, and value quality food. Only education can slowly make these changes.

- Access to affordable land, access to small business loans, access to some farm equipment (maybe shared) without having to purchase it.
- Long-term lease options.
- More assistance available to get started.
- Better grants/loans for beginning farmers to help w/land acquisition. Farmer health insurance co-op.

Notes of Results of FoodShed Survey at NWHS Meetings

For the Foodshed committee:

This survey was conducted at the North Willamette Horticulture Society Meeting held January 11-13th, 2011. Three producer-group sessions were held, one each day, over the course of the meeting. The survey was administered each day. Some individuals stayed for the duration of the meeting; thus respondents were asked to answer survey questions only one time, on the first day they attended a session, even though they may have been a part of more than one producer group. Additionally, each farm attending the meeting had only one respondent, to avoid duplicate responses. The organic session was administered on the first day of the meeting, vegetables on the second, and berries on the third day. As such, berry producer participation for the survey is expected to be low and the berry data may not be entirely representative, since many berry producers already responded in another session.

There were five individuals who responded to only one to four questions. The survey answers from these individuals were left in this data set, but may be excluded in future analyses.

Slide 1: County of Residence

Sixty-two percent of all respondents reside in the Portland-Vancouver Metro area (Clackamas, Washington, Multnomah, and Clark counties). Fourteen percent of all respondents reside in Marion county. None of the respondents of this survey were from Columbia county, and only 2% were from Polk county. The remaining respondents were from Yamhill (6%), Linn or Benton (5%) or other counties (9%).

Please note that the berry session's county of residence is not representative of actuality. The major berry producing counties include Marion and Clackamas county.

Slide 2: Principle Farm Operator Gender

Eighty-seven percent of all sessions surveyed stated that the principle farm operator is male. This is similar to the U.S. average of 86% male principle farm operators (U.S. Census of Agriculture, 2007). The statewide average for Oregon, however, reveals that 78% of farmers are male and 21% are female. (U.S. Census of Agriculture, 2007).

The results for the organic session, which has a higher average of female principle operators (23%), is also similar to the U.S. average of 22% female principle operators, (U.S. Census of Agriculture, 2007), and closer to the statewide average for Oregon.

Slide 3: Principle Farm Operator Age

The average age of an Oregon farmer is 57.5 years old (U.S. Census of Agriculture, 2007). This is similar to our results which indicate that 32% of farmers surveyed were between the ages of 51 and 60 years old, with 73% of farmers surveyed between the ages of 41 and 70 years old.

Only 4% of farmers surveyed were under the age of 30. The U.S. average of principle farm operator's under the age of 25 is 0.5% (With 4.8% of U.S. farmers from 25-34 years of age).

Slide 4: Percent of Principle Operator's Total Household Income that comes from the Farming Operation

The results of this survey show the majority of farmers are either full time farmers (33%) or lifestyle farmers (27%).

In Oregon, 46.2% of producers list farming as their primary occupation; however, 65.8% of farmers partly work off-farm. (U.S. Census of Agriculture, 2007).

Nationwide, 36% of all farmers are lifestyle farmers and 21% are retirement farmers; these two groups make up the largest portion of farmers nationwide. Both groups gross less than \$250,000 a year and have either a primary occupation off the farm or are retired.

Slide 5: Satisfaction with the Size & Production of the Operation

The majority (56%) of all farmers surveyed would like to expand both output and revenues, while reducing costs on their farm. Meanwhile, the highest percent of farmers satisfied with their size and productivity were organic producers (35%).

Slide 6: 2009 Gross Farm Sales

Forty five percent of producers surveyed had 2009 gross sales of \$250,000 or more.

Contrary to this survey, nationwide, only 9% of large and very large farms grossed over \$250,000 in sales. Statewide, in Oregon, 83% of farms gross less than \$50,000 annually (U.S. Census of Agriculture, 2007), while this survey shows that 32% of respondents grossed less than \$50,000 in 2009.

Slide 7: Total Acres Generating to Gross Farm Sales

Forty-one percent of producers surveyed are farming 100 or more acres. Organic session respondents are more likely to farm small acreages of less than 5 acres (22%) than are other session respondents.

Contrary to this survey, the statewide average in Oregon indicates that 25% of farms are <10 acres, and 62% are <50 acres, with farms in the Northern Willamette region being smaller than the statewide average (See slide 23).

Slide 8: Percentage of Owned versus Leased Land Contributing to Gross Farm Sales

Fifty-four percent of the producers surveyed either own all or the majority of their land. Organic farmers are more likely to lease a majority of their land (61% of organic producers lease 50-100% of their acreage).

Slide 9: Farm Operation Acreage Uses

Eighty-five percent of the producers surveyed have farms that are primarily cropland. This percentage is higher than the state and national average due to the type of producers that were gathered at the NW Horticulture Society meeting, when the survey was conducted.

Slide 10: Percentage of Gross Farm Sales from Processing/Packing of Products

Over half (52%) of session participants surveyed added no value to their products through processing and packing. Vegetable session respondents are most likely to process and/or package products, however, 40% of them still receive less than 25% of gross sales from processing and packing.

Organic session respondents are least likely to add value to their products through processing and packing.

Slide 11: Marketing of Agricultural Products Sold Directly to Consumers

Thirty-five percent of session participants surveyed sell products directly to consumers through 100% Local Direct Markets. Note this is likely due to the higher number of organic session responses to this question than other producers, and organic producers are generally more likely to sell products through local/direct markets.

Slide 12: Annual Sales Generated from Organic Production

The majority of producers in this survey (62%) sell no organic products. Among the organic session respondents, only 35% sell all organic products and 43% of those in attendance currently sell no organic products. This group seems to be either interested in selling organically or in the conversion process. In Oregon, less than 0.5% of all farm acreage is Organic, (U.S. Census of Agriculture, 2007).

Slide 13: Primary Organic Certification System Used

The most widely used organic certification system used by the producers surveyed is Oregon Tilth, followed by the “other” category.

Slide 14: #1 Barrier to Producing or Expanding Current Markets

The number one barrier for farmers looking to produce or expand their current market is financing. This is reflected by vegetable and organic session respondents. Berry session respondents, however, primarily express labor as their highest barrier to producing or expanding current markets.

Slide 15: #2 Barrier to Producing or Expanding Current Markets

The number two barrier to producing or expanding current products is natural resources. However, only a marginal number of farmers expressed this concern over others such as labor, financing, and market size or access.

Slide 16: #3 Barrier to Producing or Expanding Current Markets

The #3 barrier to producing or expanding current production was regulatory issues. Note, however, that vegetable session respondents may have thrown off the accuracy of this issue in that a higher number of vegetable producers responded in comparison to organic and berry session respondents.

It may be fair to point out that after financing, farmers face a number of barriers to expanding current production, which may hold equal weight in limiting production and expansion.

Slide 17: #1 Natural Resource Barrier

There was no clear distinction between limited land, water limitations, and land quality as natural resource barriers of most concern.

Slide 18: #1 Labor Barrier

Clearly, the cost of labor is the number one labor barrier with all producer groups ranking it of high importance. Among vegetable session respondents, finding workers with the desired skills and training is also a barrier of concern.

Slide 19: #1 Financial Barrier

Access to capital is the number one financial barrier among most producer groups. Fifty-two percent of organic session respondents expressed “other” as a financial barrier. It is not clear what other financial barriers organic producers are concerned with.

Slide 20: #1 Market-Related Barrier

Market size and market channel access were of most concern to producers. Among berry session respondents, 23% of them also expressed concern with quantity requirements.

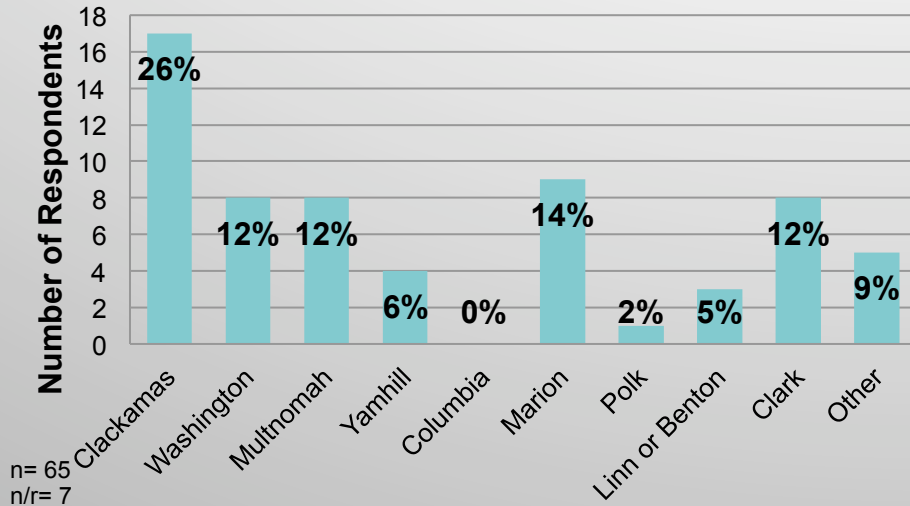
Slide 21: #1 Regulatory Barrier

There were no distinct regulatory barriers of concern. Labor laws and environmental regulations were of most concern to participants in the vegetable session, while certification programs were an issue for organic and berry session respondents. Market rules and regulations and other regulatory barriers were also an issue for those in the berry session.

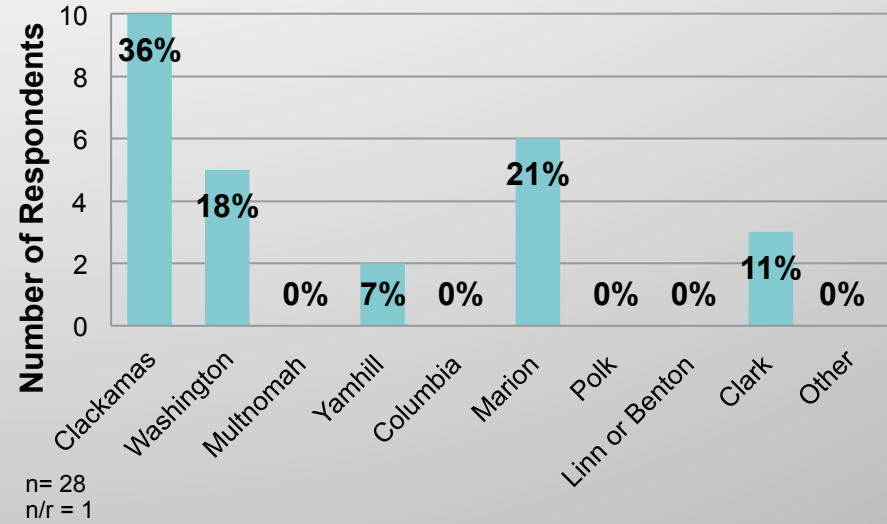
Note: The last six figures can be used as reference material. They include data on Oregon farms taken from the 2007 U.S. Census of Agriculture.

County of Residence

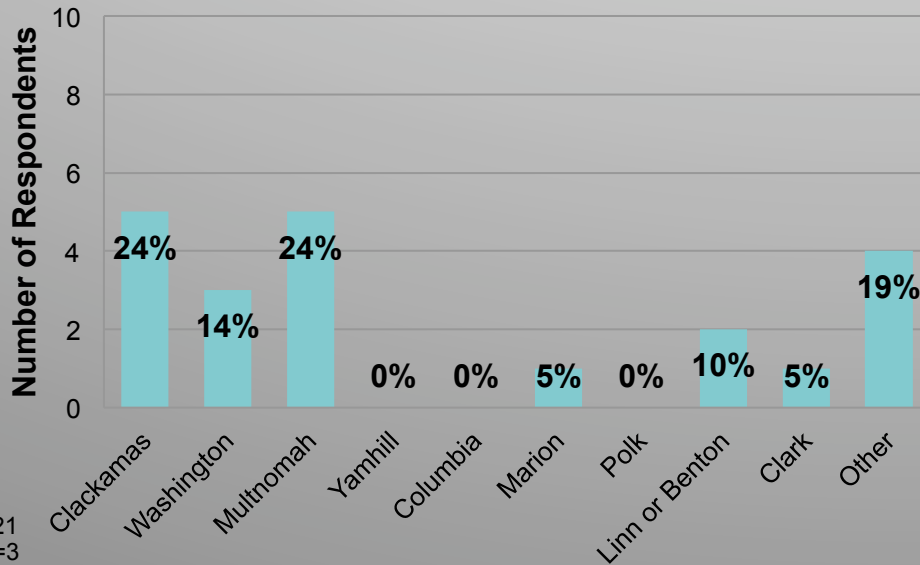
All Sessions



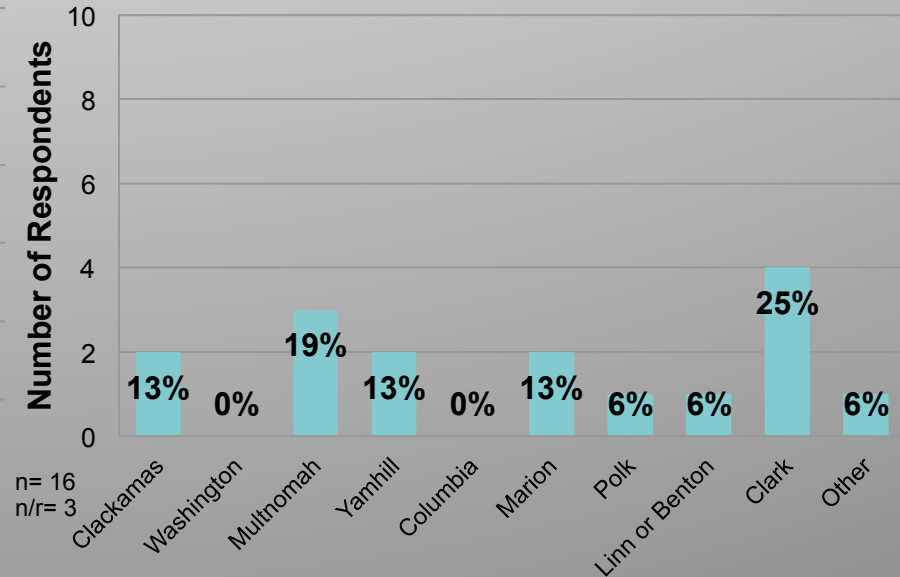
Vegetable Session



Organic Session

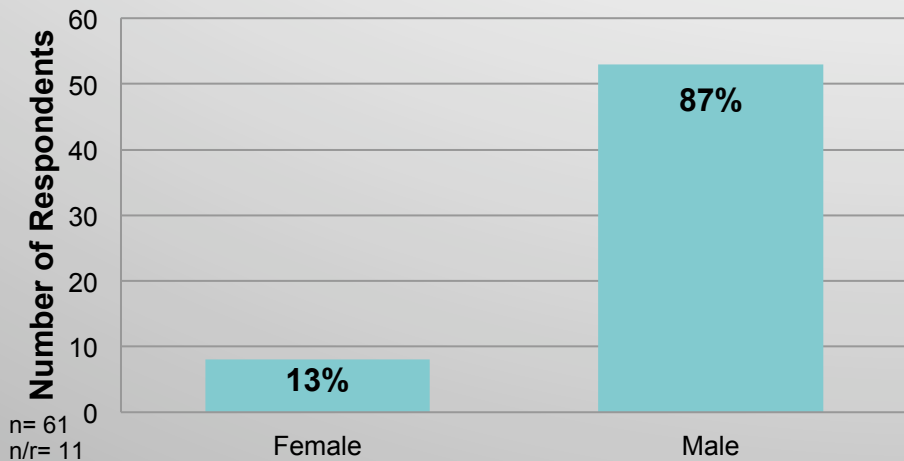


Berry Session

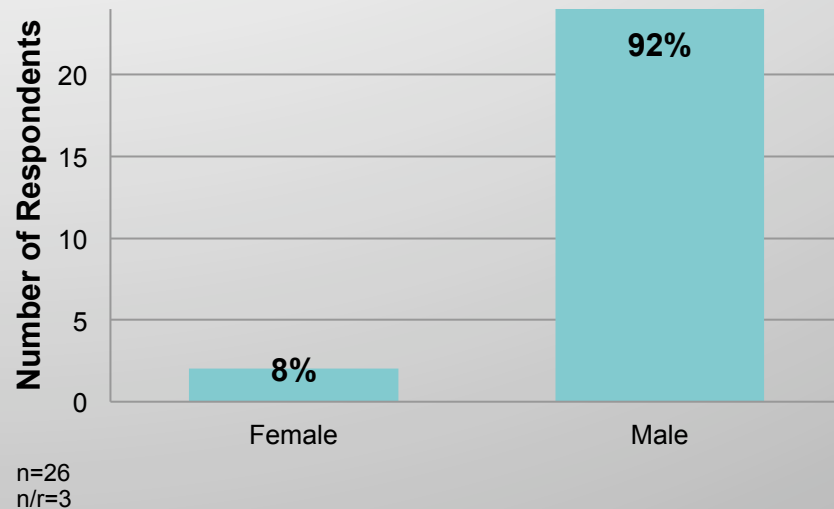


Principle Farm Operator Gender

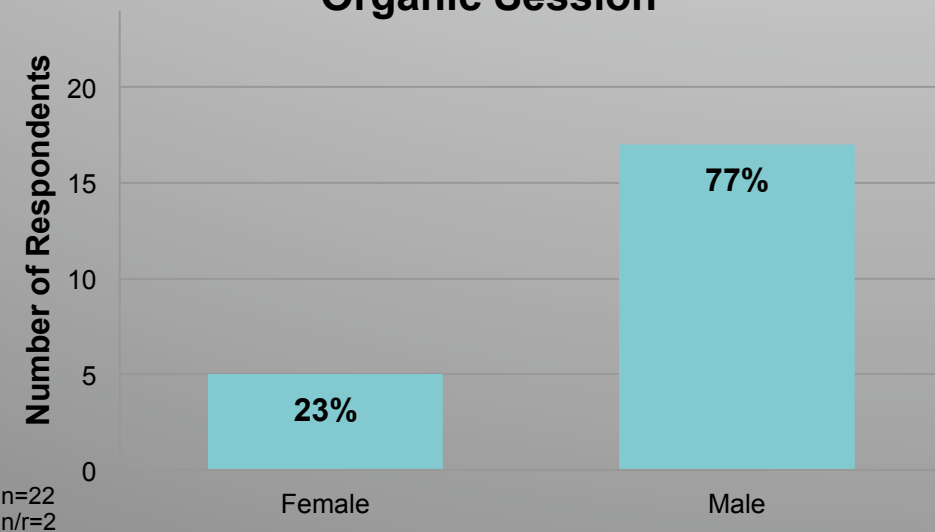
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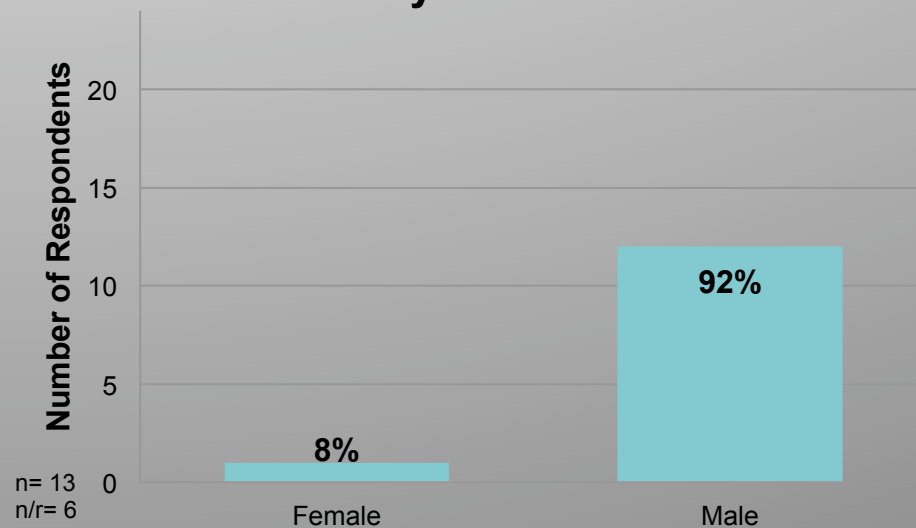
Vegetable Session



Organic Session

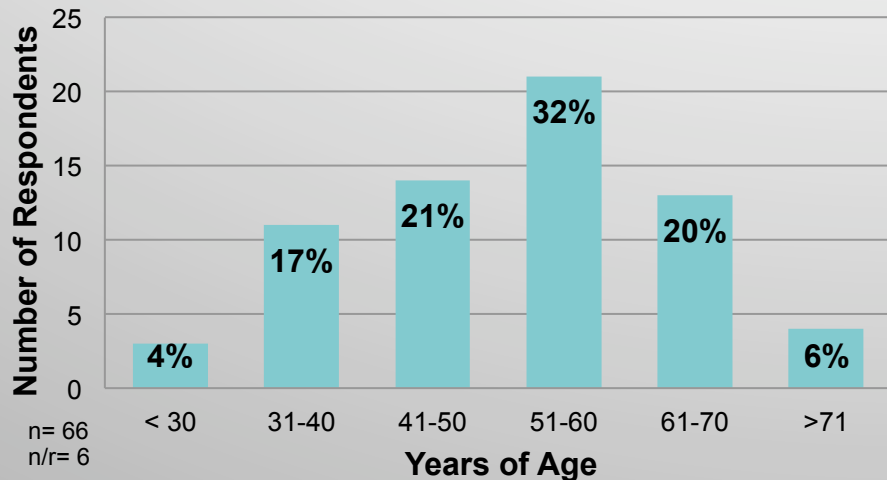


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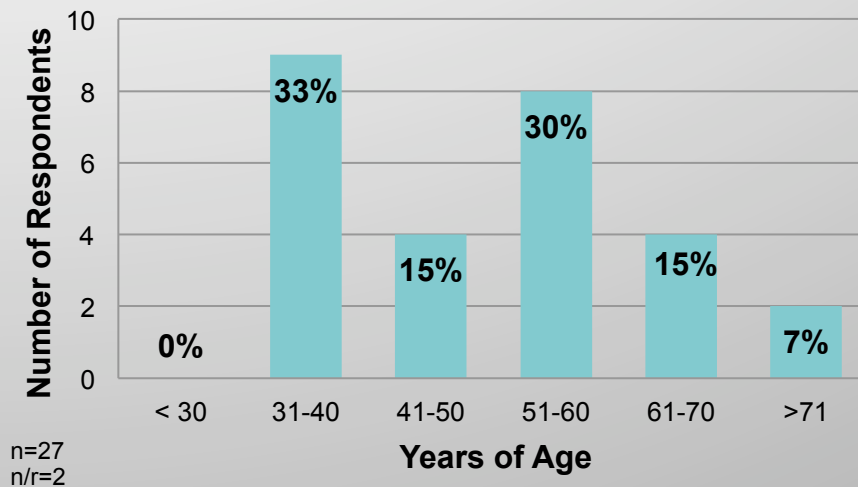


Principle Farm Operator Age

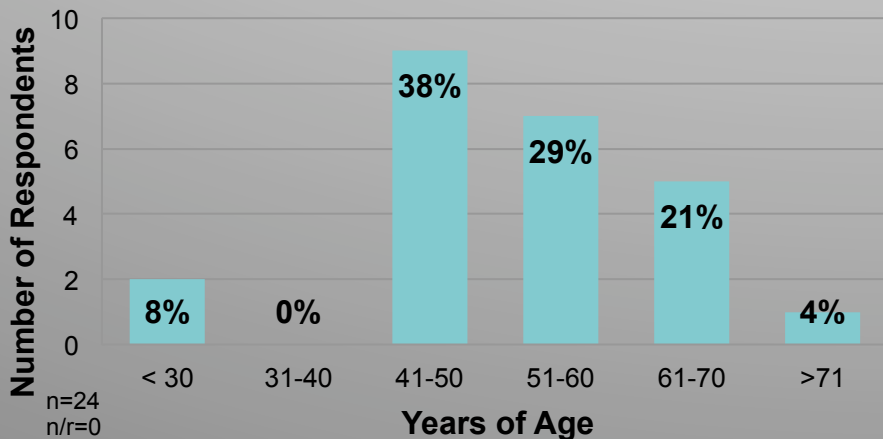
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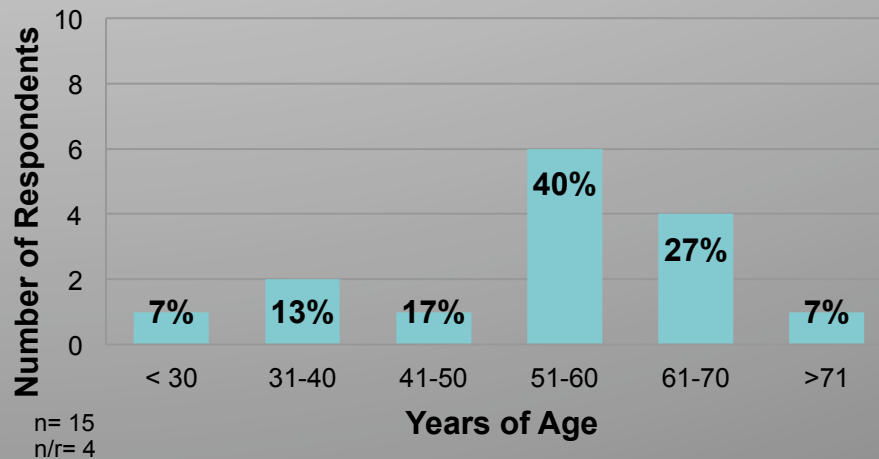
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Organic Session

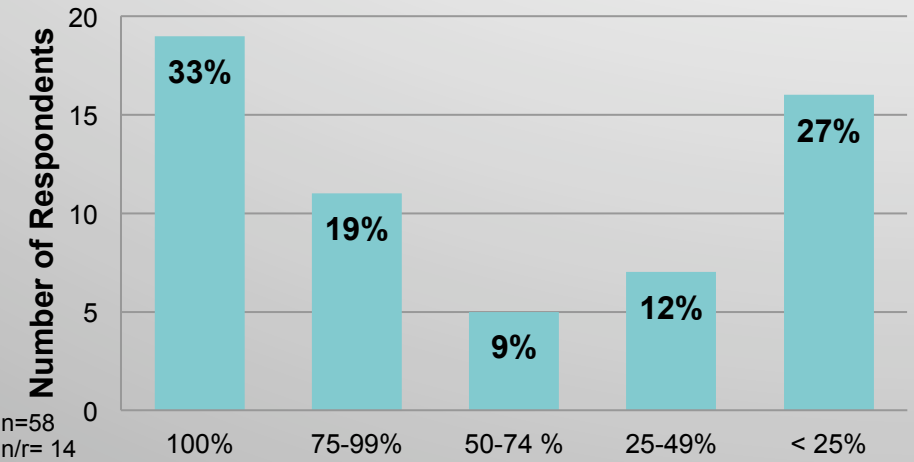


Berry Session

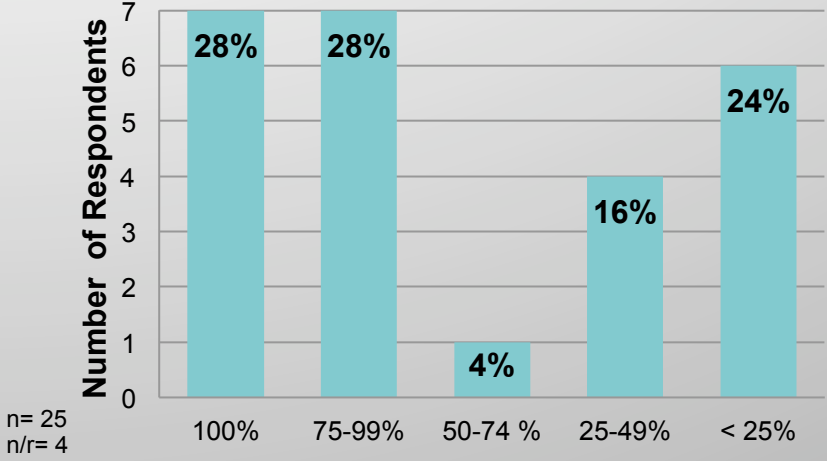


Percent of Principle Operator's Total Household Income that Comes from the Farming Operation

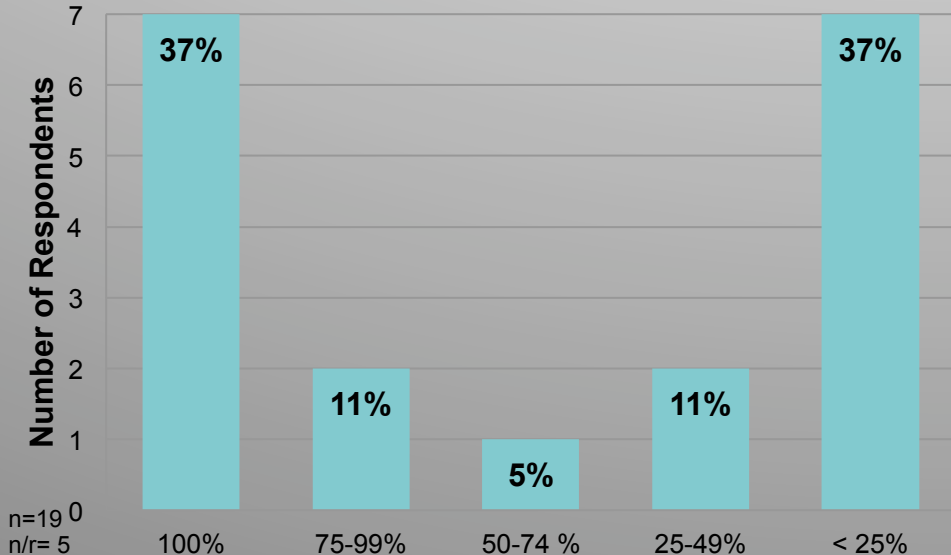
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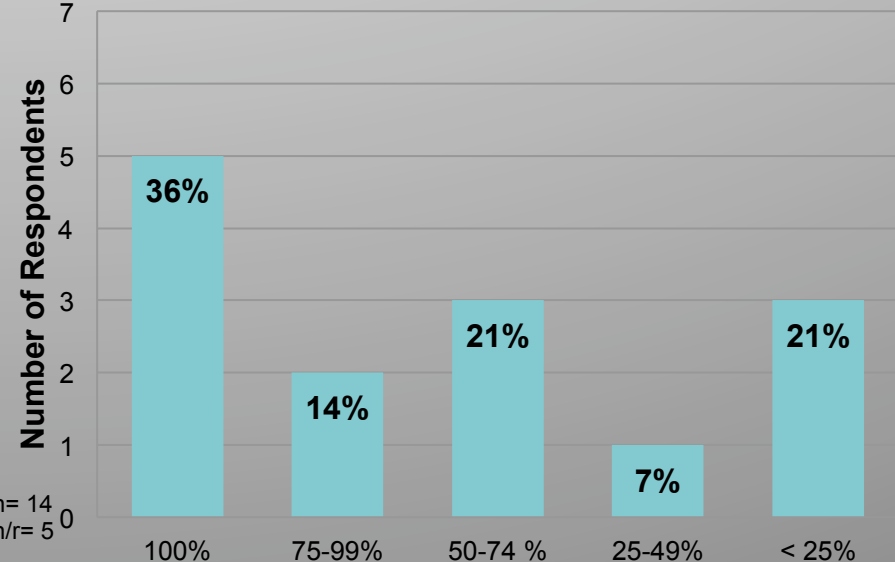
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Organic Session

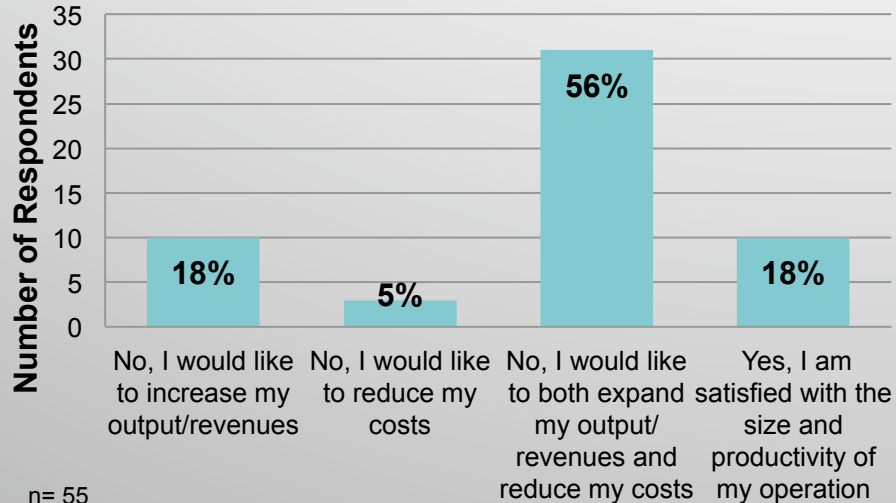


Berry Session



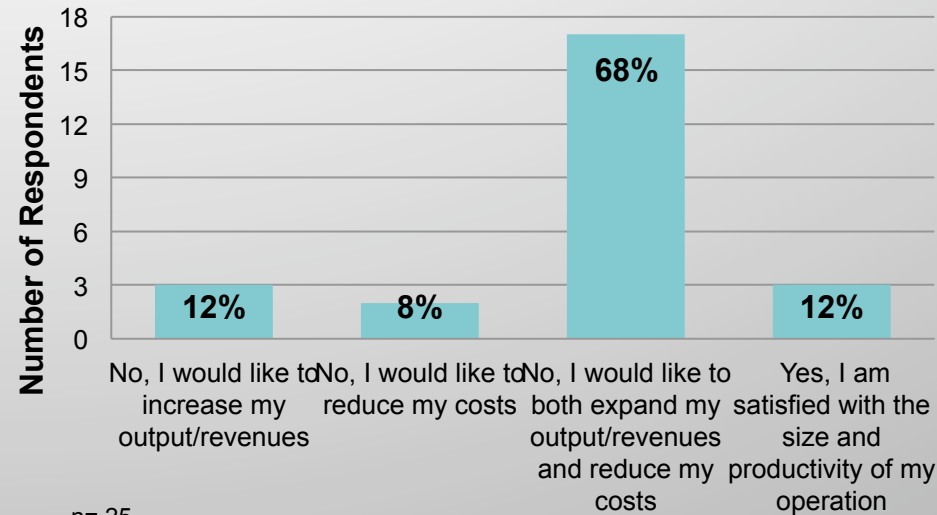
Satisfaction with the Size & Productivity of Operation

All Sessions



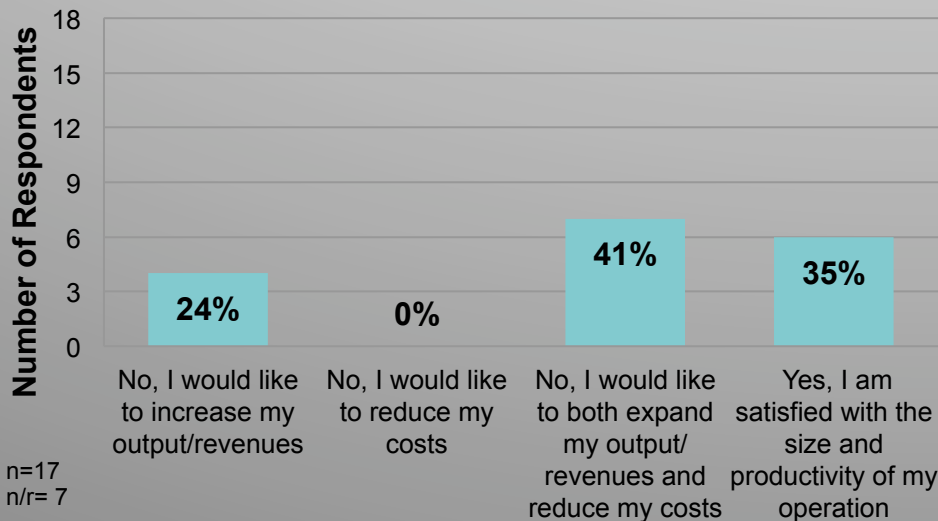
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Vegetable Session



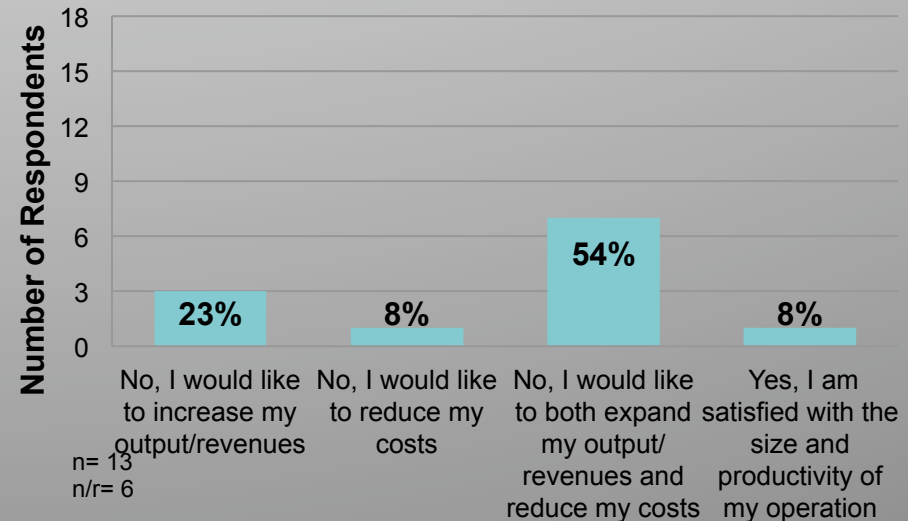
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Organic Session



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n/r= 7

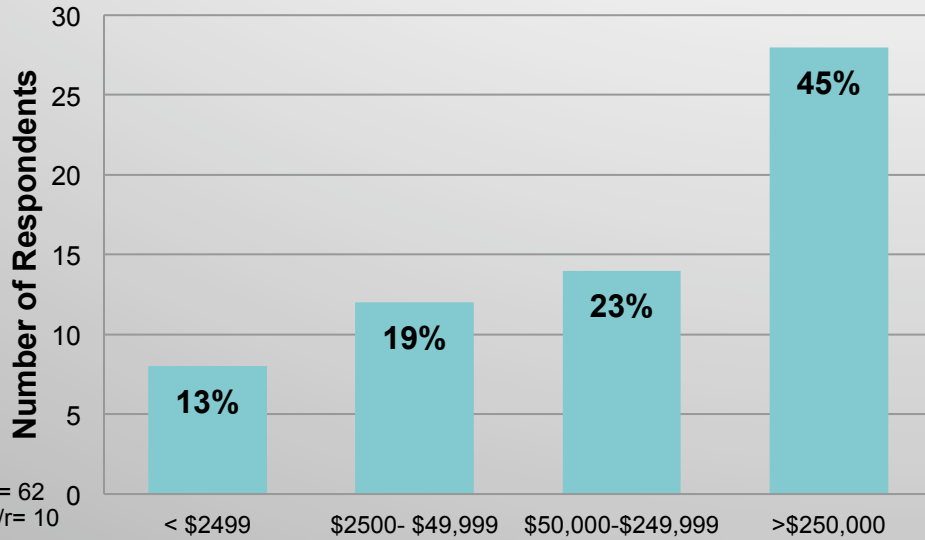
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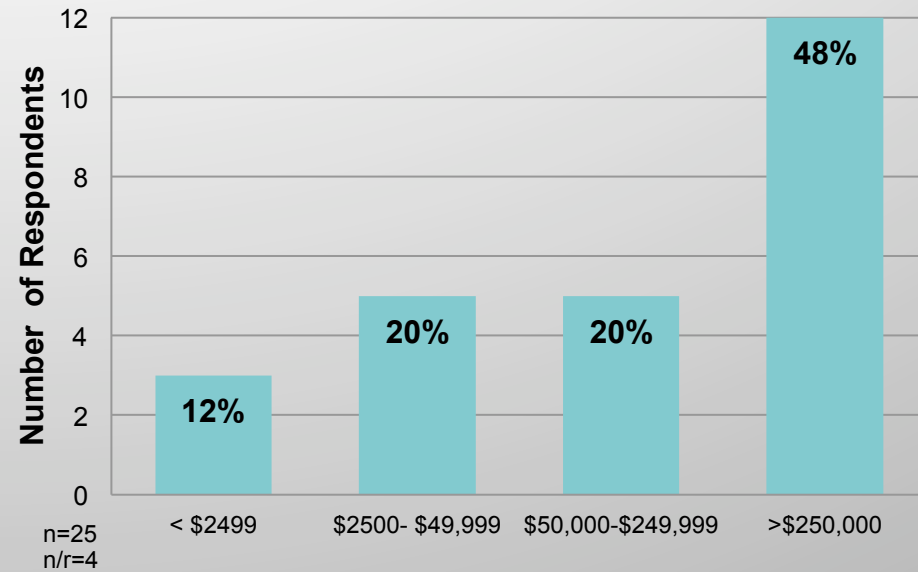
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2009 Gross Farm Sales

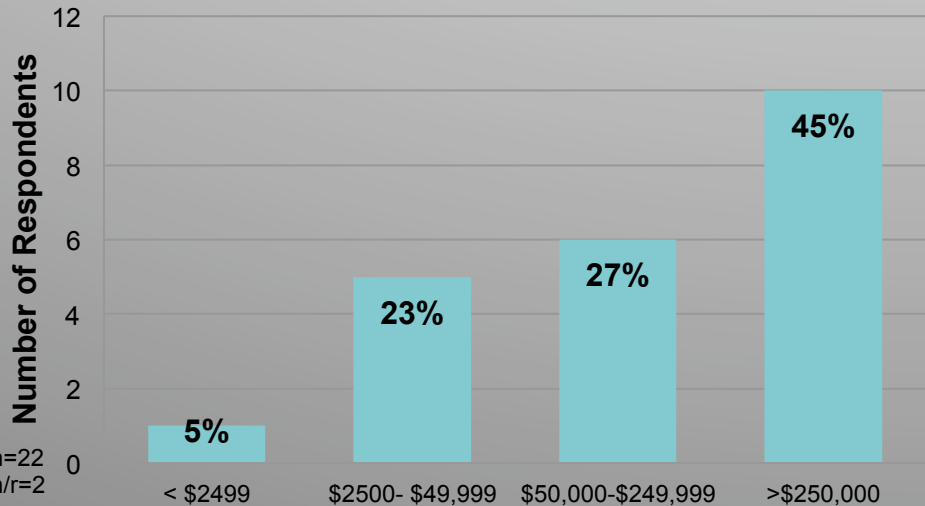
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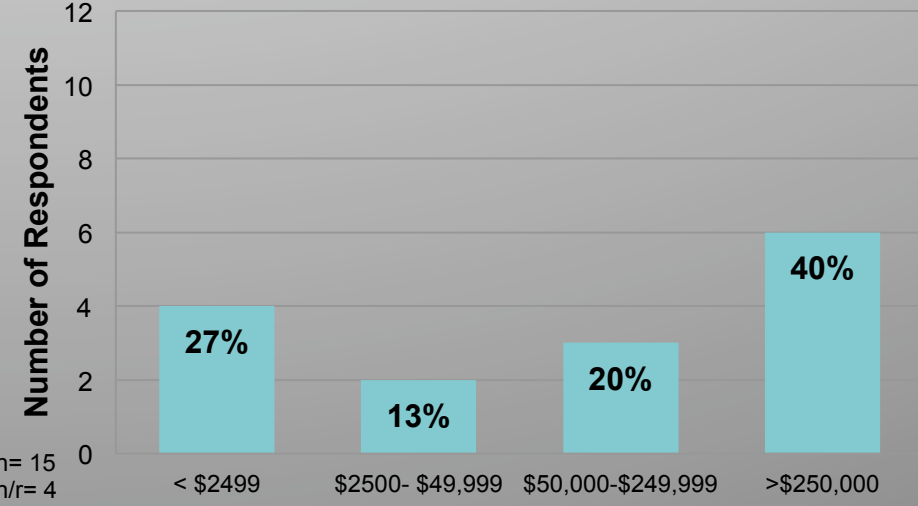
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Organic Session

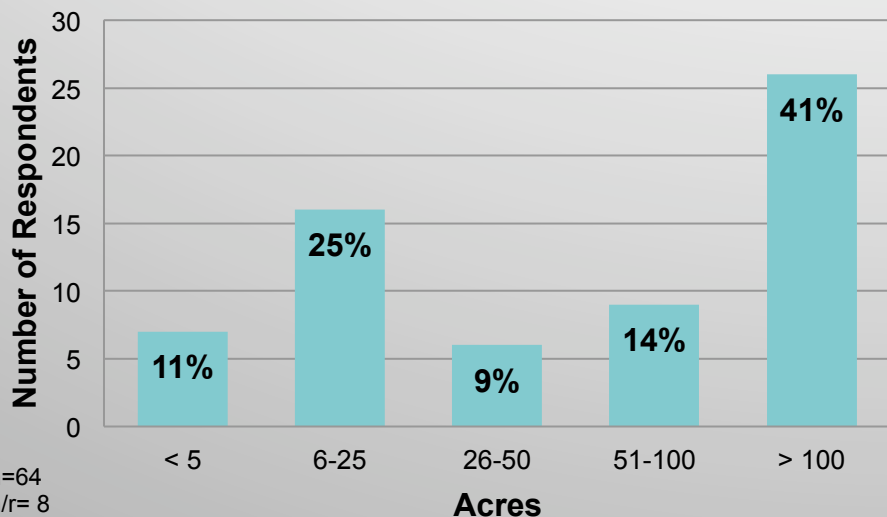


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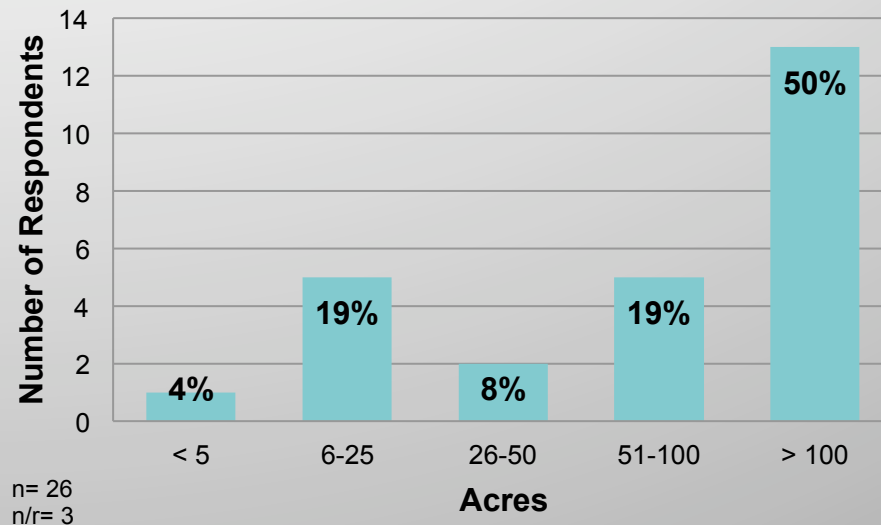


Total Acres Contributing to Generating Gross Farm Sales

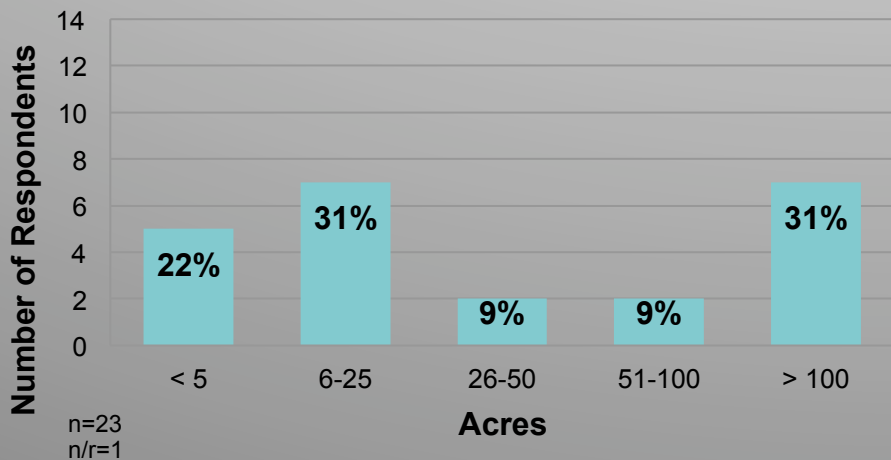
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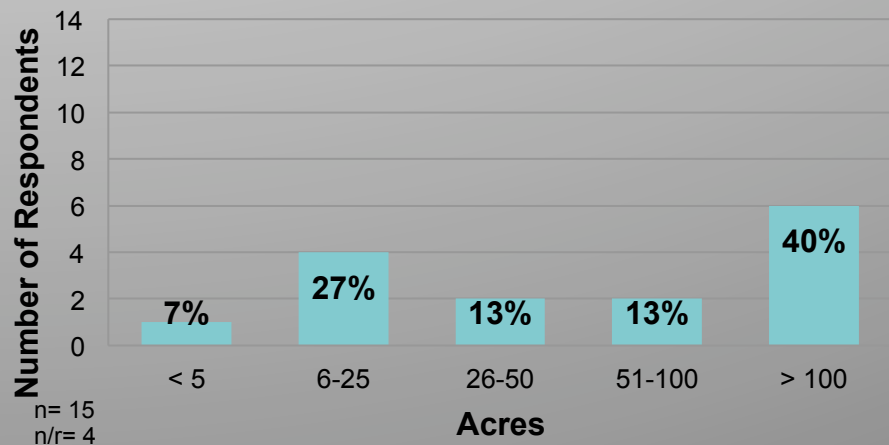
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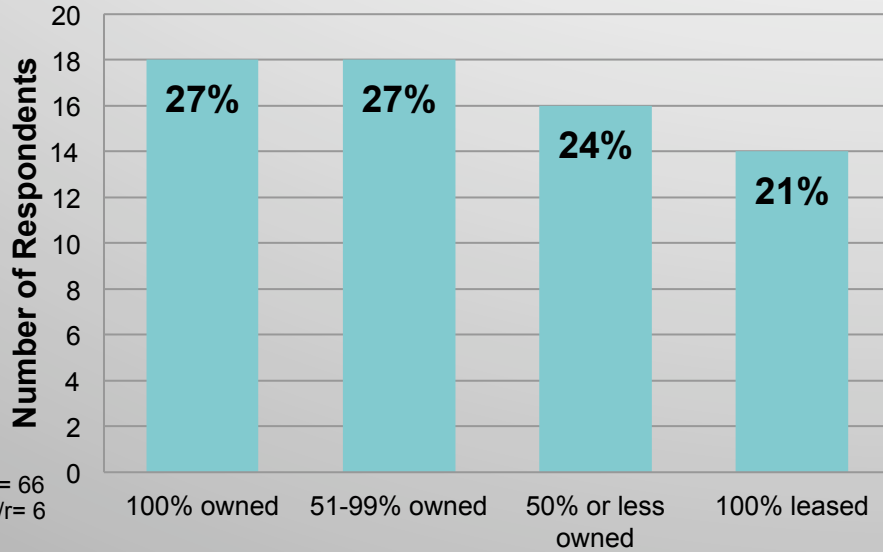


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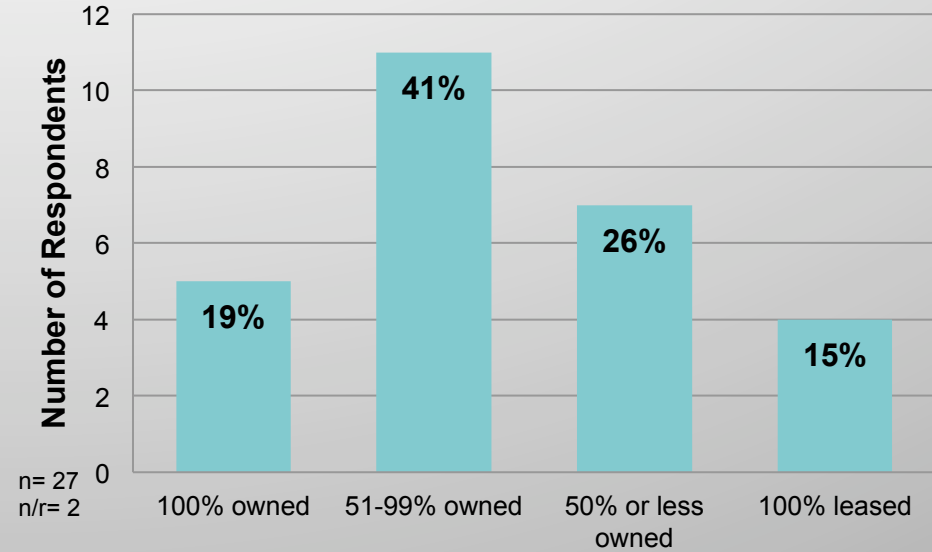


Percentage of Owned vs. Leased Land Contributing to Gross Sales

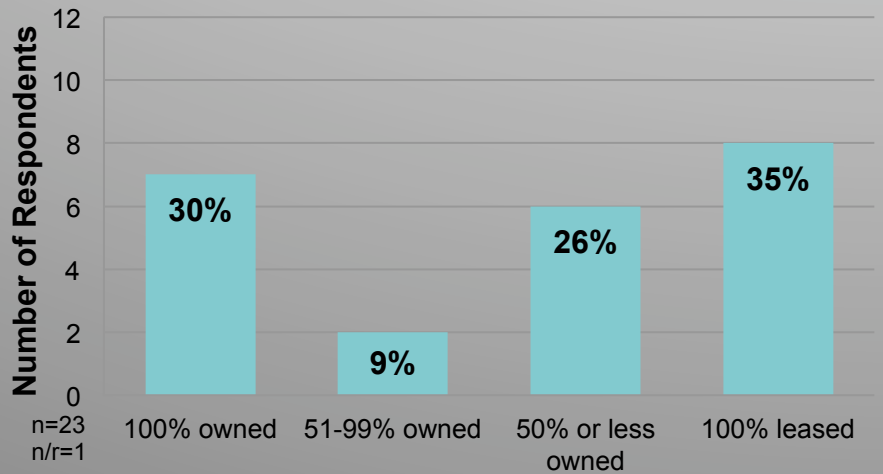
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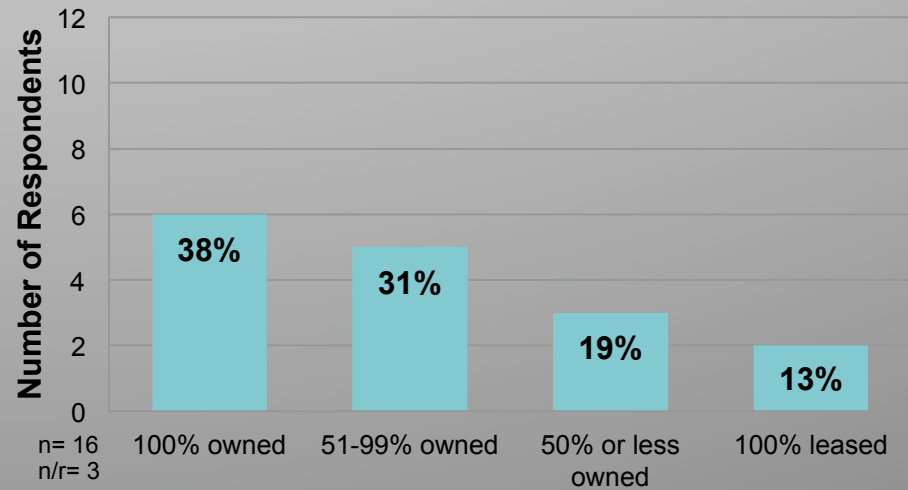
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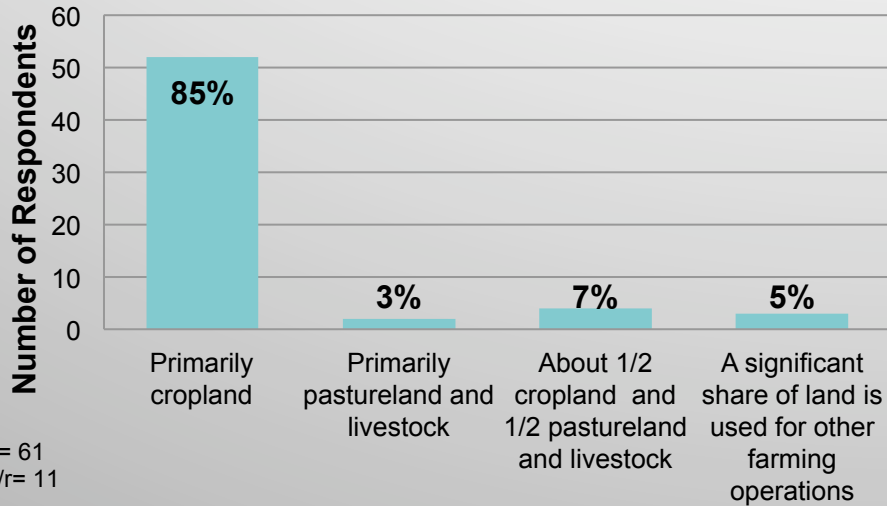


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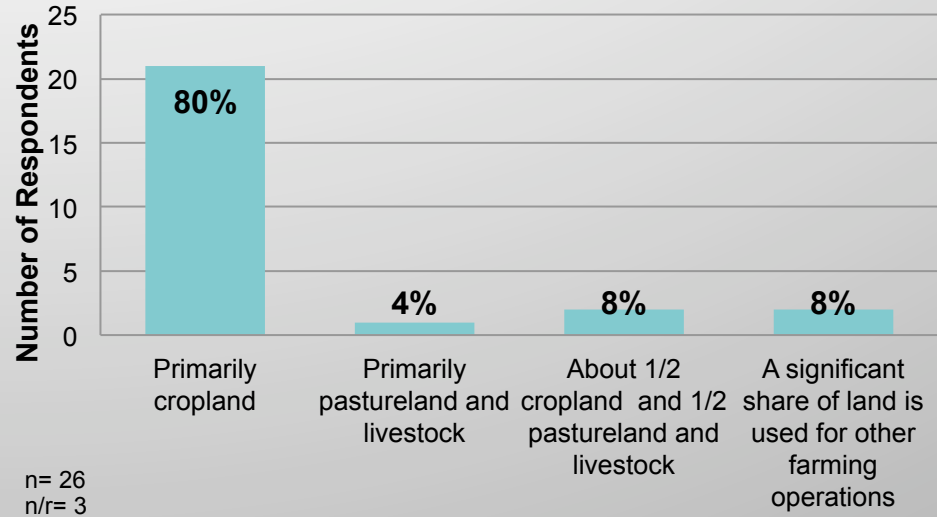


Farm Operation Acreage Uses

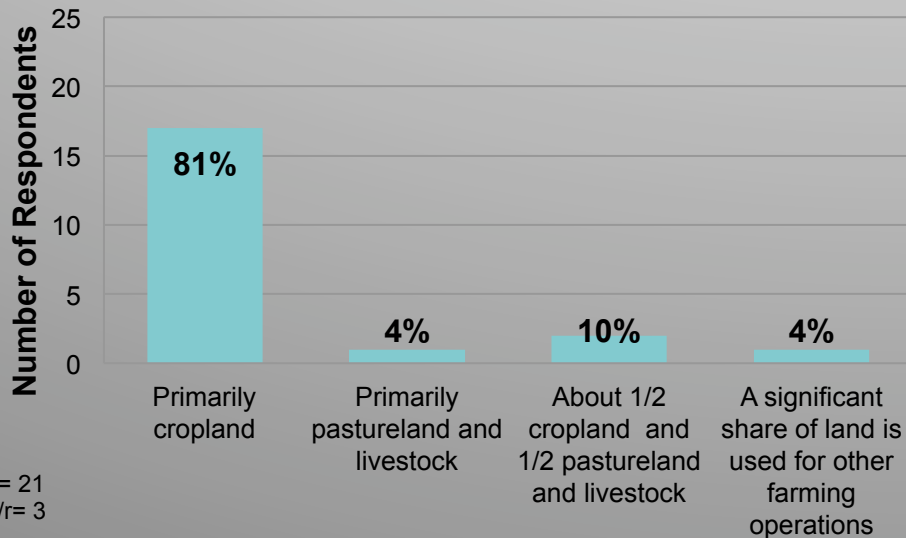
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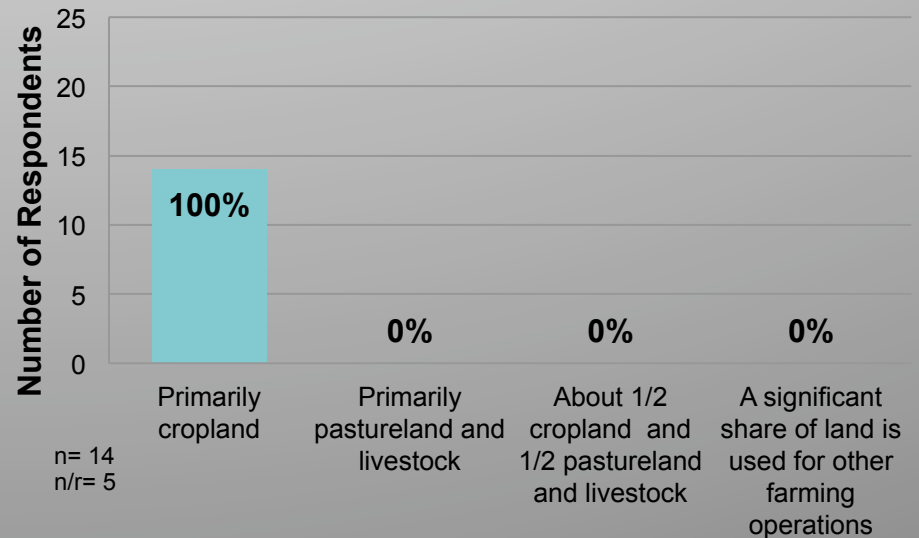
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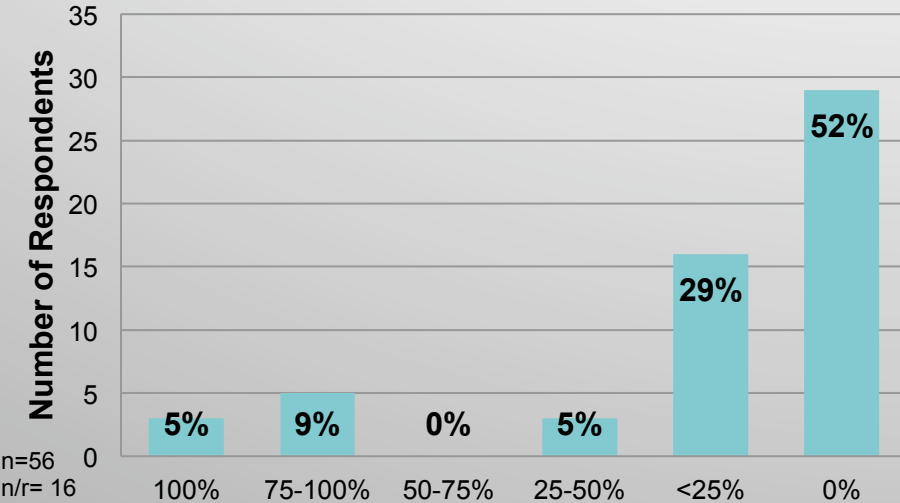


Berry Session

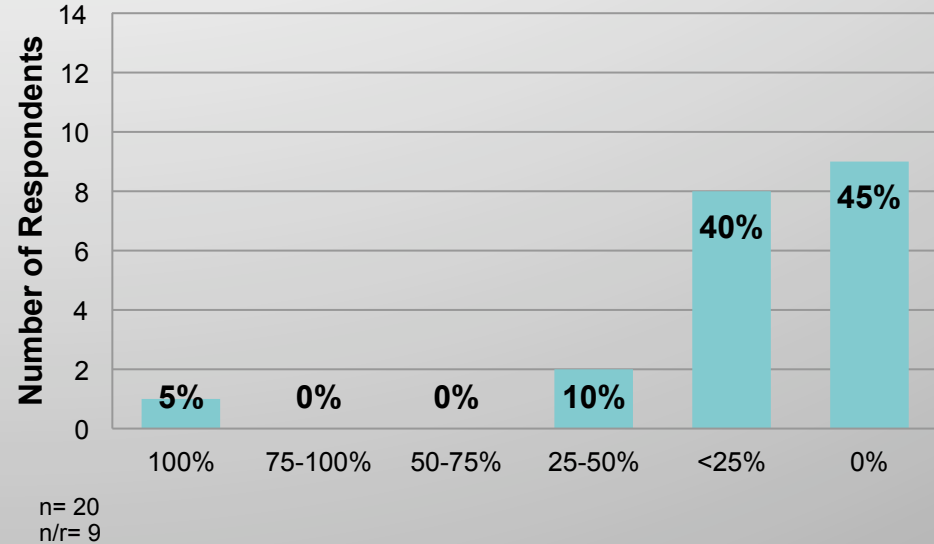


Percentage of Gross Farm Sales from Processing/ Packing of Products

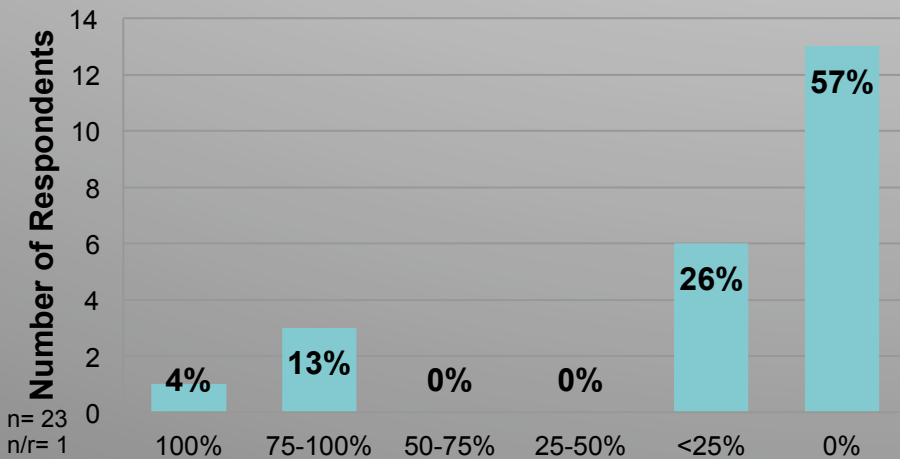
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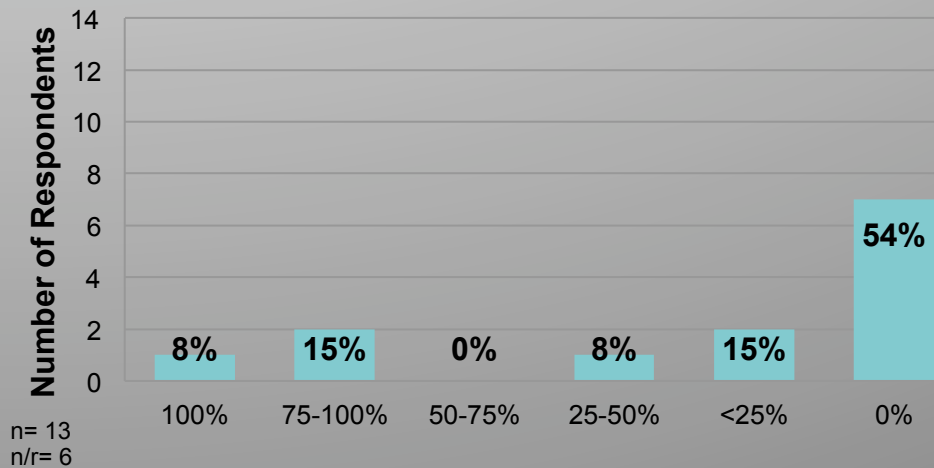
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Organic Session

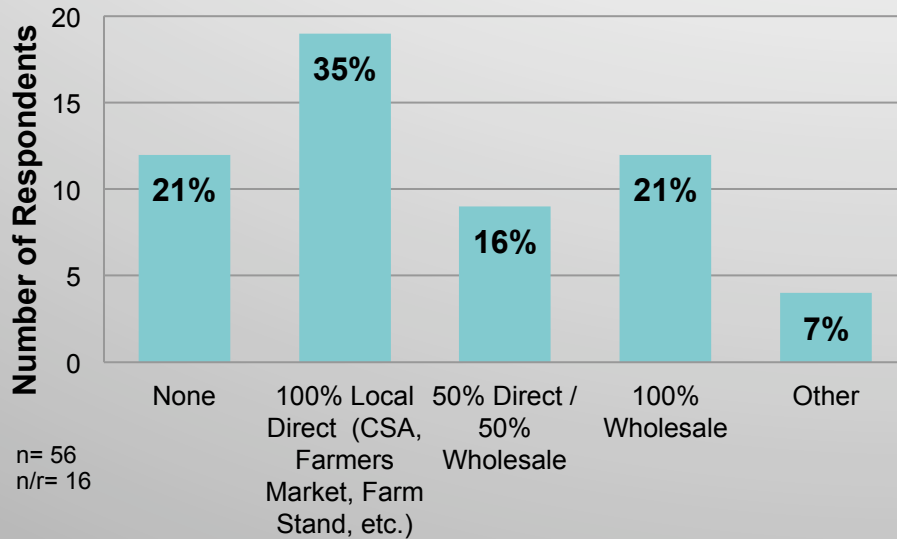


Berry Session

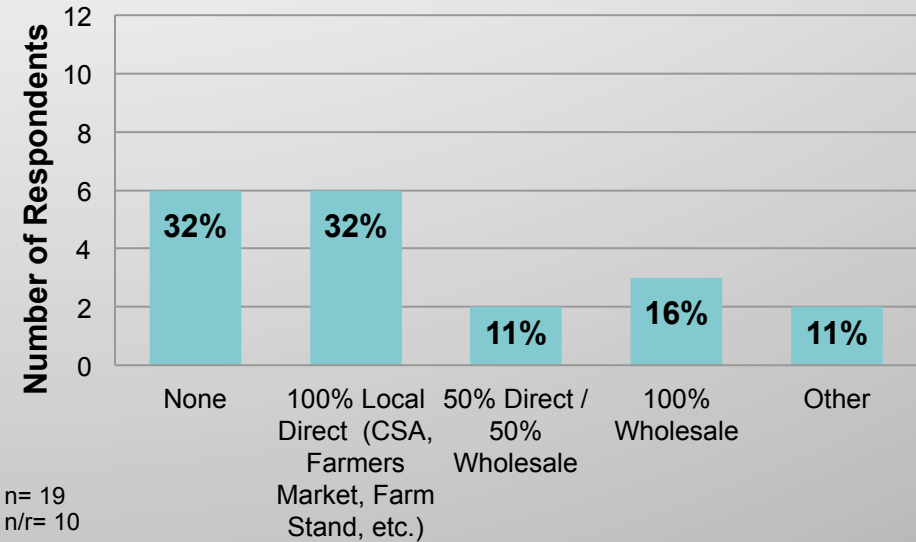


Marketing of Agricultural Products Sold Directly to Consumers

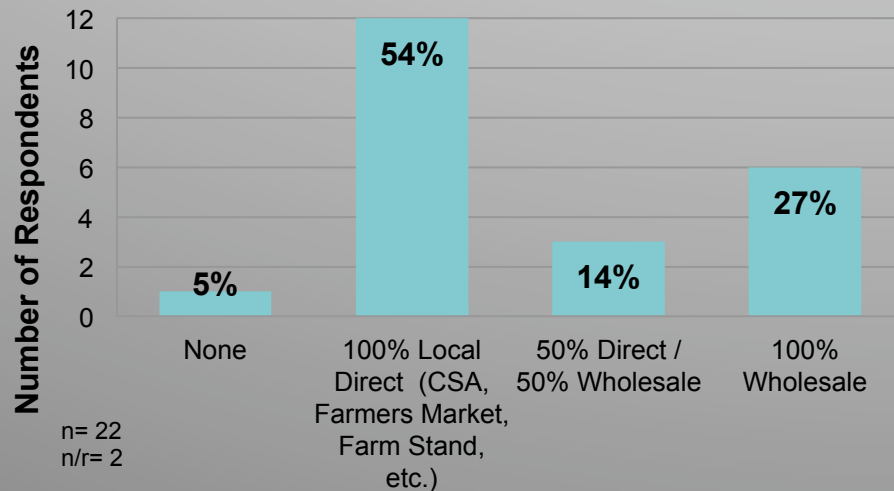
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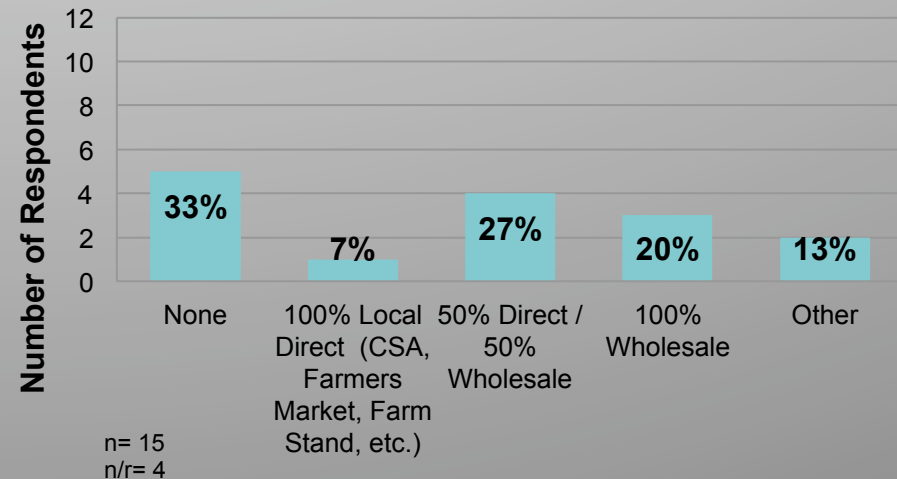
Vegetable Session



Organic Session

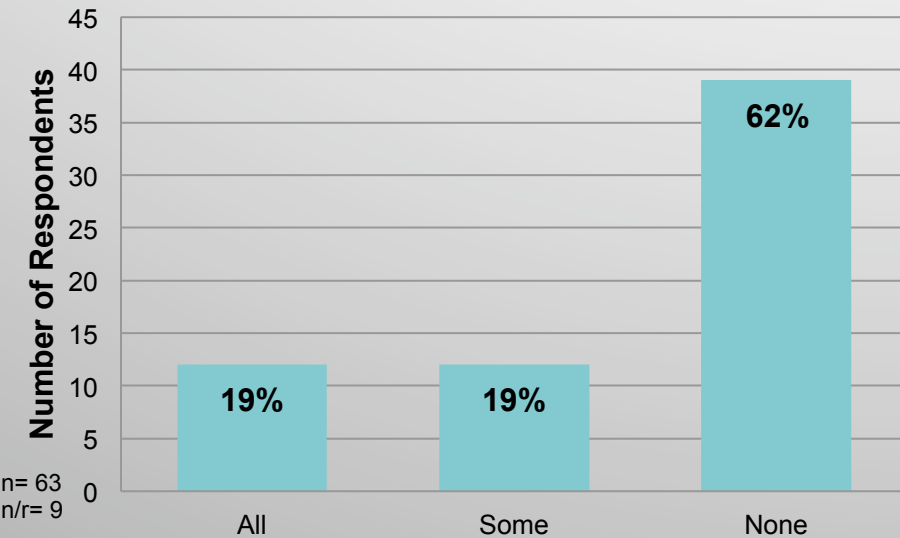


Berry Session

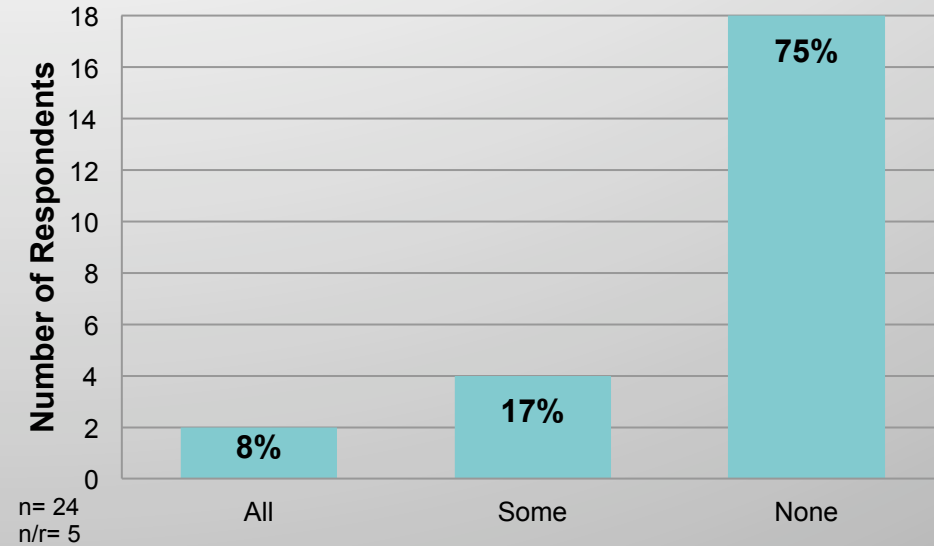


Annual Sales Generated from Organic Production

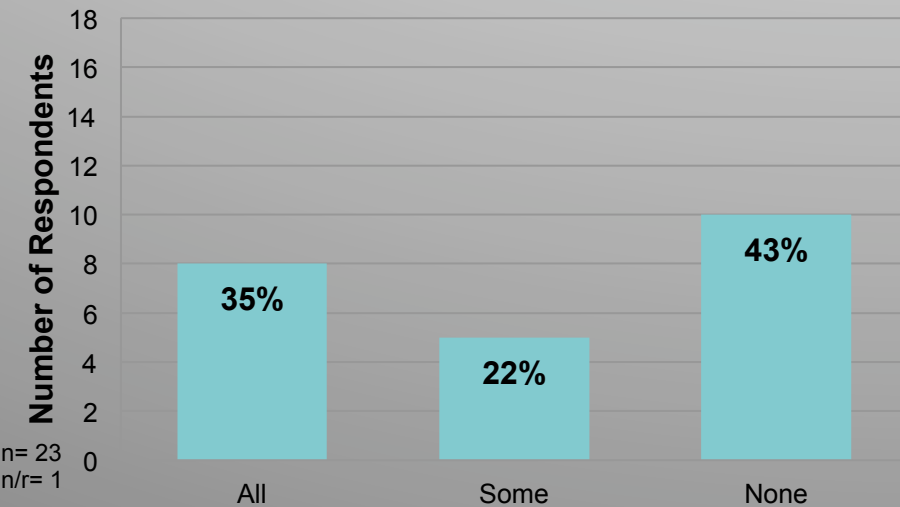
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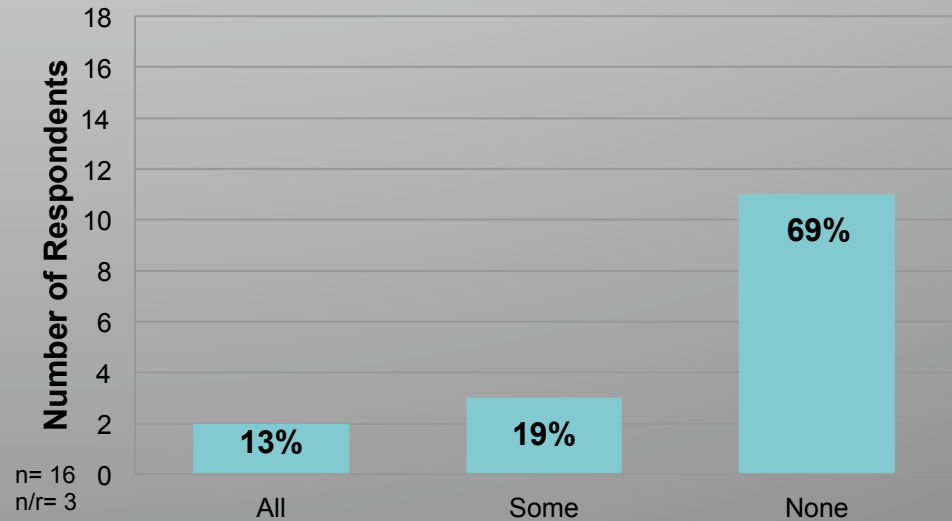
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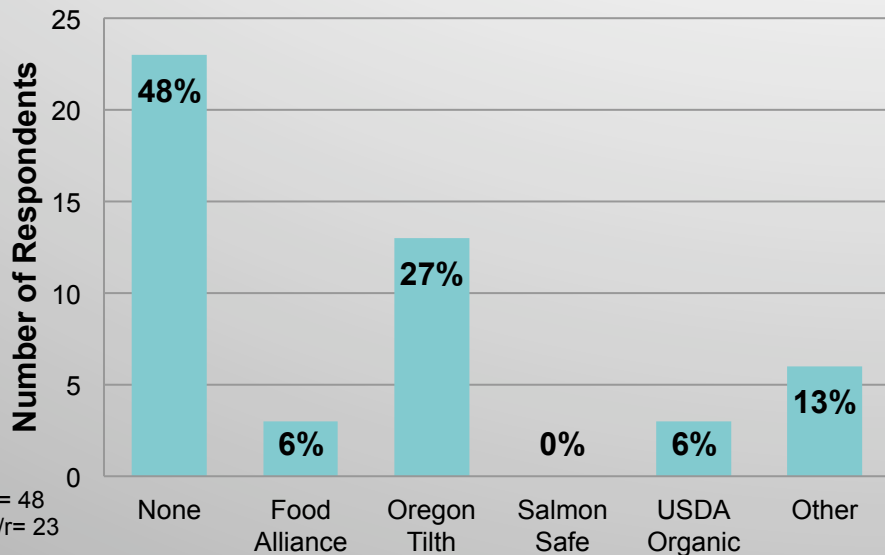


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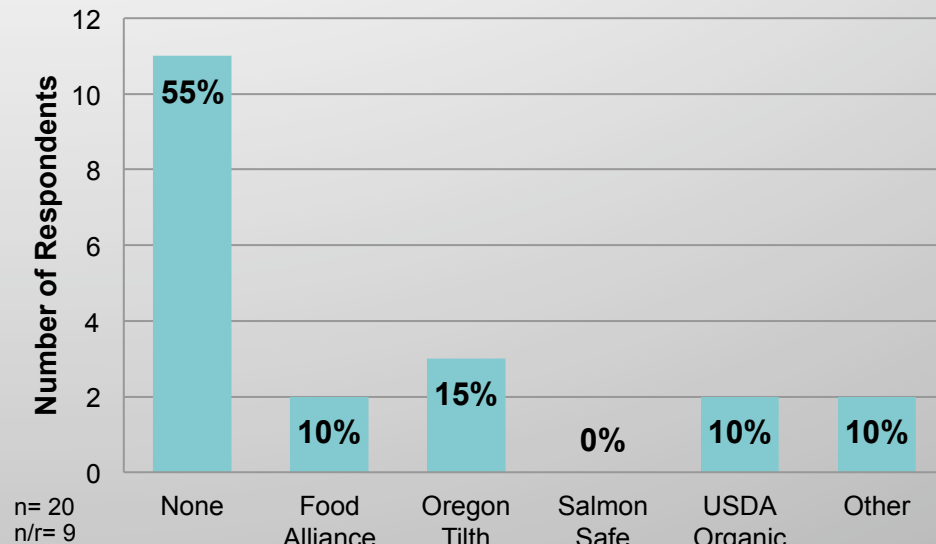


Primary Organic Certification System Used

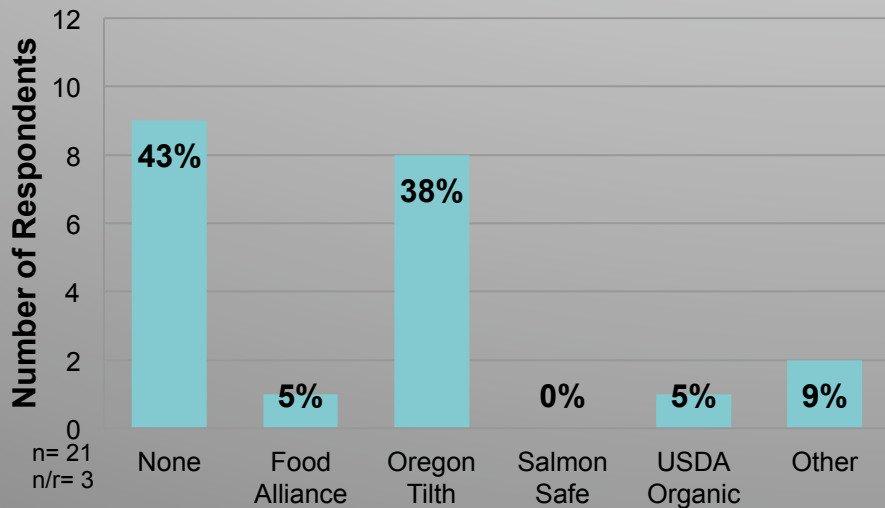
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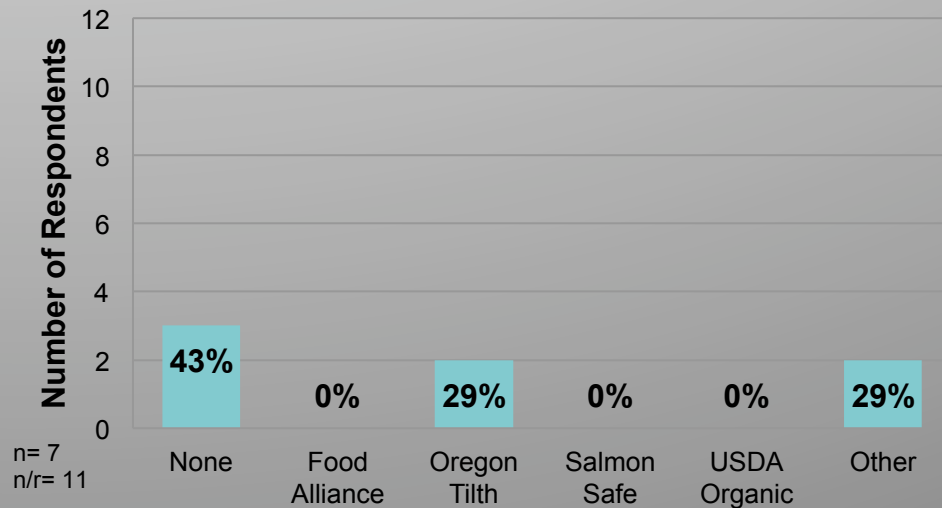
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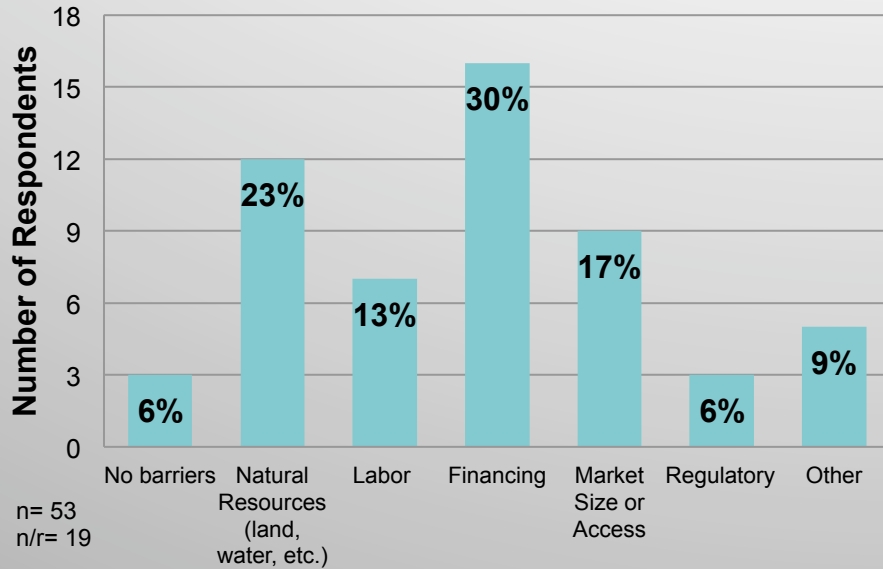


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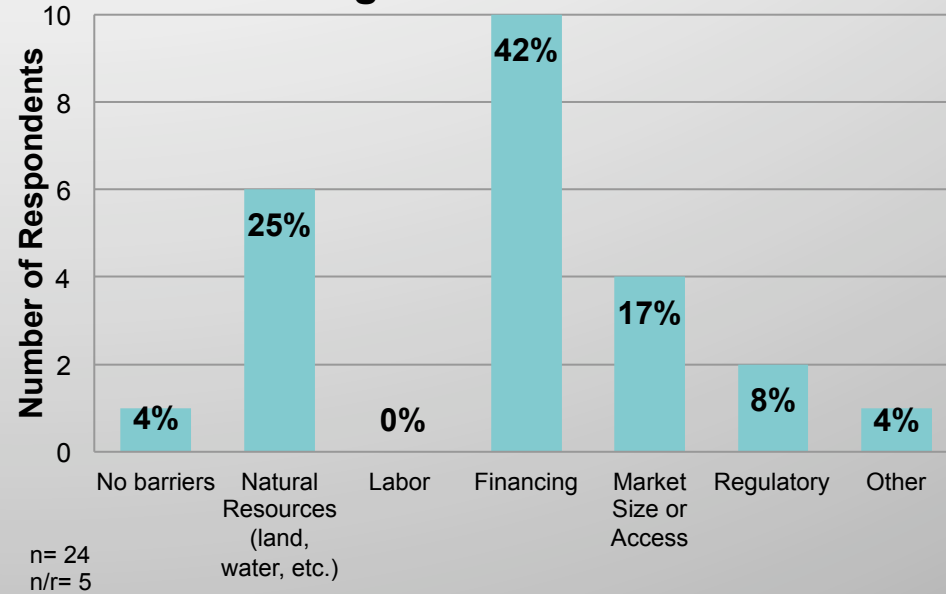


#1 Barrier to Producing or Expanding Current Markets

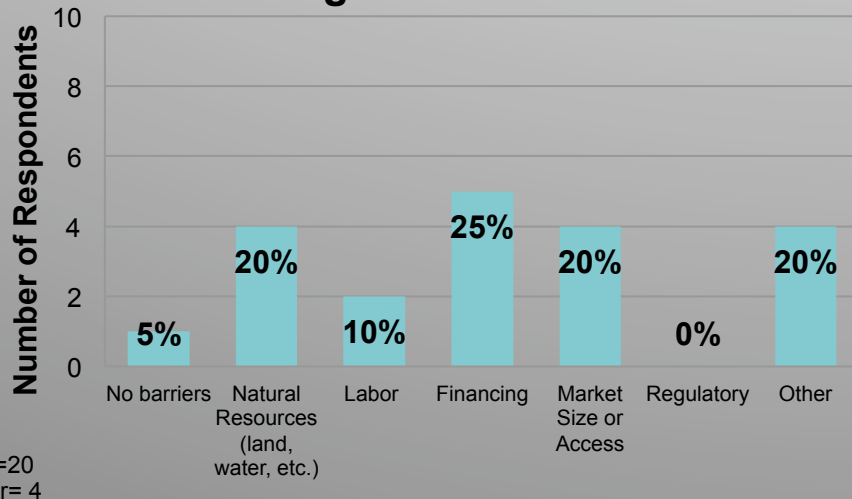
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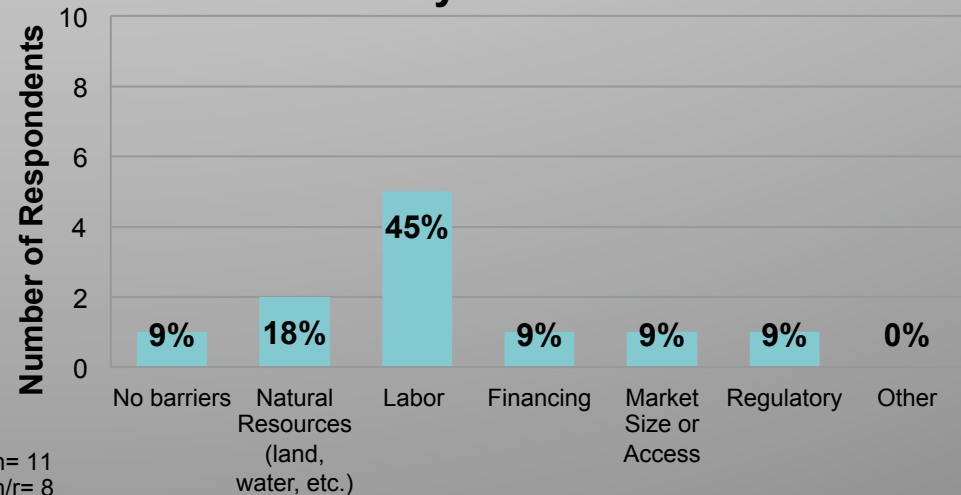
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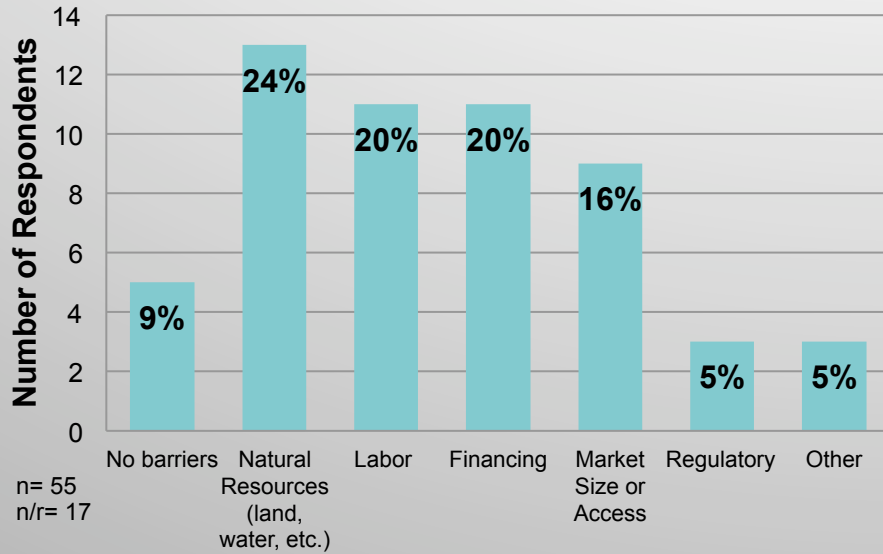


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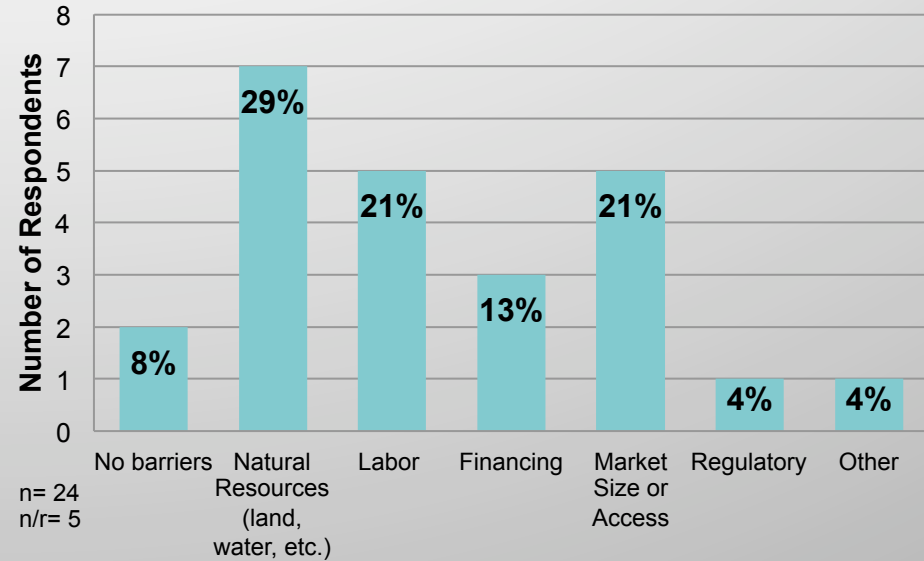


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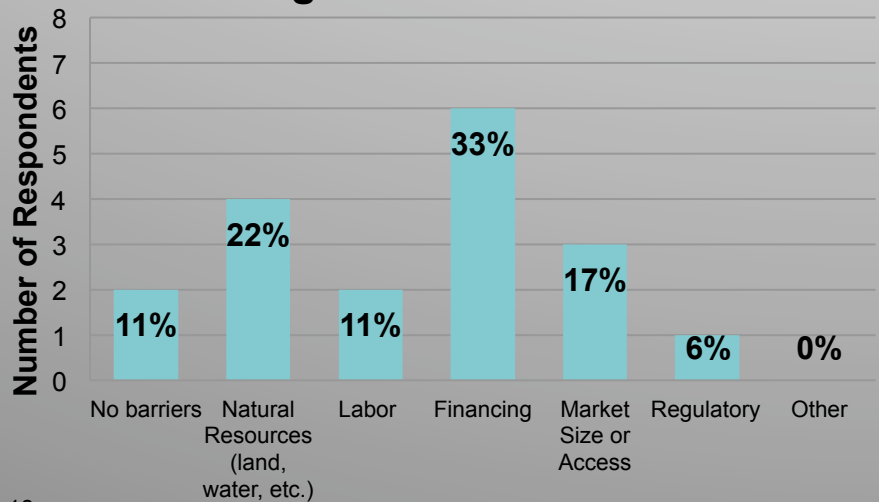
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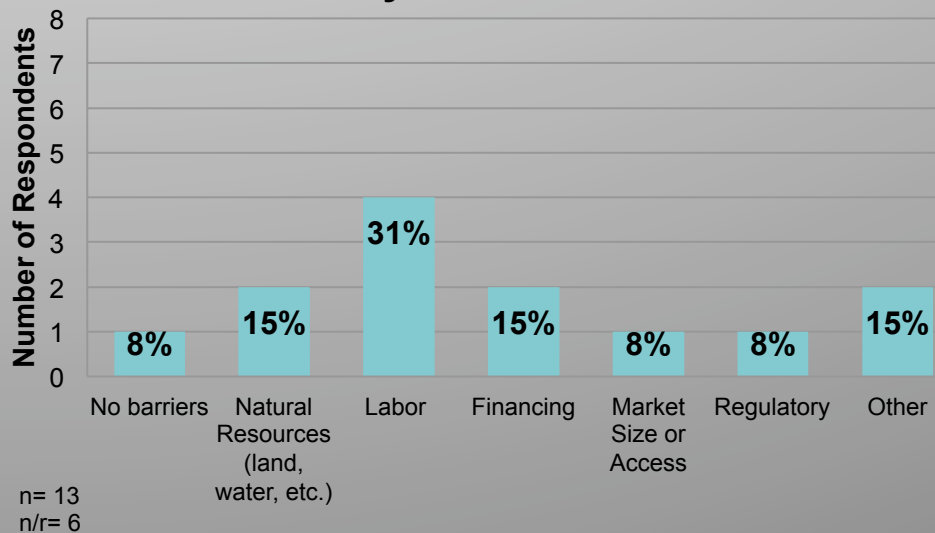
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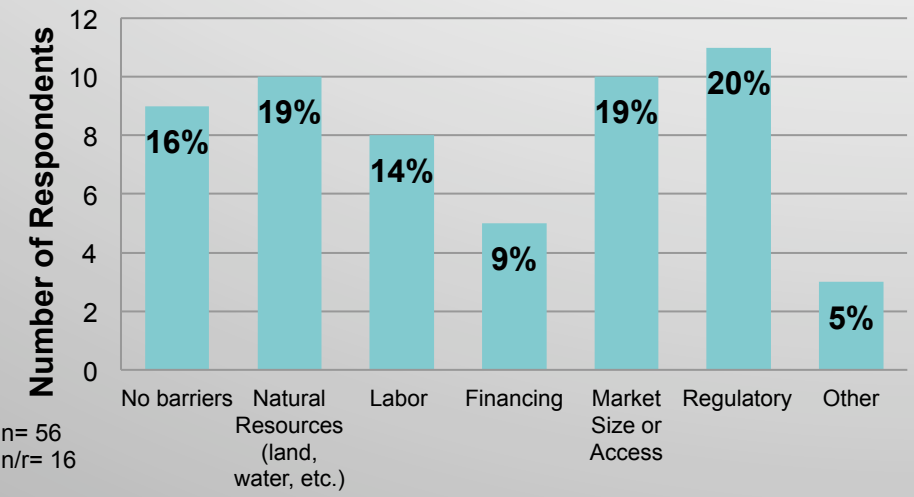


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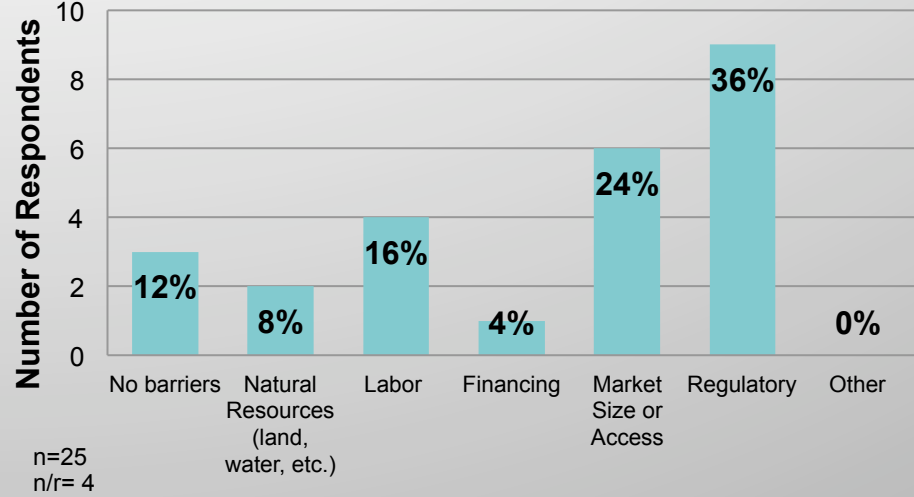


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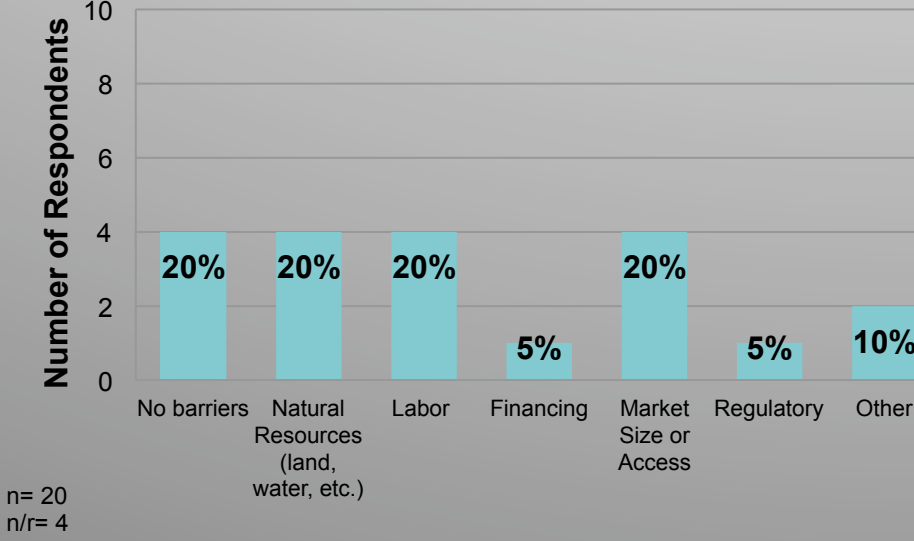
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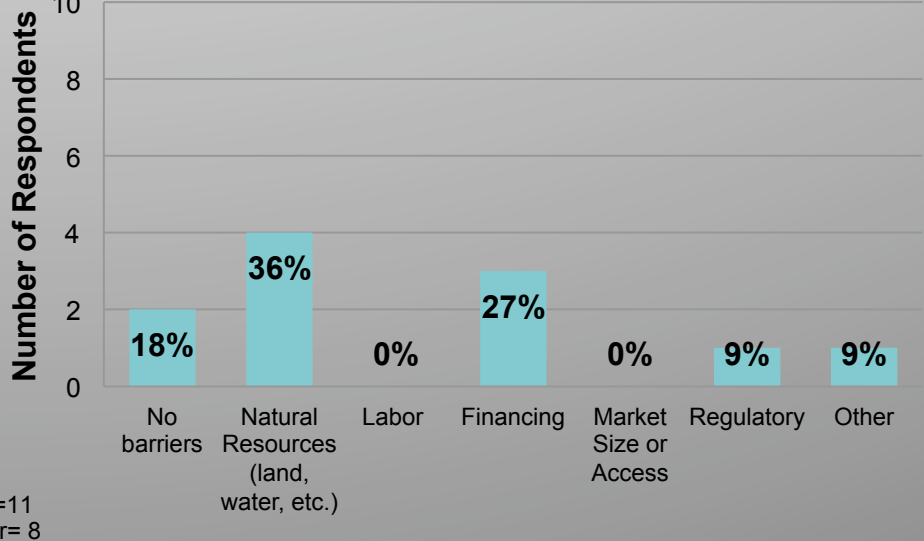
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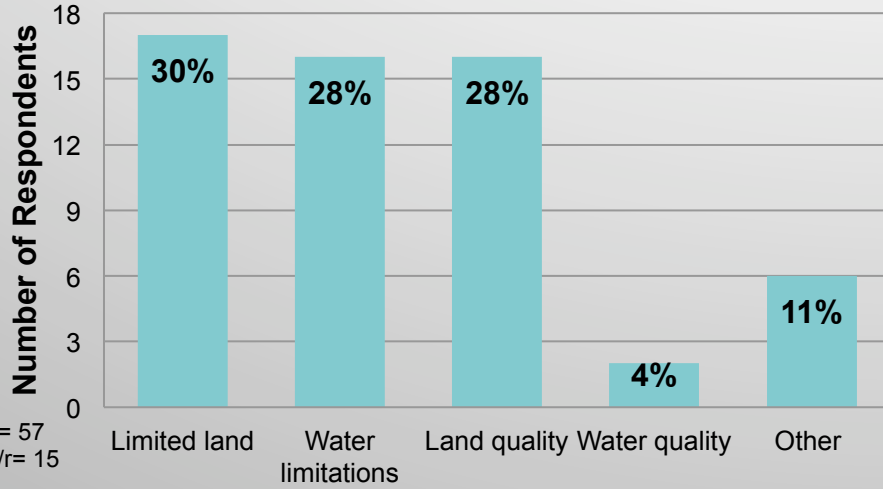


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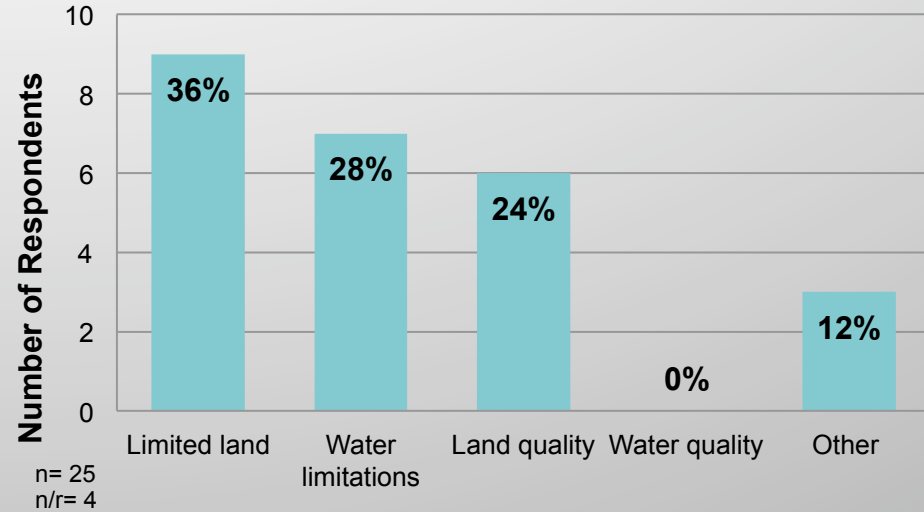


#1 Natural Resource Barrier

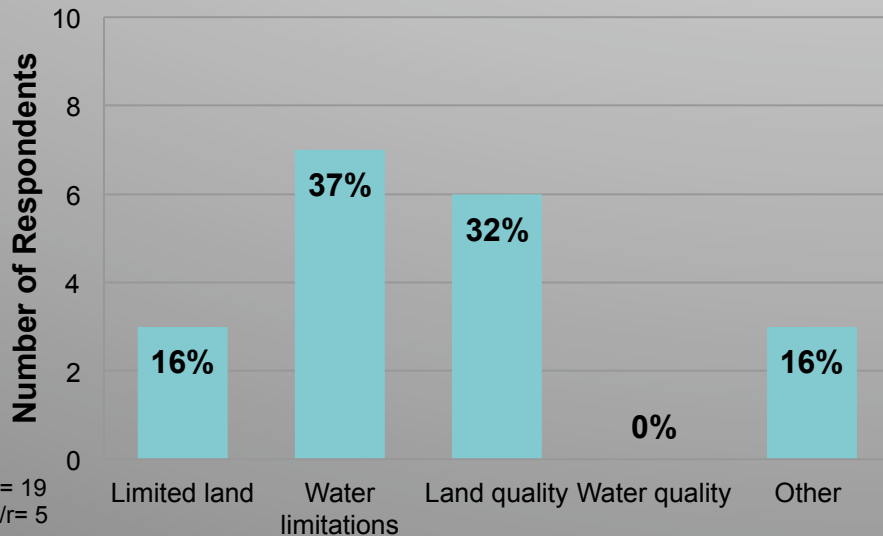
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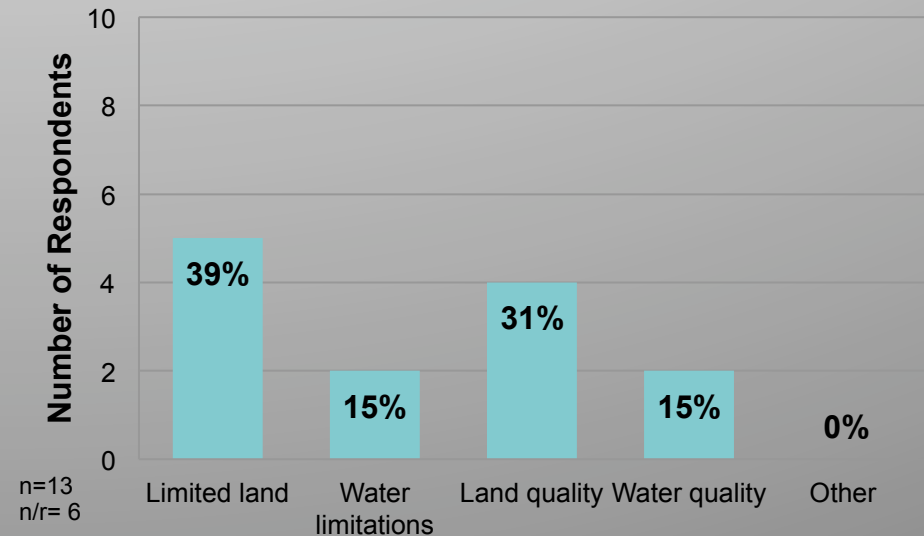
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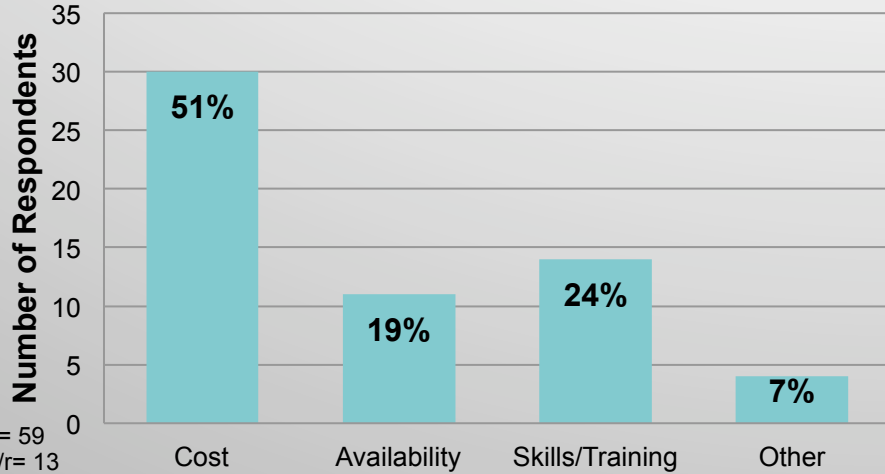


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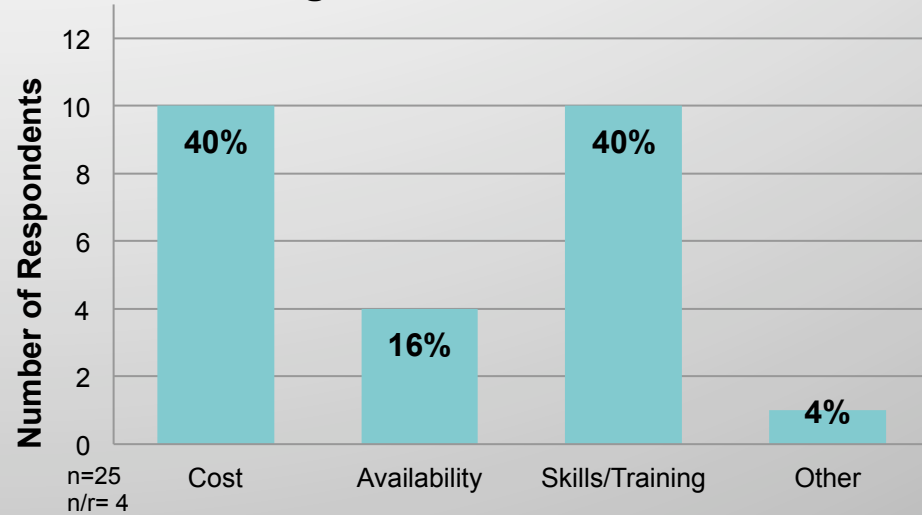


#1 Labor Barrier

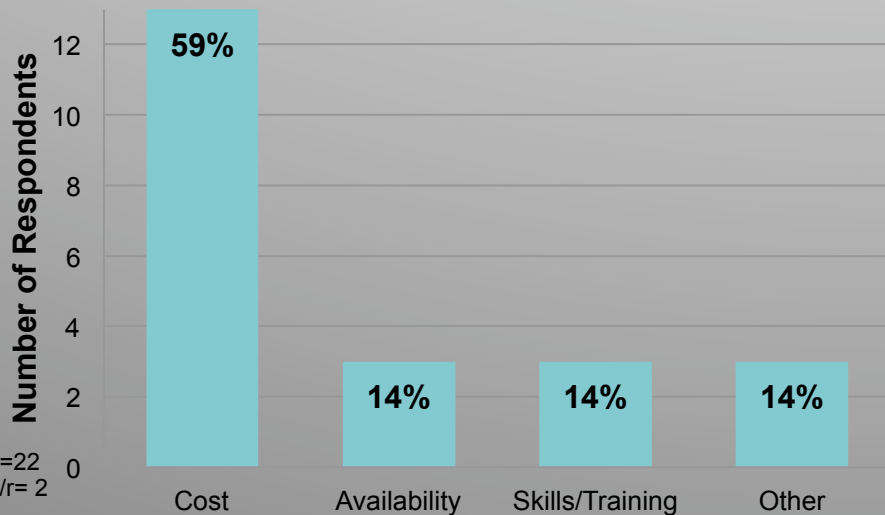
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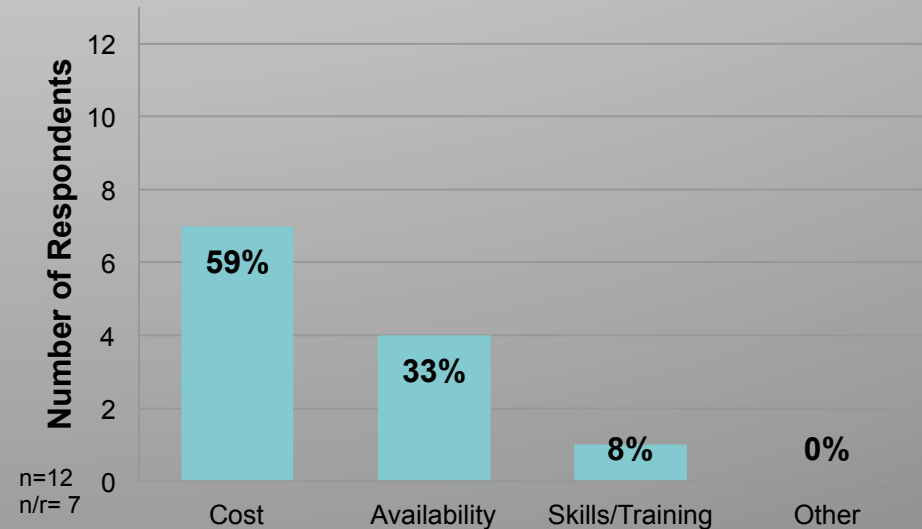
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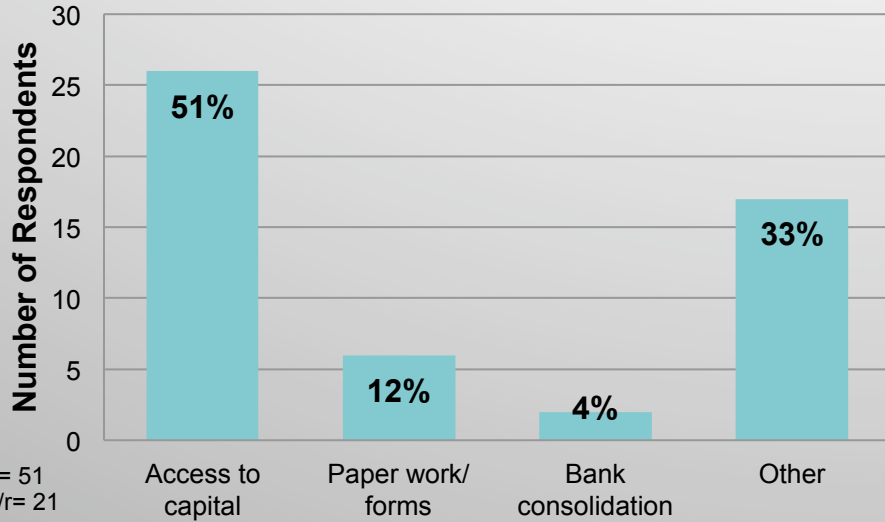


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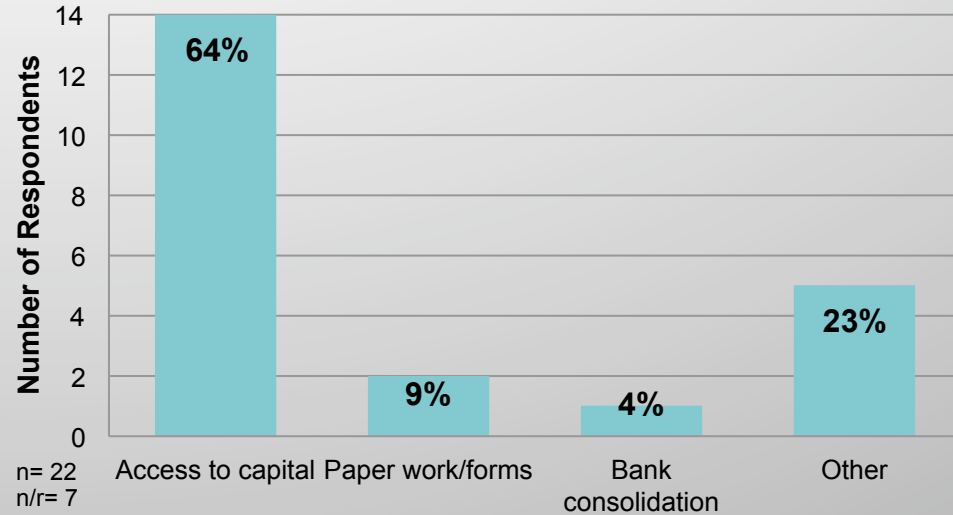


#1 Financial Barrier

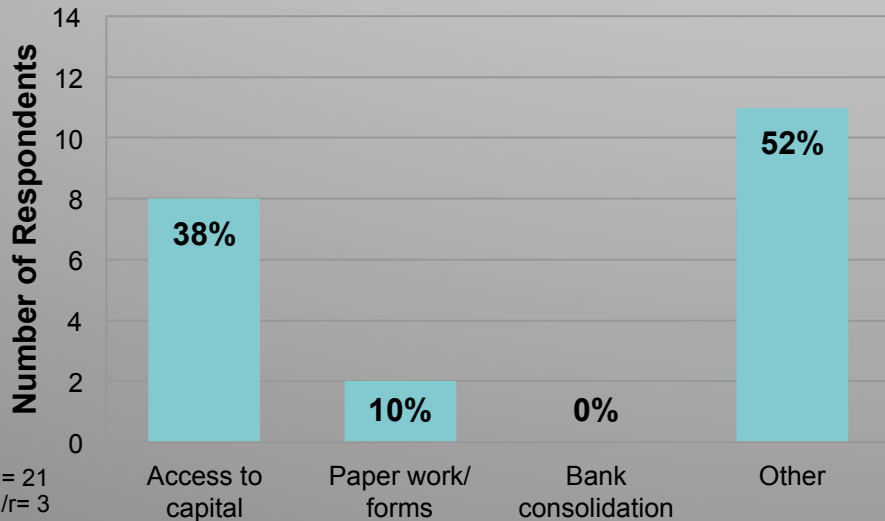
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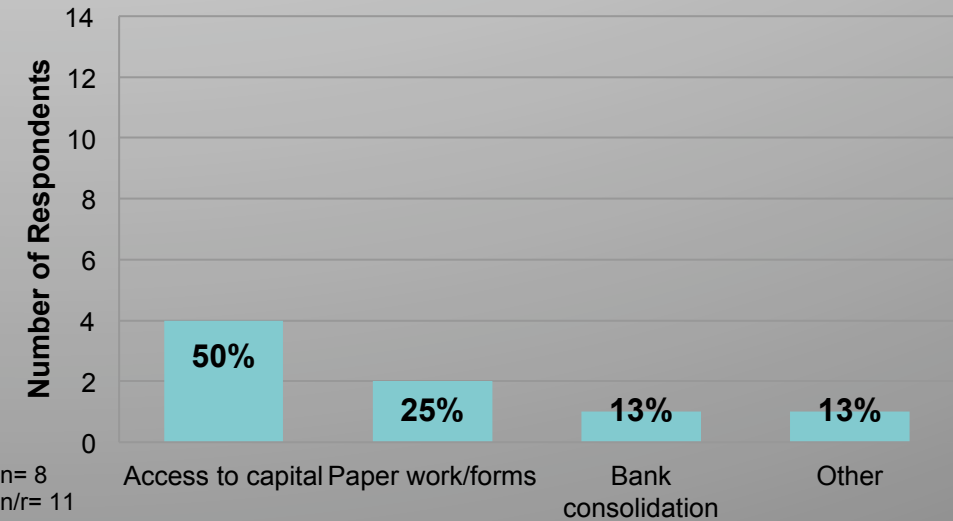
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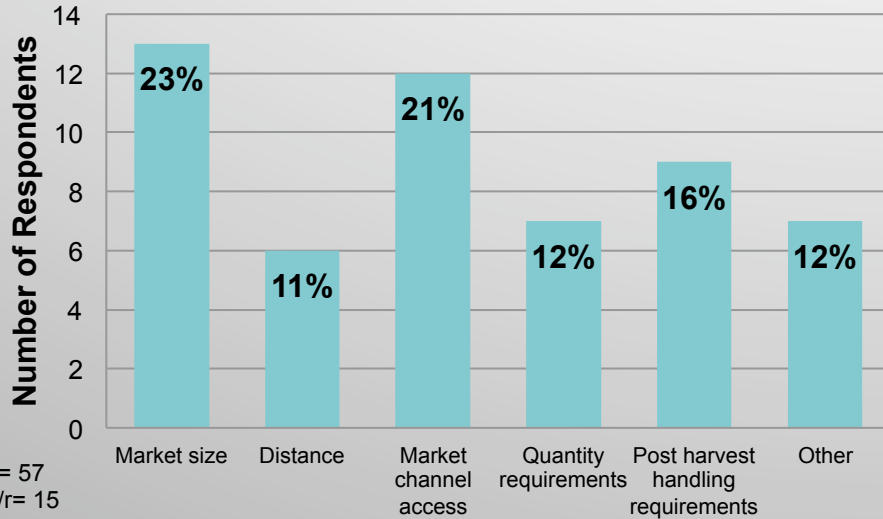


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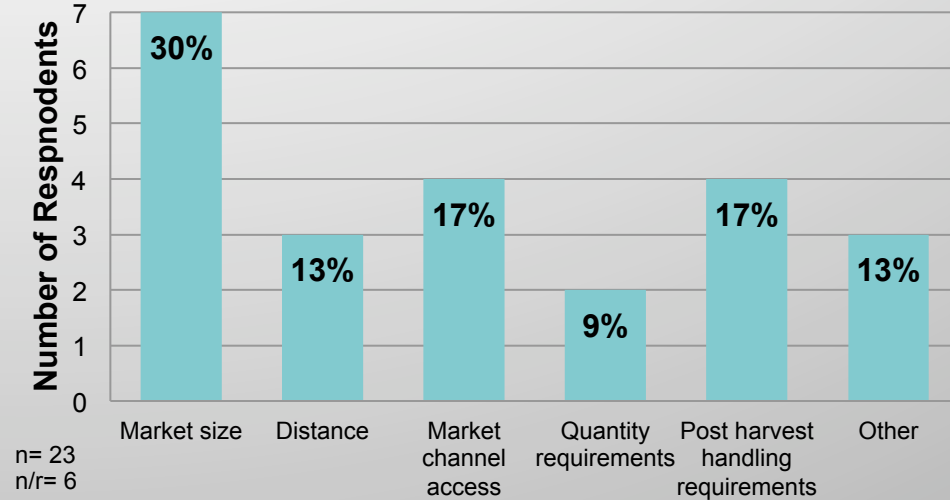


#1 Market-Related Barrier

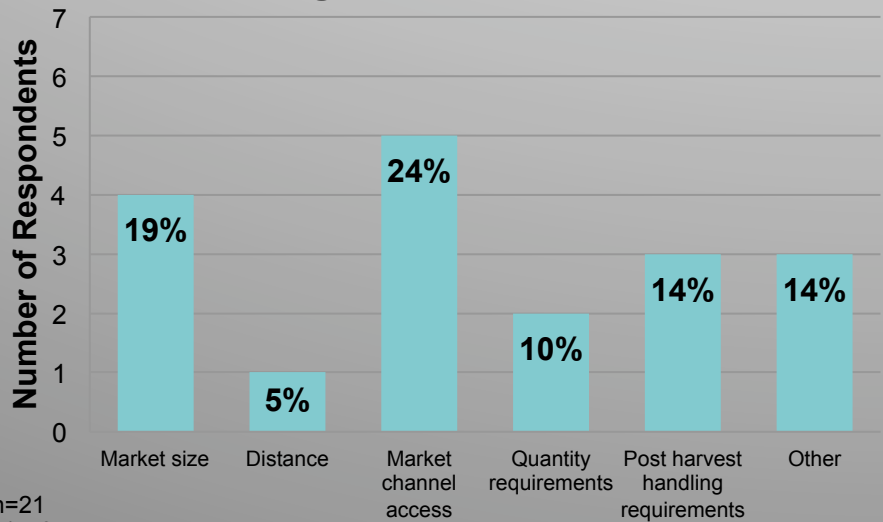
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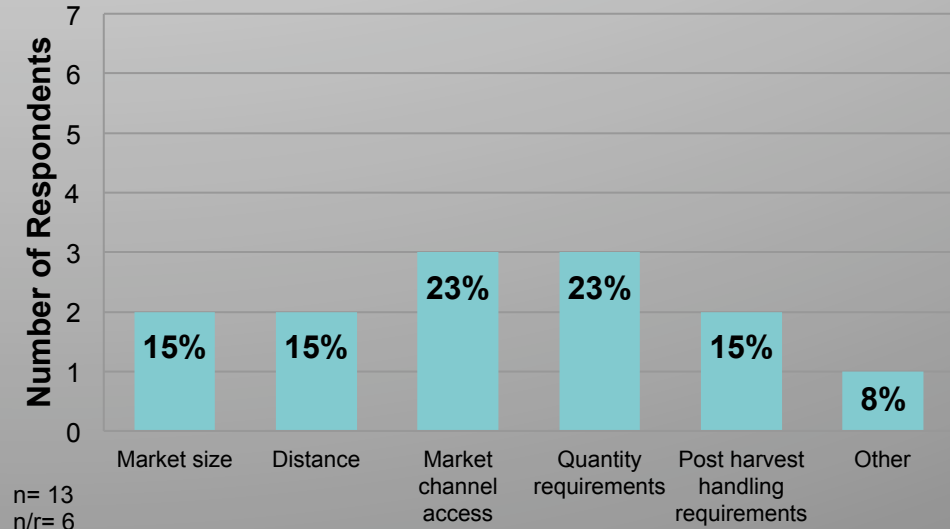
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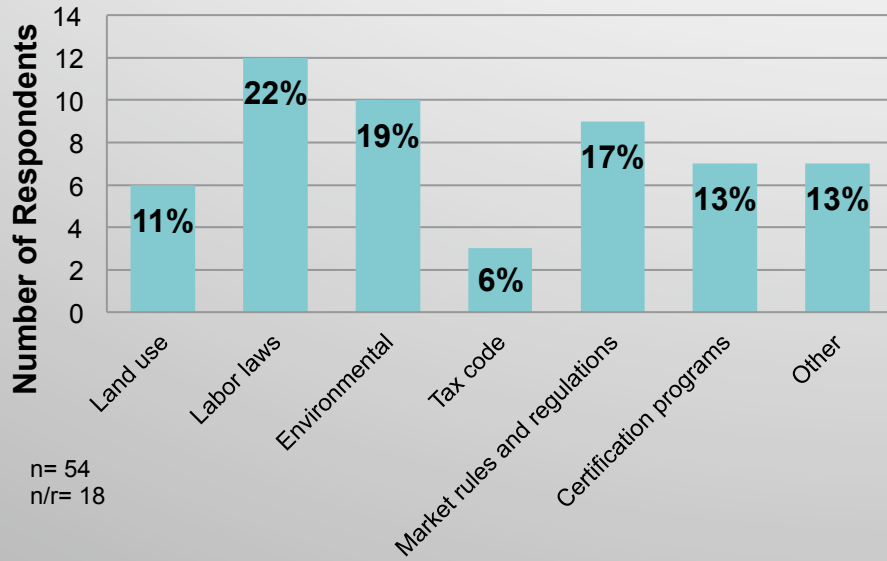


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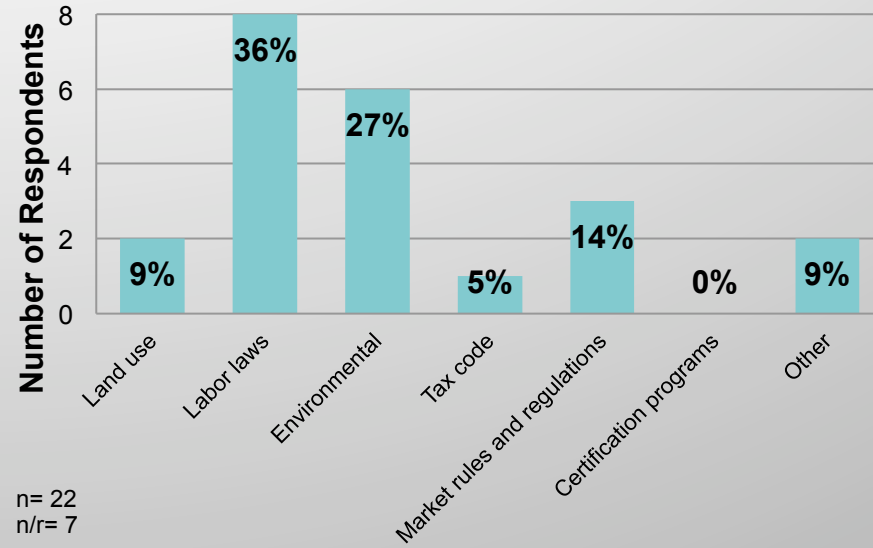


#1 Regulatory Barrier

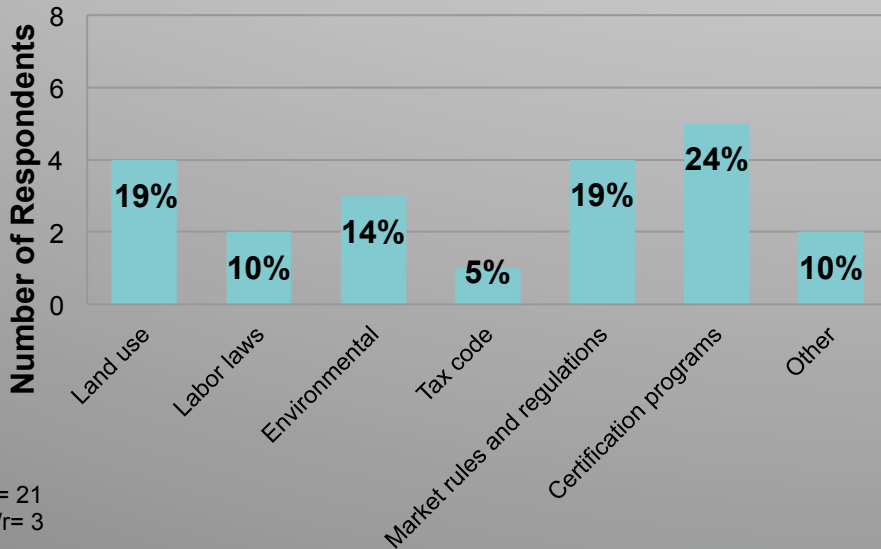
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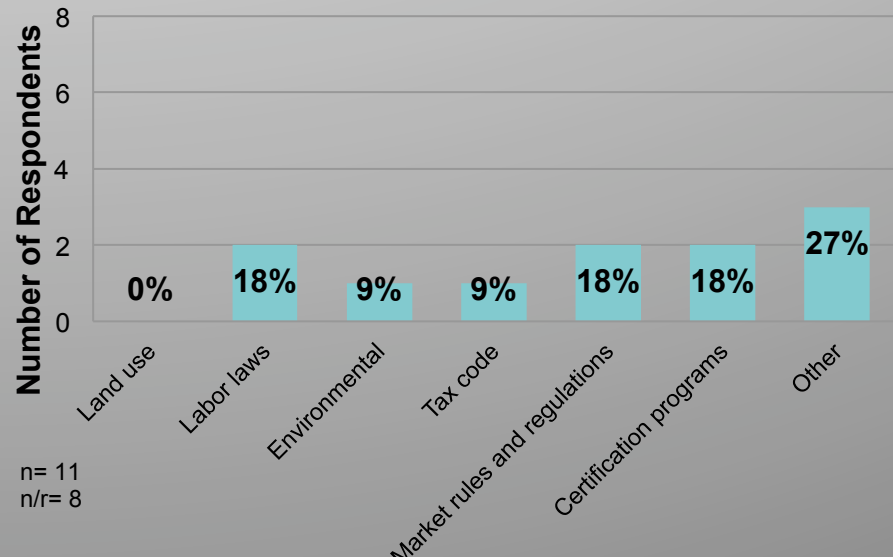
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The next six figures include data on Oregon farms taken from the 2007 U.S. Census of Agriculture

Annual value of sales	Oregon	North Willamette	Clackamas	Washington	Multnomah	Columbia	Yamhill	Polk	Marion
Less than \$1,000	11,763	3,908	1,242	487	122	245	622	440	750
\$1,000 to \$2,499	5,687	2,165	688	220	112	217	348	167	413
\$2,500 to \$4,999	4,651	1,616	540	210	66	128	266	126	280
\$5,000 to \$9,999	3,934	1,428	438	216	69	97	220	152	236
\$10,000 to \$19,999	2,807	884	314	118	38	59	124	70	161
\$20,000 to \$24,999	923	292	86	50	10	10	55	22	59
\$25,000 to \$39,999	1,592	503	141	86	24	16	93	42	101
\$40,000 to \$49,999	680	219	65	35	11	4	34	22	48
\$50,000 to \$99,999	1,838	595	153	97	27	11	123	43	141
\$100,000 to \$249,999	1,939	620	150	79	38	11	113	69	160
\$250,000 to \$499,999	1,077	305	55	59	18	4	38	44	87
More than \$500,000	1,662	620	117	104	28	3	79	55	234
Total of Farms	38,553	13,155	3,989	1,761	563	805	2,115	1,252	2,670

Table A1. Number of farms by value of farm sales by state, North Willamette region, and by selected counties.

Annual value of sales	Oregon	N. Willamette Co.'s compared to State	N. Willamette Co.'s	Clackamas	Washington	Multnomah	Columbia	Yamhill	Polk	Marion
Less than \$1,000	31%	33%	30%	31%	28%	22%	30%	29%	35%	28%
\$1,000 to \$2,499	15%	38%	16%	17%	12%	20%	27%	16%	13%	15%
\$2,500 to \$4,999	12%	35%	12%	14%	12%	12%	16%	13%	10%	10%
\$5,000 to \$9,999	10%	36%	11%	11%	12%	12%	12%	10%	12%	9%
\$10,000 to \$19,999	7%	31%	7%	8%	7%	7%	7%	6%	6%	6%
\$20,000 to \$24,999	2%	32%	2%	2%	3%	2%	1%	3%	2%	2%
\$25,000 to \$39,999	4%	32%	4%	4%	5%	4%	2%	4%	3%	4%
\$40,000 to \$49,999	2%	32%	2%	2%	2%	2%	0%	2%	2%	2%
\$50,000 to \$99,999	5%	32%	5%	4%	6%	5%	1%	6%	3%	5%
\$100,000 to \$249,999	5%	32%	5%	4%	4%	7%	1%	5%	6%	6%
\$250,000 to \$499,999	3%	28%	2%	1%	3%	3%	0%	2%	4%	3%
More than \$500,000	4%	37%	5%	3%	6%	5%	0%	4%	4%	9%

Table A2. Percentage value of farms by value of farm sales by state, North Willamette region, and by selected counties.

	Farms	Land in farms (acres)	Average farm size (acres)	Median farm size (acres)
Oregon	38,553	16,399,647	425	29
Clackamas Co.	3,989	182,743	46	15
Columbia Co.	805	57,758	72	23
Marion Co.	2,670	307,647	115	17
Multnomah Co.	563	28,506	51	15
Polk Co.	1,252	166,663	133	30
Washington Co.	1,761	127,984	73	16
Yamhill Co.	2,115	180,846	86	20

Table A3. Number of farms, total farm land, average and median farm size in Oregon and North Willamette counties.

	Total Farms	1 to 9	10 to 49	50 to 179	180 to 499	500 to 999	>1,000
Oregon	38,553	25%	37%	19%	9%	4%	7%
Clackamas Co.	3,989	38%	44%	14%	3%	1%	0%
Columbia Co.	805	24%	49%	20%	5%	1%	1%
Marion Co.	2,670	34%	39%	15%	7%	3%	2%
Multnomah Co.	563	39%	43%	13%	4%	2%	0%
Polk Co.	1,252	21%	41%	25%	6%	3%	3%
Washington Co.	1,761	34%	41%	17%	5%	2%	1%
Yamhill Co.	2,115	25%	48%	18%	6%	2%	1%

Table A4. Percent of total farms in Oregon and Northern Willamette valley counties by farm size in acres.

	Total Farms	Primary Occupation			Average age (yrs)	Male	Female
		Farming	Other	Some off-farm work			
Oregon	38,553	46.2%	53.8%	65.8%	58	78.6%	21.4%
Clackamas Co.	3,989	41.3%	58.7%	68.8%	57	77.1%	22.9%
Columbia Co.	805	38.5%	61.5%	68.3%	58	76.3%	23.7%
Marion Co.	2,670	46.4%	53.6%	65.1%	56	82.7%	17.3%
Multnomah Co.	563	45.1%	54.9%	61.3%	58	75.3%	24.7%
Polk Co.	1,252	43.5%	56.5%	66.1%	58	80.5%	19.5%
Washington Co.	1,761	45.0%	55.0%	67.1%	57	78.1%	21.9%
Yamhill Co.	2,115	38.7%	61.3%	70.1%	57	79.8%	20.2%

Table A5. Percent of total farms in Oregon and North Willamette valley counties by principle operator occupation, average age, and sex.

	Total Farms	Total farm land	Owners of all land		Rent some land		Rent all land	
			Farms	Acres	Farms	Acres	Farms	Acres
Oregon	38,553	16,399,647	78.2%	45.4%	16.0%	45.4%	5.8%	9.2%
Clackamas Co.	3,989	182,743	84.0%	50.2%	12.0%	45.5%	4.0%	4.2%
Columbia Co.	805	57,758	82.7%	64.3%	14.9%	34.5%	2.4%	1.3%
Marion Co.	2,670	307,647	74.4%	32.7%	18.0%	53.5%	7.6%	13.8%
Multnomah Co.	563	28,506	74.2%	48.5%	20.1%	48.2%	5.7%	3.3%
Polk Co.	1,252	166,663	80.1%	30.7%	14.4%	61.1%	5.5%	8.2%
Washington Co.	1,761	127,984	79.3%	38.5%	14.3%	50.3%	6.4%	11.2%
Yamhill Co.	2,115	180,846	83.5%	52.9%	12.5%	40.5%	4.0%	6.6%

Table A6. Land tenure by percent of total farms and acreage for Oregon and North Willamette valley counties.

**Sustainable Agriculture and Education Project
Portland Regional Foodshed Economy
January 2012**

Summary of Phase I Interviews Results

A research team that includes OSU Cooperative Extension, Portland State University's Institute of Metropolitan Studies, Cogan Owens Cogan, LLC and the City of Damascus is working to identify challenges and opportunities faced by urban agricultural producers with the goal of increasing the financial success of food producers and the vitality of the Portland regional food economy. The project is funded by the USDA's Sustainable Agriculture Research and Education (SARE) program.

As part of the SARE project, Cogan Owens Cogan, LLC and the City of Damascus conducted a series of interviews with policy makers with the intent of developing a toolkit that agricultural producers and regional policy-makers can use to overcome identified challenges and help create more robust and sustainable regional agricultural economy.

The following is a summary of information gathered during the interviews and is followed by a compilation of verbatim responses. A list of interviewees is included in an appendix.

1. *Do you agree that these are the major challenges urban ag producers face? Is any thing missing?*

Interviewees generally agree with the challenges identified in the Current Situation Report but had varying opinions on which challenges are the most important to address.

Land Use/Regulations and Requirements

The conversion of good farmland for more intense development is of concern to many policy makers. Rural development and uses may dilute the long-term viability of farms. Land is valued for the "highest and best" use, which is usually not considered to be food production. There is pressure to develop lands along the urban growth boundary (UGB) and producers receive lucrative offers to sell to developers. One interviewee feels that the conversion of agricultural land may be an opportunity if highly local markets associated with growth can be stimulated. Policy makers suggested several tools to reduce the pressure to develop and help retain existing farms, including transfer of development rights (TDR) programs and purchasing easements, tax incentives and land trusts.

Several possible mechanisms for allowing agricultural uses in urban areas were mentioned, including long-term leases for city green spaces that eventually transition to development, designating them as core infrastructure lands (food, water, etc.) or as part of a Goal 9 employment inventory. Several policy makers suggested that land use is less of a barrier than the diversification of agricultural activities, such as agri-tourism, processing, farm stands, farm stands and education/"agri-tainment".

Conflicts between farming and adjacent urban uses were also discussed. Buffers are needed to protect residential areas from industrial farming and chemicals. The top regulatory barrier to urban

agriculture is fertilizer and pesticide regulation. Protecting farms in urban areas from vandalism is another issue. How can land uses be transitioned to meet the needs of growers and reduce these conflicts?

Processing/Distribution

Food processing is a challenge for small, urban farms. Farmers raising animals are required to have them butchered and inspected by a USDA agent to be sold to local restaurants. The lack of USDA-inspected mobile meat processing facilities makes it extremely prohibitive for a small livestock producer to sell through the retail channel. More USDA facilities are needed to provide for urban area farmers to process their crops/animals.

The cost of food distribution is high and can be prohibitive. While efficiencies in using existing transportation mechanisms may help alleviate some of that cost burden, it may be worthwhile to explore ways to avoid transportation costs that are not directly linked to goods sold. Producers using farmers markets as a revenue stream usually bear the cost of production and transportation and hope that buyers will purchase their products. There is also the time invested by the farmer in loading, transporting, unloading and waiting for customers. An online farmers market system could provide more small farms to sell food locally and could also reduce transportation costs if combined with food pickup locations on a standard route. One policy maker suggested that the aggregation and distribution of agricultural products should be a main focus; possibly sub-regionally.

Capital/Land

Land availability is not the issue in urban areas. The cost of land and creating greater access to working capital for farming are the challenges.. Without it, farm operations are less resilient to unexpected events that create financial stress. With access to borrowed capital, debt load can become an issue. Access to capital needs to include the education and management training to help producers use this resource responsibly. Federal, state and private resources are needed. A revolving loan fund, such as the Regional Investment Boards for the traded sector, may be one solution.

Labor

Labor is another challenge often cited by interviewees in terms of the labor force and farmworker housing. There are not enough documented skilled or unskilled workers. Undocumented workers can't be advertised for legally. Day labor center may address need of laborers and employers. A focus on family-wage jobs and educational process to ensure a documented workforce is ready are needed.

Water

Water in urban areas is more scarce and expensive, and there is significant potential for climate change to negatively impact water availability. For small farms with less than ample water supplies, this condition can disrupt production unless new sources of water can be found or crops are changed to those that consume less water. Producers in Limited Ground Water Resource Areas, see this as a particularly significant barrier.

Regional Foodshed Cluster Development

Policy makers support the development of a regional foodshed economic cluster. Strong leadership and a convenor or clearing house are needed. Several entities, such as Metro, EcoTrust, FFI information or OSU Extension could serve this function.

Import substitution is a viable economic opportunity, but there is a need to define potential markets and products. More institutions and large markets are needed. The 2013 Farm Bill will focus on regional foodshed plans and local, healthy food.

2. *Is your agency working on/analyzing any of these challenges?*

Most interviewees stated that their agencies are working to address these challenges. Actions include:

- Activities include assessing land use and regulatory barriers for production; Grocery Stores Initiative; food justice issues; and farm bill tracking.
- Developing an Agriculture Investment Strategy, including ways to improve access to capital with federal and state partners.
- Lobbying for changes in land use regulations.
- Financial support for farmers markets to help keep local farm soils actively managed and in production.
- Programs include Integrated Waste Water Management planning and Farm/Nursery workshops with local producers.
- Drafting a land development code that will take urban agriculture into consideration.
- Need to address provision of migrant housing in policies/regulations.
- Focus on facilitating urban development, including: TDRs; model farms for food production in urban areas associated with dense development; Nature in the Neighborhoods to innovate in urban ag.
- Focus on economic development, job creation and family-wage jobs, including SNAP to encourage local healthy food; community food system.
- Assessing whether and how to organize a county-focused food effort.
- Programs that focus on land conservation and coordination in the region: match 50% for approved conservation practices; interested in harvesting if economically practical; vertical and greenhouse ag seasonal high tunnels; organic initiative to help transition planning cost sharing for conservation practices.
- Land use program includes TDR analysis, rural reserves; agricultural zoning may be examined in the future.

3. *What can be done to overcome these challenges? Which potential tools would be most effective in addressing the challenge?*

Policy makers proposed a broad range of tools to address urban area agriculture issues. A majority of responses pertained to land use issues. Interviewees suggest a closer examination of Oregon's Agriculture Goal (Goal 2), developing recommended strategies, and working with policy makers to implement these recommendations, including updating state statutes and local land use regulations. This is particularly important for agri-tourism and other diversified agricultural activities. Other tools include transitioning land uses adjacent to agricultural lands, allowing urban agriculture in open space zones, TDRs, supporting demonstration farms.

Other interviewees suggested economic tools. Policy makers support developing a regional food economic cluster strategy. Other proposed economic tools include: export expansion, farm incubators, vertical agriculture, and mixed-use development surrounding agricultural production areas. Farmers need improved access to improved/innovative funding sources and supplemental income strategies.

Several tools to address processing and distribution challenges were mentioned. Additional processing units or co-ops to share the costs and benefits of processing units are needed. Regional distribution facilities should be located strategically to capitalize on transportation routes.

Strategies to address labor issues include focusing on a “shared” labor strategy to improve access to qualified workers, and developing a farmworker housing model with the FHDC.

4. Are there other models or tools used elsewhere that you are aware of that would help address this/these challenge(s)? (note which challenge)

Again, policy makers provided a variety of models and tools that have been used in other places, including:

- Baltimore uses tax incentives and reductions to encourage urban agriculture.
- Montana has a huge processing facility built with federal funds and that allows community use of the kitchens.
- Screening facilities for migrant workers to ensure documentation is met.
- Door County, Wisconsin has a regional branding program for their ag products.
- Programs in Canada and the Midwest support advanced growing options 365/24/7, biomass and greenhouses.
- Innovative development strategies, such as urban farm and park concepts (condo gardens), farms permitted under standards similar to those for golf courses,
- The Illinois Food, Farm and Jobs Act of 2007.
- Innovative programs in the Cleveland area.
- A hub for helping workers get documented and find work like the one along Highway 211 between Woodburn and Molalla.
- Mercy Corps “Seeding Change” finance and farming services.
- Cooperatives for distribution and processing like Red Tomato.
- Willamette Valley joint branding.
- Transfer of development rights programs.
- New food waste policies.
- Micro-financing for urban farmers.
- An education program or center to teach how to grow, process and cook food.
- A Climate Resiliency Plan like the one developed by the Willamette University Climate Leadership Institute.
- Re-localizing agricultural production with adaptive food crops.

5. Is there anything else you would like to share or suggest we consider?

Additional suggestions include:

- Succession planning for aging farmers. California Farm Link (young/old farmer link) is a good model.
- Explore a Willamette Valley-wide growth strategy
- Consider how crops can be stored for market or off-season sales.
- Research ways to extend the growing season.
- Advance agri-tourism outside the UGB as in Yamhill County and the City of Ashland.
- Emphasize increased urban development of centers or towns.
- Focus on family-wage jobs.
- Import substitution.

- Streamline regulations.
- Support organic production.
- Link local healthy foods to regional centers and economic development cluster strategies.

Compilation of Interviews Results

6. *Do you agree that these are the major challenges urban ag producers face? Is anything missing?*

- Covers the issues well, but leadership for the regional ag economy/foodshed is missing. I would increase the focus on aggregation/distribution; possibly sub-regionally. Also, waste management and closing the loop on food, energy and water.
- The top barrier mentioned in the Ag Investment Survey is fertilizer and pesticide regulation. Farmers report being hampered by regulation from doing their best to grow their crops. A second barrier is the Oregon Tax Structure; farm deferral and property taxes. Could be a good area to probe in follow-up discussions. AICCPA (American Institute of Certified Public Accountants) might be a resource for farmers in terms of tax benefits. A third barrier is labor concerns consistent with the SARE findings. Not enough documented workers, skilled or not skilled. Undocumented workers can't be advertised for legally. How do you resolve immigration issues/worker availability? Not able to statistically provide breakdown of documented and undocumented workers. Day labor center may address need of laborers and employers. An educational process to ensure documented workforce is ready is needed. Need for capital for farming. Resources needed (federal, state, private). A revolving loan fund may be an example, such as the Regional Investment Boards for the traded sector. Land use is less of a barrier. Diversification of ag. (agri-tourism, processing, farm stands, farm stands, education/agri-tainment) is problematic from a land use perspective. Rulemaking required, which requires statewide participation.
- Watch rural development/uses diluting the long-term viability of farms. Mostly concerned about the conversion of good farmland, e.g., Washington County. Productive, flat, excellent soils. Buffering with industrial farming can be an issue, particularly where the "buffer" is a trail that brings people in and close to industrial farming and chemicals. The trend is toward smaller, parcelized areas. Ag inside the UGB is a tough topic. Could possibly be allowed as a core infrastructure (food, water, etc.); or as part of a Goal 9/employment inventory. Shouldn't be used to expand.
- The items presented in the white paper do address most of the major challenges faced by urban agricultural producers. Some items missing that may also be significant include:
 - Processing – the lack of USDA-inspected mobile meat processing (butchering) facilities makes it extremely prohibitive for a small livestock producer to sell through the retail channel.
 - The cost of distributing food is high. While efficiencies in using existing transportation mechanisms may help alleviate some of that cost burden, it may be worthwhile to explore ways to avoid transportation costs that are not directly linked to goods sold. Producers using farmers markets as a revenue stream usually sell on speculation; they bear the cost of production and transportation and hope that buyers will purchase their products. There is also the time invested by the farmer in loading, transporting, unloading and waiting for customers, then loading, transporting and unloading again to consider. An online farmers market system could provide more small farms to sell food locally, and combined with food pickup locations on a standard route, could also reduce transportation costs.
 - Access to working capital is a major issue, and it cuts both ways. Without it, farm operations are less resilient to unexpected events that create financial stress. With access to borrowed capital, debt load can become an issue. Access to capital needs to include the education and management training to help producers use this resource responsibly.

- Pressure to convert agricultural land is a problem. It may be an opportunity, however, if highly local markets associated with growth can be stimulated. Perhaps programs like transfer of development rights and purchasing easements can help remove some of that pressure. The real issue is that we value land at the highest and best use, and that highest use is usually not considered to be food production. Environmental deterioration related to some development may affect agricultural land.
- There is significant potential for climate change to negatively impact water availability. For small farms with less than ample water supplies, this condition can disrupt production unless new sources of water can be found or crops are changed to those that consume less water.
- The following barriers are most important:
 - Land Use barriers – development encroachment which can cause nuisance/conflicts between farms and neighbors. But also, how do we mix uses appropriately to meet the needs of growers? What about transitions of land uses?
 - Producers in the fringe areas see dollar signs and sell to developers. How do we look at retaining existing farms? Tax incentives? Land trusts?
 - City green spaces that are leased? How to address long term leasing and eventual transition to development?
 - Environmental concerns – over time, soils can be contaminated with heavy metals. Pesticide use close to residential populations is another challenge.
 - Vandalism –Farmer Larry Thompson has already had issues with people vandalizing fields, i.e. driving through them, stealing crops, etc. This needs to be addressed in an urbanizing area. Physical security of farms is an issue.
 - Access to markets – How to get local farmers in grocery stores. I think some farmers need small business help and marketing strategies. Some are not moving toward CSA's.
 - Food processing places in the area. People raising animals have to have them butchered and inspected by a USDA agent to be sold to local restaurants, etc. Need more USDA facilities to provide for urban area farmers to process their crops/animals.
 - Producers in Damascus need to think about water. They are in a Limited Ground Water Resource Area.
 - What are the impacts of alternative development scenarios on ag land?
- Focus on land use laws and practices, the cost of land for ag in urban areas, and food production for tenants in housing.
- Focus on developing a food system, ag economic cluster (production, processing, distribution, consumption). Also focus on family wage jobs. More institutions and large markets are needed. The 2013 Farm Bill will focus on regional foodshed plans and local, healthy food.
- Yes, they match well with the interviews done in Washington County. Main foci include:
 - Distribution system
 - Processing for small growers
 - Labor issues/farm worker housing
 - Capital access, especially to finance land purchases and transfers
 - Import substitution – need to define potential markets and products
- These seem to be the major challenges and the opportunities/strategies are worth developing. We need a regional convenor and clearing house, possibly Metro, Ecotrust, FFI information, or OSU Extension. Farm land foundations and purchases – East Multnomah Conservation District.
- You touched on everything, but most important are:
 - Import substitution as an economic opportunity
 - Potential of local consumption

- Economic cluster development
- Capital availability

Land cost in urban areas is the major problem, not availability. Not in favor of water changes in ag land use.

7. Is your agency working on/analyzing any of these challenges? If so, please describe.

- The 2012 Food Policy Council work plan will likely include:
 - Assessing regulatory barriers for production as well as land use (see Portland code update and Oregon Public Health Institute’s work)
 - Mayor’s grocery stores initiative; funded through PDC – HEAL (Healthy Eating Active Living) AARA grant funded work
 - Food justice
 - Farm bill tracking
- Some work being done in the ag investment strategy but is still in the early research stages. The business and economic development team is considering strategies to help overcome the access to capital challenge with federal (USDA) and state (Business Oregon) partners.
- We are a small agency; marketing department has taken over what Business Oregon doesn’t for Oregon Ag. Reminder that ag is a traded sector industry. We do a lot of lobbying and speaking on this issue. Regarding changes in land use, the Farm Bureaus just met at their annual conference and strongly rejected sub-regional approaches/standards for ag.
- We are not working on these challenges, but do provide financial support to several farmers markets. The purpose of that support is to help keep local farm soils actively managed and in production.
- Yes. We are working or have worked on the following:
 - Integrated Waste Water Management planning.
 - Conducted background research on urban ag. Held Farm/Nursery Workshop with local producers.
 - Damascus has an existing “farm culture” that is understood by residents. This is helpful as the city urbanizes. It may help smooth the transitions that will take place.
 - We are drafting a land development code that will take into consideration urban agriculture.
 - Need to address provision of migrant housing in policies/regulations.
- Focus on facilitating urban development. We have limited band width for working on the food system. We conducted a study of TDRs. We own farms, e.g. Sauvie Island Farm that can be a model. Food production in urban areas associated with dense development, e.g. 39th and Division model (Geller Silvas developer). We work on all things tied to jobs and urban areas. Nature in the neighborhoods to innovate in urban ag.
- Farm bill 1) SNAP to encourage local healthy food; 2) community food system. Major issues include 1) MFI Action Plan; 2) Economic Cluster Strategy; 3) Adjust food purchasers allowance. Health Dept focus is on health corner grocery stores. Our focus is economic development; job creation; family wage jobs.
- Washington County is assessing whether and how to organize a county-focused food effort. They will assess/gauge interest and develop an approach. The County was impressed with the Multnomah Food Initiative.
- Energy and water plans are skinny locally. Match 50% for approved conservation practices. We are becoming more strategic and will need to focus resources on our area. We have a watershed focus. Not just a single forum, e.g. Johnson Creek. Also stormwater and are interested in harvesting if it is economically practical. More focus on vertical and greenhouse ag

seasonal high tunnels. Organic initiative to help transition planning cost sharing for conservation practices. Land conservation coordination in region.

- Land use program. TDR analysis. Rural reserves. Ag zoning may be examined in the future. There is an opportunity in Damascus and North Bethany.

8. *What can be done to overcome these challenges? Which potential tools would be most effective in addressing the challenge?*

- What is the role of Business Oregon?
- Frame it as an economic issue – the food economy.
- Work with policymakers to implement some of these recommendations, including comprehensive plan and code barriers to agricultural diversification.
- Additional processing units are needed (mobile, dispersed, sub-regional).
- Strategically locating distribution centers regionally, access to transportation routes and land.
- Regarding the viability of farms and uses on farms, if there is a legitimate nexus to farm use that doesn't impact neighboring farms, it should be ok. Other uses like grocery stores belong in rural and urban centers. Some farmers are simply opposed to getting a permit, whether for fire, building or food safety.
- Check the goal and statute for food processing, permitted uses. Other uses, where there is no nexus to food production also is often allowed by conditional use.
- Watch creep of uses from seasonal to year round – carnivals, etc. Always need to check the real land use.
- Many growers don't realize you can do a farm stand for your own produce. All planners and economic development staff should check the statutes.
- Agri-tourism can be ok if it is subordinate to and doesn't impact surrounding farming.
- Recent changes in wine country could lead to Napa-like problems of real farmers having compatibility challenges. Always a balancing act.
- Increasing USDA inspection stations and facility visits.
- Do whatever is needed to make farming profitable. Farmers need to make money to stay in business.
- Establish co-ops to share processing costs/benefits.
- Update state land use laws updated for the 21st century.
- Transition land zones around cities.
- Transfers of development rights.
- Model urban farms like Larry Thompson proposal for Damascus.
- Agri-tourism in project with counties and state – Damascus and Stafford as examples?
- Can farms be grandfathered based on employment or other standards?
- Create an Economic Development Action Plan and look to Multnomah and Clackamas County leadership.
- Continued Multnomah Food Initiative support for economic development and ag as convenor.
- Possible farm worker housing model with FHDC.
- Develop an economic cluster strategy for food that is focused on “what to do” short term and long term.
- Stronger food hub and expansion into distribution compilation.
- Export expansion – need a data base for small growers.
- Processing – value added strategy needed.
- Improved innovative funding sources.
- Land issues are similar to funding issues.
- Supplemental income strategies.

- Funding availability in the future is a challenge.
- Need outreach, collaboration, strategic approach.
- More focus on techniques of farm land conservation.
- Get young people interested in ag, guide them – like an Americorps for farms.
- Labor access is a big challenge. Maybe focus on “shared” labor.
- Examine ag zoning
- Ag density and employment – Larry Thompson Farm Plan.
- Urban scale ag in open space – intense ag.
- Transition zoning – Damascus.
- Sub area planning – ag production areas (Bethany).
- Demonstration urban farms (Zenger and Luscher).
- Mixed use development with ag production / food growing areas.
- Incubator / economic model – e.g. Vermont, Beaverton, Hillsboro and eastside.
- Vertical agriculture.

9. Are there other models or tools used elsewhere that you are aware of that would help address this/these challenge(s)? (note which challenge)

- FHDC work and focus on people not whether are documented / undocumented.
- Conversation around labor generally not on the table.
- More advanced growing options (365/24/7). Energy-biomass, greenhouses. (Canada, Midwest)
- Along Highway 211 between Woodburn and Molalla there is a fellow – Pedro is his first name – that is a hub for helping workers get documented and find work. We need more such hubs.
- Mercy Corps “Seeding Change” finance and farming services (KG mentioned): Thompson’s farm is a site: <http://www.mercycorpsnw.org/what-we-do/refugee-farming/>.
- What transitional uses should be allowed on farmland?
- Baltimore, MD used tax incentives/reductions to encourage urban agriculture.
- Montana-has huge processing facility with community use allowed of kitchen(s). This project was built with federal funds and grants.
- Provide for screening facilities for migrant workers to ensure documentation is met.
- Door County, WI has regional branding of their ag products.
- TDRs.
- Urban farm/park concept e.g. condo gardens.
- Requirements for food production areas with development.
- Vision of ag tourism.
- Food waste policy.
- Farm as new golf courses permitted under similar standards.
- Micro financing for agri-farmers.
- Adjust food purchasers allowance – County will convene.
- Cooperative for distribution and processing like Red Tomato.
- Willamette Valley joint branding.
- Economic cluster strategy.
- Education program or center to teach about how to grow, process, cook food.
- Climate resiliency plan, e.g. Willamette University Climate Leadership Institute.
- Relocalize with adaptive food crops.
- Food policy has gone exponential, need to focus energy.
- Major change to focus on local healthy food and local economy.
- How to interact with farmers to learn of opportunities and needs.
- TDRs.

- Illinois legislation. Illinois Food, Farm and Jobs Act 2007 www.foodfarmjobs.org.
- Cleveland area.

10. Is there anything else you would like to share or suggest we consider?

- How to turn this framework into action? Come back with policy updates.
- SARE team to present to FPC?
- Succession planning (avg. farmer age is 68-71) – 66% report not having a succession plan in place. California Farm Link (young/old farmer link) is a good example/resource.
- Also talk to:
 - Brent Searle, Special Assistant to the Director (Katy Coba), Agricultural Economist, focuses also on Federal/Farm Bill/policy. 503.986.4558
 - Ron Eber, 360.930.8500 or 503.507.3444, ronaldeber@comcast.net; former DLCD
 - Kathryn, new Goal 3 and 4 specialist, DLCD
 - Steve Cohen (City of Portland?)
- ODA needs additional R&D strength, also funding for this emerging and ever-changing sector.
- Should look at Valley-wide growth strategy. Where is it really important?
- Crop storage: refrigerated trucks are noisy. Need to consider how crops can be stored for market or off-season sales.
- Oregon has limited growing season. Look at how to extend it.
- Need to advance agri-tourism outside the UGB – examples in Yamhill and Ashland. Contact Peter Watts at Jordan Ramis 503-598-5547.
- Need to emphasize increased urban development of centers or towns.
- Jobs, jobs, jobs – family wage.
- Import substitution.
- Possibly interview Sia Lindstrom and Extension in Washington County.
- The sheer volume of regulations is a big problem. Can we develop a cookbook or program to make it easier; Can someone do it all for a group of farmers?
- Get organic on a level playing field with traditional ag.
- Link local healthy foods to regional centers strategy, economic development clusters strategy. Tie vision to public health and economic development.

Sustainable Agriculture and Education Project Portland Regional Foodshed Economy

List of interviewees

Dick Benner, Office of Metro Attorney

Carlotta Colette, Metro Council

Steve Fedje, Oregon Natural Resources Conservation Service

Stevie Freeman-Montes, City of Beaverton, Department of Community and Economic Development,
Sustainability Division

Jamie Johnk, Clackamas County Bureau of Business & Economic Development

Jim Johnson, Oregon Department of Agriculture

Weston Miller, Oregon State University Metro Master Gardener Program

Erika Palmer and Dan O'Dell, City of Damascus

Kat West, Multnomah County Office of Sustainability

Anita Yap and David McIntyre, Portland-Multnomah County Food Policy Council

Appendix 6

Toolkits

This appendix contains paper copies of each of the tools in the toolkit. The tools can be accessed at the SARE web site:

smallfarms.oregonstate.edu/pdx-foodshed.

The table below shows the tools in alphabetical order, which is the order in which they appear in this appendix.

Tool	Policy Makers/Local Planners	Producer	Consumer
Access to Healthy Food	●		●
Accessing Capital		●	
Agricultural Permitting in Urban Zones	●	●	
AgTools		●	
Business Planning		●	
Certification		●	
Community Design	●		
Diversifying Agricultural Activities in Urban Zones	●	●	
Energy Efficiency and Renewables	●	●	
Increasing Exports	●		
Farm Management Workshops		●	
Farmers Markets	●	●	●
Farmworker Housing	●	●	
Food Cluster Development	●		
Import Substitution	●		
Institutional and Agency Procurement	●		●
Labor Laws		●	
Market Development and Regional Food Distribution	●	●	
Marketing		●	
Rainwater Harvesting	●	●	
Regional Branding	●	●	
Succession Planning		●	
Transferable Development Rights	●	●	

On the project web site, the tools are divided into two toolkits: Farmer/Producer toolkit and Policy Toolkit. The contents of those toolkits are shown on the following pages.

Farmer/Producer Toolkit

The purpose of this Farmer/producer Toolkit is to help producers access resources and tools to help improve their operations. The Toolkit contains strategies to overcome the barriers and challenges faced by Portland-area farmers.

Tools for Farmers include:

Business Education and Management

- AgTools
- Accessing Capital
- Business Planning
- Certification
- Farm Management Workshops
- Labor Laws
- Marketing
- Succession Planning

Land Use Design and Policy Issues

- Agricultural Permitting in Urban Zones
- Diversifying Agricultural Activities in Urban Zones
- Farmworker Housing
- Transferable Development Rights

Market Development

- Farmers Markets
- Regional Branding
- Market Development and Regional Food Distribution

Resource Inputs

- Energy Efficiency and Renewables
- Rainwater Harvesting

Policy Toolkit

The purpose of this Policy Toolkit is to help producers, consumers and local governments strengthen the Portland metropolitan food economy. The Toolkit contains strategies to overcome the barriers and challenges faced by Portland-area farmers.

Economic and Market Development

- Food Cluster Development
- Import Substitution
- Increasing Exports
- Market Development and Regional Food Distribution
- Farmers' Markets
- Institutional and Agency Procurement
- Regional Branding

Food Access and Labor

- Access to Healthy Food
- Farmworker Housing

Land Use and Community Design

- Agricultural Permitting in Urban Zones
- Community Design
- Diversifying Agricultural Activities in Rural Zones
- Transferable Development Rights

Resource Inputs

- Energy Efficiency and Renewables
- Rainwater Harvesting

Access to Healthy Food

Summary

School districts and county governments can develop a regional strategy to support measures that provide healthy and affordable food to low-income and food-insecure groups to address poor health and nutrition problems in the region.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive	X		X		
Investment					
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project					
Regulation					
Tax change					

Current Context

Oregonians and regional residents suffer from several food access and quality issues. For example, over half of all adults in Multnomah County are overweight or obese and a quarter of all 8th to 11th graders show signs of becoming or are overweight or obese.¹ The paradox of hunger co-existing with obesity, in the same individual, family or community is a function of low-income and food insecure communities which spend their food dollars on energy fulfilling foods at the cheapest rate to satisfy hunger.² These foods usually include high amounts of refined sugars, fats, and refined carbohydrates rather than nutritiously dense elements necessary for human health. These foods, a sedentary lifestyle, the design of car-dependent communities and limited access to parks and recreation increase the obesity and hunger epidemic in affected populations.³ Resultant health issues such as diabetes, hypertension, heart disease and some cancers seriously impact public health.

Multnomah County has rolled out four tools to support healthy foods in neighborhood corner stores and health awareness with its “It Starts Here” program.⁴ A 2011 state law - HB 2800 - directs the Oregon Department of Education to award grants to school districts to reimburse costs incurred in purchasing Oregon food products that meet certain criteria and for funding food, agriculture, and garden-based educational activities. Additionally, some Portland farmers’ markets accept users of

¹ Sanchez, T. (2011, July 07). Americans continue to pack on the pounds; Oregonians are no different. *Oregonian*. Retrieved from http://www.oregonlive.com/health/index.ssf/2011/07/americans_continue_to_pack_on.html

² *Fighting obesity and hunger*. (n.d.). Retrieved from <http://frac.org/initiatives/hunger-and-obesity/>

³ (2008). *Regional equity atlas*. (pp. 69-79). Portland, OR: Coalition for a Livable Future. Retrieved from <http://equityatlas.org/chapters/Chapter6.pdf>

⁴ <http://www.multco-itstartshere.org/>

the Supplemental Nutrition Assistance Program (SNAP) benefits to encourage low-income people to purchase healthy local foods where they can find in-season and abundant crops that are often competitively priced.. Linking local healthy food sources to food insecure communities in urban areas can address these challenges while supporting expansion of the regional food economy.

The City of Damascus is the recipient of a Kaiser Permanente Health Initiative Grant to develop healthy food policies for help ensure access to healthy food by city residents. The project found that lack of access to healthy food can occur regardless of income. ⁵

Barriers/Challenges

Barriers to obtaining healthy food in low-income communities include: cost, access, lack of preparation and/or storage knowledge, lack of supplementary items to cook healthy foods, cultural values and lifestyles, disabilities, lack of social service agency resources for education, state and federal food purchase restrictions, lack of education at social service agencies, and a lack of education in the general population about difficulties accessing healthy food for low-income populations.⁶ Other challenges found in the Damascus study include transportation, land use patterns, isolation, age and infirmity.

Opportunity

A rich network of agriculture, food service, and food culture exists in the region. Coordinating county social services, schools, and local and regional economic development efforts with the provision of healthy foods to food insecure and low-income populations can strategically address the rates of obesity and hunger as well as the related public health issues that arise from these conditions.⁷ An example to review is a Philadelphia-based non-profit, the Food Trust. They have developed multiple initiatives in the city to address obesity and hunger challenges in city schools an across several community based programs.⁸ In addition, one of the goals of Oregon HB 2800 Farm-To-School legislation is increasing the amount of fresh local food served in public schools.

Proposed Actions

- Provide training for county social service agency staff and clients on healthy food education, preparation and storage.
- Tie health and nutrition standards and local food purchases to public agency procurement policies.
- Incentivize community development corporations and micro-enterprise developers to support community economic development, workforce training and micro-merchant

⁵ *The Edible Community: Healthy Damascus Food Assessment and Plan, Damascus/Boring Food Retail Assessment*, Oregon Public Health Institute, July 2012

⁶ *Top ten barriers to organic and local food access for low-income individuals*. (n.d.). Retrieved from http://www.organicconsumers.org/articles/article_11228.cfm

⁷ *Fighting obesity and hunger*. (n.d.). Retrieved from <http://frac.org/initiatives/hunger-and-obesity/>

⁸ *The food trust mission*. (n.d.). Retrieved from <http://www.thefoodtrust.org/php/about/OurMission.php>

development in to increase wages and enable people to buy healthier food to combat obesity and hunger.

- Support federal legislation to increase the minimum allotment of SNAP dollars allowed to be spent at farmer's markets for obtaining healthy and local food.
- Strengthen HB 2800 legislative and operations guidelines with recommendations provided by Upstream Public Health's May 2011 Report.
- Support development of broad healthy food alliances among health care, education, and social service providers.
- Consider developing a statewide Healthy Food Strategy to focus a variety of resources on improving Oregon's diet.

Resources, Models, Best Practices

The Food Trust: <http://www.thefoodtrust.org/>

Proceedings from the Roundtable on Understanding the Paradox of Hunger and Obesity
<http://frac.org/wp-content/uploads/2009/09/proceedings05.pdf>

How Competitive Foods in Schools Impact Student Health, School Meal Programs, and Students from Low-Income Families

http://frac.org/newsite/wp-content/uploads/2010/04/cnr05_competitivefoods.pdf

Accessing Capital

Summary/Current Context

Farmers identify the need for capital sources as a primary need for farm improvement and expansion. Capital is the primary need for survey respondents to increase their capacity to generate new markets, increase revenues and reduce costs. Capital is needed for land to expand farm operations, production or processing equipment, season-extending materials, meeting requirements (e.g. food safety), water/energy/resource/land conservation measures, and to finance start-up operations.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive		X			
Investment	X	X			
Plan					X
Policy	X	X			X
Program		X	X		X
Project	X	X	X	X	X
Regulation					
Tax Changes					

Barriers/Challenges/Opportunity

There is a gap in lending institutions for small and medium sized farms. Traditional agricultural lenders are not accustomed to lending to small farms, and many small farms do not have the skills or capacity to prepare traditional bank loan applications. This is related to the gap in business management educational resources. Innovative approaches to providing capital to growers and information on capital sources will allow expansion and diversification of the farm economy. Increased capital access will result in grower access to land, water, labor and specialized equipment.

Proposed Actions

Improve access to existing and potential financial resources and intermediaries. Develop and increase distribution of technical assistance tool, such as education and training packages and on-line databases, such as AgTools. AgTools is a free software suite from OSU designed to assist agricultural producers make long-run decisions on a whole farm and ranch basis. It allows farmer to plug in their information to analyze their financial ratios and performance measures, which include working liquidity, solvency, profitability, debt repayment capacity, and efficiency. You can change the number of units in each scenario and observe the financial effects of implementing technologies, adding value to products, conservation practices, changing cropping systems or livestock enterprises, or leasing additional land. . Hold workshops on how to use AgTools specifically for small, urban area farmers.

Resources, Models and Best Practices

Albina Opportunities Corporation Micro Loan Program

<http://www.albnaopportunities.org>

Craft 3 Formerly Enterprise Cascadia

<http://www.craft3.org/borrow>

Farm Service Agency

<http://www.fsa.usda.gov/FSA/>

MercyCorps NW Micro Loan program

<http://www.mercycorpsnw.org/what-we-do/loan-program/>

NW Farm Credit Services: Young and Beginning Producer Program: AgVision

<http://www.farm-credit.com>

Slow Money NW

<http://www.slowmoneynw.org>

People's Food Co-op Micro Loan Program

<http://www.peoples.coop/why-peoples/farmer-loan-program>



Farmer/Producer Accessing Capital Tool

Traditional Financing

Many farmers and small business owners will try and go it alone and fund their operations solely with personal savings and loans from friends and family. While those are certainly important start-up revenue sources, to build up your operation to be sustainable in the long-run and to purchase land, loans are often required. Do not fear this process. While any loan requires a lot of paperwork and many traditional city banks do not speak your language, it is not impossible. Lenders generally look at your credit worthiness and the financial information associated with the loan. Below are definitions of lender terms and a checklist to help you prepare for loan applications.

Standard Loan Application Check list:

1. Business Plan – A basic plan is fine. It should include standard content including why you are doing this, a farm description, product description, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, etc.
2. 2-years personal and business tax returns (if existing business)
3. Projected 2-3 year monthly Profit & Loss statement
4. Past 1-2 years Actual Profit and Loss Statements
5. Current Balance Sheet and Profit and Loss Statements
6. Sources & Uses Statement (Sources of funds including borrower cash and how the funds will be used e.g., equipment, land, inventory, etc.)
7. Legal entity documentation e.g., copy of LLC Operating Agreement, Corporation doc's, registration documentation, etc.

See attached Lender Terms Definition Sheet



Local Micro Lenders

[People's Food Co-op](#)

0% interest micro-loans for operation or new projects for local farmers. People's Food Co-op primarily lends to local farmers who they already work with, but have made loans to Mercy Corp Farmers as well as Portland Association of CSA Farmers.

Please email kris@peoples.coop or johanna@peoples.coop.

[MercyCorps NW](#)

Provides micro-loans to small businesses (including small farmers) in Oregon and Washington that cannot access traditional loans. Microloan Terms

- Loan amounts: From \$500 up to \$20,000 for new businesses
- Up to \$50,000 for businesses in operation for more than one year
- Repayment terms: Two months to Five years
- No penalty for early repayment
- Loan Fees: 1-5%
- Interest: 8-12% Fixed Rate
- Credit-building potential: Loans payments are reported to the three credit reporting agencies

Local Lenders

[Albina Opportunities Corporation](#)

430 NW 10th Ave

Portland, OR 97209

Phone: 503-227-3950

www.albnaopportunities.org

Description

AOC provides small business loans ranging from \$10,000 to \$200,000, business advisory services, and access to a peer group support network coupled with additional outside business networking resources that enable its borrowers to expand their self-employment business ventures. Interest rates between prime +3-8%.

[NW Farm Credit Services](#)

2345 NW Amberbrook Drive Suite 100

Beaverton, OR 97006

Phone 503-844-7920 or 800-213-8555 (Oregon only)

Fax 503-844-7924



Description

Farm Credit Services is a cooperative lending institution established by the U.S. Congress in 1916 to make credit more available to the country's farmers and ranchers. Borrowers are required to invest in capital stock as a requirement for the loan. All types of loans are offered to full-time farming and ranching operations (other lending programs are available to part-time farms and rural residents).

[Young and Beginning Producer Program: AgVision](#)

Special loan programs for young and beginning farmers

You must meet one of the following characteristics:

1. 35 Years of age or younger
2. 10 years or less of agricultural experience
3. Recognized minority: African American, Native American, Alaskan Native, Hispanic, Asian, and Pacific Islanders
4. Producer with annual gross farm production of less than \$250,000.

Financing includes:

1. Real Estate Purchases
2. Operating Expenses
3. Livestocks and Equipment purchases
4. Refinancing of Existing Debt

[Craft 3](#) Formerly Enterprise Cascadia

1000 SW Broadway, Suite 1000

Portland, OR 97205

Phone: 503-688-1700

Web: www.craft3.org/borrow

Description

Microloans from \$5,000 to \$50,000, for a variety of purposes including business start-up. Enterprise Cascadia lends throughout Oregon and Washington with focal points around our current offices in Astoria, Ilwaco, Port Angeles, Portland, Seattle, and Shelton. We specialize in transactions that traditional banks could not accomplish alone and look for opportunities to invest our resources in businesses and activities that will promote family, environmental and/or economic resilience.

[Farm Service Agency](#)

7620 SW Mohawk Street

Tualatin, OR 97062-8121

Phone 503-692-6830, Ext. 256

Web <http://www.fsa.usda.gov/or> Email lynn.voigt@or.usda.gov



Description

USDA Loan program for existing and beginning farmers. They provide loans for purchase of land and operating expenses with specific loans for beginning farmers (3-10 years farming experience). No minimums on loans, maximum \$800,000, rates vary for products 3.875-5.5% currently.

[Harvest Capital Company](#)

PO Box 579 675 NW 2nd Ave., Suite 7

Canby, OR 97013

Phone 503-263-6616

Web <http://harvcap.com>

Email admin@harvcap.com

Description

Harvest Capital Company functions as originators and direct correspondent lenders for many types of agricultural and agribusiness real estate and facility loans. As an accredited Originator and Servicer in the Farmer Mac Loan Program and as direct correspondents for life insurance companies, we have the ability to service any size long-term agricultural mortgage loan request that meets the above criteria. Our lending expertise extends not only to ag long-term debt and working capital lines of credit, but also to private placement of complicated agribusiness term-loans. For additional information, please contact Harvest Capital Company.

National

[Whole Foods Mirco Loan Program](#)

For producers who currently qualify or sell to Whole Foods, loans between \$1,000-100,000 dollars

Alternative Financing:

[Kickstarter www.kickstarter.com](http://www.kickstarter.com)

[Slow Money NW www.slowmoneynw.org](http://www.slowmoneynw.org)

Micro Loans, Equity deals, and larger Loans for food producers who share Slow Money principles.



Lender Term Definitions Sheet

Courtesy of Oregon Dept. of Agriculture

Credit-worthiness

An evaluation of credit-worthiness includes a review of your credit history, repayment record, experience and training, etc. Generally, lenders will obtain a credit report from a credit reporting agency to review your credit history. You may want to obtain such a report for your own use to verify the information. Errors are not uncommon and many people have found they cannot get loans because of an erroneous credit report. The following credit reporting companies can provide you a copy of your report. Usually a fee of about \$30.00 is required.

Experian

1-888-397-3742

http://www.experian.com/experian_us.html

First American CREDCO

1-800-887-3535

<http://www.facredo.com>

NACM-Oregon, Inc.

1-800-622-6985

<http://www.nacm-or.org>

Financial information

Depending on the purpose of the loan (operating, farm purchase, capital improvement, expansion, etc.), lenders may require different financial statements about the operation.

The two most common financial statements required by lenders are the balance sheet and the income statement. Some lenders also require a cash flow statement, particularly if the loan is for operating purposes. These documents can be obtained from most any lender, and many variations exist. It is strongly suggested that the prospective borrower complete and evaluate financial forms before making a loan application.

Any USDA Farm Service Agency (FSA) office will have financial forms which might be used (the Farm and Home Plan form), whether or not you are a borrower of FSA. These forms are generally more detailed than those used by commercial lenders. However, they provide a good format to evaluate the operation and the loan request. Any Farm Credit Service office or local bank will also have their respective financial forms. Other sources of financial forms include County Extension Offices, Oregon



State University Department of Agricultural and Resource Economics, 541-737-2942, Chemeketa Community College Farm Business Management Program in Salem, 503-399-5089, and Blue Mountain Community College Farm Management Program in Pendleton, 541-276-1260.

The balance sheet

A balance sheet lists the assets and liabilities of the farm and the owner/operator. It documents the net worth (difference between assets and liabilities), and provides information to calculate various ratios measuring the solvency (or long-term financial strength) of the operation, and the liquidity (or short-term financial status) of the operation.

Debt-to-asset ratio

Once debts and assets have been totaled, the debt-to-asset ratio can be computed. This measures the amount of total debt compared to total assets. Lenders prefer this ratio to be less than .45, meaning the operation should have no more than 45 percent debt compared to total assets.

- Debt-to-asset ratio = $\text{total debts} \div \text{total assets}$
- Preferred ratio = less than .45

Other ratios that lenders will evaluate include the liquidity ratio, the cash flow margin, and debt service coverage.

Liquidity ratio

The liquidity ratio is calculated by dividing current assets by current debts. This measures the ability of the operation to meet debts which are payable in the near future. Lenders prefer this ratio to be no less than 1.25. In other words, at least a 25 percent margin should exist between short-term obligations (accounts payable, accrued interest and notes payable within 12 months, taxes, etc.) and the value of short-term assets, such as cash-on-hand, savings accounts, crops and feed or livestock held for sale.

- Liquidity ratio = $\text{short-term assets} \div \text{short-term debts}$
- Preferred ratio = 1.25 or higher

Cash Flow Statement

The next ratio requires the preparation of a cash flow statement. Lenders prefer that a monthly cash flow statement be prepared for at least one year. This statement shows the expected cash outflows and inflows throughout the coming year, detailing when additional moneys may be needed, and when surplus income will be available to repay debt.

Lenders are looking to see if the projected operation can support all necessary operating costs, living expenses (unless these are provided by an outside job or other source), and repay borrowed funds on a timely basis.



Cash flow margin

The cash flow margin is computed by subtracting monthly (or annual) cash expenses from gross cash income, then dividing by monthly (or annual) expenses. Lenders prefer a 15 to 25 percent margin. In other words, monthly (or annual) cash income should exceed cash expenses, including interest payments on debt, by 15 to 25 percent.

- Cash flow margin = $[\text{gross cash income} - \text{cash expenses (including interest)}] \div \text{total cash expenses}$

Debt service coverage ratio

The debt service coverage ratio is computed after completing an income statement. This ratio shows the income generating ability of the operation toward servicing the total debt. The calculation uses net cash farm income (plus interest) divided by debt payments (principal and interest). Lenders prefer this ratio to be 1.15:1 to 1:25:1.

- Debt service coverage = $[\text{net cash farm income} + \text{interest}] \div \text{interest and principal payments}$.
- Net cash farm income = net farm income, plus depreciation and net off-farm income, less living expenses and income taxes.

This discussion of lender qualifications for agricultural loans has covered only a few of the items which lenders evaluate. Other considerations include the experience and management skills of the operator/borrower, the value of property to be purchased, market conditions, and other subjective factors.

However, by completing financial forms ahead of time, evaluating the strengths and weaknesses of the application, and keeping good records the prospective borrower will enhance the probability of obtaining a loan and better understand the decision process of the lender.

Profit and Loss Statement

Is a company's financial statement that indicates how the revenue (money received from the sale of products and services before expenses are taken out, also known as the "top line") is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as Net Profit or the "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs (e.g., depreciation and amortization of various assets) and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported. The important thing to remember about an income statement is that it represents a period of time.

Agricultural Permitting in Urban Zones

Summary

Local governments can update land use regulations to permit more agricultural uses in urban areas. Examples of such uses include community gardens, community farms or parks, market gardens, truck gardens, community sustainable agriculture (CSA) and animal husbandry.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X				
Policy	X				
Program					
Project					
Regulation	X				
Tax change					

Current Context

Most zoning codes in Oregon pertaining to agricultural uses were originally developed to regulate large, rural farms and therefore do not adequately consider food production at smaller scales and in urban areas. Urban farms tend to be more intensively cultivated and are smaller scale than typical farms. Increasing the allowed agricultural activities in urban areas provides a number of environmental, economic and community benefits.¹

- **Environmental:** urban green spaces; enhanced wildlife habitat; storm water retention; carbon sequestration; and filtration
- **Economic:** entrepreneurship and employment opportunities; reduced household food costs; import substitution
- **Community:** access to local, healthy foods; improved food security

Barriers/Challenges

Existing zoning codes often confine agricultural uses in urban areas to certain zones and place extreme restrictions on such uses. This is particularly true in residential areas. Additionally, many codes do not allow food production for retail purposes. These

¹ Bureau of Planning and Sustainability, (2011). Urban Food Zoning Code Update Concept Report: <http://www.portlandonline.com/bps/index.cfm?a=357823&c=55358>

regulations have resulted in a lack of suitable land and opportunities for farming in urban areas.

Urban agriculture can have a number of negative impacts which must be taken into consideration. Of primary concern is how agricultural activities may adversely affect adjacent land uses, especially in residential zones. Communities may experience increased litter, noise, odors, traffic and on-street parking. The risk of exposure to toxins through pesticides, fertilizers, contaminated soil and polluted air are among the potential health concerns.

Opportunity

A comprehensive update of land use plans related to agricultural uses can ensure that lands best suited for urban activities remain available for that use and nearby residential areas are protected from adverse impacts. Policies can be developed to support local food production, ensure safe and sanitary conditions, contribute to a healthy community and enhance the environment. Furthermore, permitting such uses provides opportunities for agriculture-based entrepreneurship and employment.

Local governments across the United States and in Oregon are modifying zoning ordinances to support growing and selling food in urban areas. They recognize multiple forms of food production such as community gardens or market gardens and use a variety of approaches from allowing uses outright in existing zones to form-based codes, planned unit developments (PUD) and overlay zones.² For instance, the City of Portland recently updated its code to address: market gardens; community gardens; farmers' markets; food membership and distribution sites; and animals and bees.

Updated zoning codes share one common element – allowing urban agriculture in all or most zones as a primary or accessory use. When this is not possible, agricultural uses could be considered open space, an employment/industrial use or integrated into residential development (see Community Design).

Proposed Actions

Local government can conduct a comprehensive review of local zoning codes and associated policies; identify codes that could be added, deleted or modified to support urban food production and sales; initiate code updates accordingly to allow agricultural uses

² Neuner, K., Kelly, S., & Raja, S. Food Systems Planning and Healthy Communities Lab, (2011). Planning to Eat? Retrieved from University at Buffalo - State University of New York website: http://www.farmlandinfo.org/documents/39040/Planning_to_eat_SUNYBuffalo.pdf

in all or most zones; and enact regulations that minimize impact to adjacent uses and address other environmental considerations.

The following considerations are important when updating plan policies and code regulations for urban agriculture:

- Buildings: greenhouses; storage
- Deliveries
- Fencing/screening
- Health: pesticide/fertilize use
- Incentives (PUD)
- Mitigation
- Noise and litter
- Pests
- Setbacks
- Space for fowl/livestock/bees
- Traffic/parking/signage
- Use of heavy machinery
- Use of chemicals
- Waste disposal/compost

Resources, Models, Best Practices

Planning to Eat? From the Food Systems Planning and Healthy Communities Lab at the University of Buffalo provides examples of how local governments from across the country are incorporating food into official plans:

http://www.farmlandinfo.org/documents/39040/Planning_to_eat_SUNYBuffalo.pdf.

Ag Tools

Summary and Current Context

Many small farmers get into farming because they love being outside working the land, not inside staring at a spreadsheet. However many small growers do not have a business plan which often prevents farms from even starting as you cannot access capital with one. Without good financial documentation and plans, banks won't lend to farmers who need access to capital for land or business operation/expansion expenses.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program				X	X
Project				X	
Regulation					

Barriers/Challenges

There is a lack of available resources such as software, for farmers to be able to develop sound financial and whole farm management plans. Lenders like to see a solid business plan with sufficient financial documentation, and many farms do not have the skills to do this on their own.

Opportunity/Proposed Actions

Increase accessibility to OSU's AgTools free software, which aids farmers in developing sound financial documents such as ratios, plans, and performance measures. Develop and expand workshops for urban area farmers to learn to apply the Ag Tools suite to their operations, which will help them become lender-ready.

Resources, Models, Best Practices (click titles for links)

Ag Tools <https://www.agtools.org/>



AgTools



Ag Tools are a suite of risk management and farm business planning software tools. They are available website free-of-charge to U.S. users. The AgProfit™ and AgLease™ programs require a license file to operate, which will be emailed to you after registering at this site.

AgProfit™ is a computer program designed to assist agricultural producers make long-run decisions when implementing technologies to a specific crop or analyzing cropping systems. AgProfit™ estimates machinery, labor, and production input costs as well as fruit size, grade, and total yield for calculating returns for crops with multiple establishment and production years. The program allows you to inflate specific return and input cost items over time to analyze the net present value, internal rate of return, and financial feasibility when implementing a particular technology, making minor changes to returns or input costs, or comparing cropping systems.

AgLease™ is a computer program designed to assist growers and landowners establish equitable crop share and cash rent lease agreements. With AgLease™ you can easily comprehend and evaluate the potential risks associated with annual and long-term leases, reevaluate current leases, or changing cropping systems. AgLease™ estimates machinery, labor, and production input costs as well as fruit size, grade, and total yield for calculating returns for crops with multiple establishment and production years. The program allows you to inflate specific return and input cost items over time to analyze the net present value, internal rate of return, and financial feasibility for a crop share and cash rent lease.

AgFinance™ is a computer program designed to assist agricultural producers make long-run decisions on a whole farm and ranch basis. You can load scenario files from AgProfit™ and AgLease™ into AgFinance™ to analyze your farm's financial ratios and performance measures, which include working liquidity, solvency, profitability, debt repayment capacity, and efficiency. You can change the number of units in each scenario and observe the financial effects of implementing technologies, adding value to your products, conservation practices, changing cropping systems or livestock enterprises, or leasing additional land.

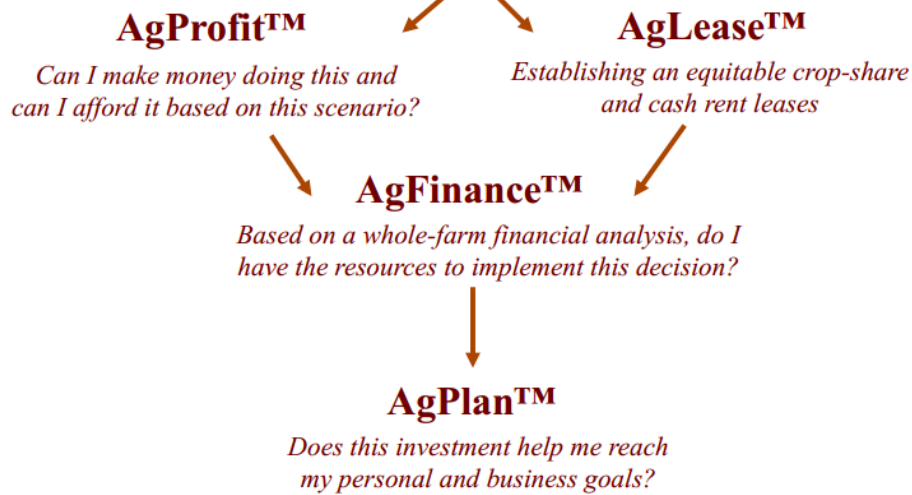
See AgTools Website which features videos and case studies on how to use them for your farm- <http://www.agtools.org>



AgTools™ for Managing Financial Risk in Agriculture

Flowchart of how AgTools™ interact and work together

Crop Budget and Grower Information



AgTools™ Case Study
Smith Apple Farms
OSU-Department of Agricultural & Resource Economics



Title: Smith Apple Farms - Base Strategy

Page Number: 6

Date Analysis created: October 15, 2011

Date Analysis last changed: February 20, 2012

Farm/Ranch Net Income

Year	Farm/Ranch Gross Income	Farm/Ranch Costs	Annual Net Income	Accumulated Net Income
1	\$4,205,816	\$3,305,194	\$900,621	\$900,621
2	\$5,664,415	\$4,682,241	\$982,175	\$1,882,796
3	\$3,374,130	\$3,396,663	-\$22,533	\$1,860,263
4	\$5,870,137	\$5,086,863	\$783,273	\$2,643,536
5	\$4,509,540	\$3,869,499	\$640,042	\$3,283,578
6	\$6,058,309	\$5,435,721	\$622,589	\$3,906,166
7	\$4,649,135	\$4,121,150	\$527,986	\$4,434,152
8	\$4,459,323	\$5,334,152	-\$874,829	\$3,559,323
9	\$4,628,202	\$4,365,570	\$262,632	\$3,821,955
10	\$6,046,648	\$6,103,024	-\$56,376	\$3,765,578

View Case Studies of how to use AgTools to make a business plan

https://www.agtools.org/content/documents/Smith_Apple_Farms.pdf



Sample Outputs using Ag Tools

AgTools™ Case Study
Smith Apple Farms
OSU-Department of Agricultural & Resource Economics



Title: Smith Apple Farms - Base Strategy
Page Number: 7
Date Analysis created: October 15, 2011 Date Analysis last changed: February 20, 2012

Year	Liquidity			Solvency		
	Current Ratio	Quick Ratio	Working Capital (\$)	Debt/Asset Ratio	Equity/Asset Ratio	Debt/Equity Ratio
1	33.45	12.45	\$3,151,941	4.77	95.23	0.05
2	40.57	19.90	\$3,983,195	3.61	96.39	0.04
3	38.95	17.53	\$3,831,468	3.82	96.18	0.04
4	43.58	22.89	\$4,454,801	2.92	97.08	0.03
5	46.44	26.08	\$4,928,275	2.15	97.85	0.02
6	46.77	27.64	\$5,389,344	2.95	97.05	0.03
7	67.50	41.17	\$5,800,850	2.18	97.82	0.02
8	53.89	27.91	\$4,770,141	2.11	97.89	0.02
9	53.19	27.58	\$4,870,579	1.71	98.29	0.02
10	55.65	27.11	\$4,667,826	1.37	98.63	0.01

Year	Profitability			
	Rate of Return on Assets	Rate of Return on Equity	Operating Profit Margin	Net Income
1	14.97	15.54	21.73	\$900,621
2	14.40	14.86	17.53	\$982,175
3	-0.14	-0.32	-0.29	-\$22,533
4	10.58	10.81	13.51	\$783,273
5	8.05	8.17	14.35	\$640,042
6	7.43	7.46	10.50	\$622,589
7	5.96	6.00	11.58	\$527,986
8	-9.96	-10.28	-19.44	-\$874,829
9	3.26	3.25	5.80	\$262,632
10	-0.65	-0.70	-0.87	-\$56,376

Table 4: A three-year average of yields, prices, and packout information.

Block	Variety	Grade 1		Grade 2			Grade 3			Culls			
		% Size > 88's	% Size < 100's	\$/Box FOB, Size > 88's	\$/Box FOB, Size < 100's	%	\$/Box FOB, Size > 88's	\$/Box FOB, Size < 100's	%	%	%		
A	Gala	40	60	\$25	\$21	5	\$24	\$20	55	\$18	\$15	20	20
B	Gala	60	40	\$25	\$21	72	\$24	\$20	12	\$18	\$15	5	11
C	Gala	90	10	\$25	\$21	79	\$24	\$20	5	\$18	\$15	5	11
D	G. Delicious	50	50	\$17	\$15	35	\$13	\$11	35	\$10	\$9	5	25
E	BC2 Fuji	40	60	\$20	\$18	32	\$16	\$14	32	\$14	\$13	16	20
F	Granny Smith	50	50	\$22	\$18	61	\$17	\$14	10	\$13	\$11	10	19
G	Cripps Pink	60	40	\$28	\$22	83	\$25	\$20	10	n/a	n/a	0	7
H	Cripps Pink	40	60	\$28	\$22	83	\$25	\$20	10	n/a	n/a	0	7
I	Honeycrisp	75	25	\$60	\$35	25	\$50	\$25	25	\$18	\$15	20	30
	Mature > 7	75	25	\$60	\$35	60	\$50	\$25	20	\$18	\$15	10	10

Table 5. Projected Harvested Yields, Packed Units, Packing Costs and Returns to Grower.

Block	Variety	Yields Harvested Bins/acre	Packed Boxes/acre	Packing Costs/Box Sold	Return To Grower/Bin Harvested
A	Gala - ON Year	60	1,020.00	\$10.09	\$179.18
	- OFF Year	30	510.00	\$10.09	\$179.18
B	Gala	60	1,134.75	\$9.54	\$255.60
C	Gala	60	1,134.75	\$9.54	\$279.46
D	G. Delicious - ON Year	70	1,115.63	\$10.45	\$58.47
	- OFF Year	35	669.38	\$9.33	\$99.52
E	BC2 Fuji - ON Year	60	1,020.00	\$10.09	\$107.91
	- OFF Year	30	573.75	\$9.48	\$159.02
F	G. Smith - ON Year	80	1,377.00	\$10.02	\$150.31
	- OFF Year	40	765.00	\$9.48	\$203.85
G	Cripps Pink	40	790.50	\$9.32	\$317.99
H	Cripps Pink - 5 YOA	50	988.13	\$9.32	\$294.70
	- 6 YOA	60	1,185.75	\$9.32	\$294.70
I	Honeycrisp - 2 YOA	n/a	n/a	n/a	n/a
	- 3 YOA	n/a	n/a	n/a	n/a
	- 4 YOA	35	520.63	\$10.87	\$437.67
	- 5 YOA	50	743.75	\$10.87	\$437.67
	- 6 YOA	60	892.50	\$10.87	\$437.67
	- 7 YOA	60	1,147.50	\$9.48	\$729.26



AgTools™ Academy

In an attempt to help more growers make wise financial decisions for their farm, we are preparing to launch the **AgTools™ Academy**. These are workshops where we go through step by step, how to put AgTools to use for your farm industry. Our first Academy, held for the sweet cherry industry in The Dalles, Oregon, was held on November 30, 2011. This one-day workshop will focus on orchard renewal strategies using updated features of the AgTools™ program. Topics include choosing cherry varieties, what to expect from lenders, and trends involved in the future of the industry. For more information or to express interest in attending, please register by calling the Wasco County Extension Office at (541)296-5494. Look for more AgTools™ Academy workshops coming to you in the future.

For questions or comments regarding the AgTools™ software, please contact:

Clark Seavert
Department of Agricultural & Resource Economics
213 Ballard Extension Hall
Corvallis, Oregon 97331-3601

Email: Clark.Seavert@oregonstate.edu
Office: 541-737-1422
Mobile: 503-961-4709

Business Planning

Summary and Current Context

Many small farmers get into farming because they love being outside working the land, not inside staring at a spreadsheet. However many small growers do not have a business plan which often prevents farms from even starting as you cannot access capital with one. It also inhibits their ability to grow a sustainable farming operation. Helping farmers' access business planning services and basic business management education is one way to grow a thriving foodshed.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program	X	X		X	X
Project					
Regulation					

Barriers/Challenges

Groups offering technical assistance in this are often focused on large, rural farm operations. There is a lack of service providers for small, urban area farmers. Accessing the information and assistance for urban area farmers is in a variety of places, there is one stop shop for business planning help for small farms in Oregon.

Opportunity/Proposed Actions

Expand small farm business planning classes that already exist through OSU and other organizations. Put existing workshop/class content online in addition to bringing those classes and workshops to the urban area. Put information about classes and assistance online along with other business planning tools, all one place, specifically tailored for urban area farms.

Resources, Models, Best Practices (click titles for links)

AgTools from OSU <https://www.agtools.org/>

AgTools are FREE online computer programs that assist farmers and ranchers make long term decisions on a whole farm basis. You can load in your financial and farm information to analyze ratios and performance measures. You can see how different decisions you make will affect your operation in long term, such as implementing technologies, changing crop systems, conservation practices, or adding additional land. These tools will help you get ready to talk with a lender or investor.

Beginning Urban Farmer Apprenticeship (BUFA) Portland, OR

<http://web.multco.us/sustainability/bufa>

This program is a partnership between Oregon State University (OSU) Extension Service and Multnomah County designed to provide in-depth and comprehensive training in sustainable, small-scale, urban farming methods.

Farm Service Agency, Tualatin, OR <http://www.fsa.usda.gov/or>

This lender has a USDA Loan program for existing and beginning farmers, and technical assistance for preparing business plans for loan applications.

Growing Farms Workbook from OSU, Corvallis, OR

This will help you consider all of the important decisions you need to make prior to starting your business, from how to incorporate or what kind of marketing tools you might employ.

The New American FoodShed Guide Decision Tree <http://foodshedguide.org/decisions/>

This decision making guide will help start up farmers determine how they should incorporate as a business. It is a very simple way to understand and consider different business models. They also have numerous resources related to farm management and financing.

THRIVE Ashland, OR <http://www.buylocalrogue.org/index.php>

Small Farm technical Assistance, Regional Cooperative Marketing and Farm Incubator Programs.



Business Planning Tool



Many small growers get into farming because they love being outside working the land, not inside staring at a spreadsheet. However, many small growers do not have a business plan and this inhibits their ability to grow a thriving farm. Below see some steps and guides to get started on your plan.

Business Planning

Farms and ranches at all stages need a plan to succeed. Without a plan to guide you, it will be difficult to meet your goals. Without being a solvent business, you will not only be unable to meet your financial goals, but will have difficulty meeting your social and environmental objectives that brought you to farming in the first place. A business plan is critical in obtaining a loan or bringing on business partners, and in guiding important business decisions. A business plan is simply your story of how you plan to run your farm or ranch operation so others can understand your goals. You can start with a [One-Page Business Plan](#) and [One-Page Financial Plan](#) and then move on to a larger comprehensive plan.

What to include in your business plan:

Mission

The mission of your business guides everything you do. Keep it simple by finding what values drive you to farm. Values are core beliefs and philosophies that reflect your view on life. They often influence your goals and business decisions and help guide management of your farm. Values typically do not change with time and are reflected in everything you do.

Vision

A vision statement describes the big picture of your business over time. It defines an ideal future and impacts on your local community or society in general. Your vision may include what you want your farm to look like in 10 years, what products you'd like to produce, or how your farm will grow.

SMART Goals

Goals are short-, medium-, and long-term plans that align with your farm vision. Your goals must be Specific, Measurable, Attainable, Rewarding, and Timed. With SMART goals, you're getting into detail about what you need to accomplish to achieve your objectives.

Action Plans

Your goals must each have an action plan on how to get there. Action plans are specific and itemized to each goal. The Who, What, When and Where of your plan.



What to include in Your Financial Plan:

A One-page Financial Plan will help you scope out your costs of running your business and how much money you will need to start. A financial plan helps you make a budget without surprises. You don't want to plan to fail, so don't fail to plan.

“Take a fresh market vegetable operation, for example. Such farms require an early cash outlay on the producer’s part for seeds, soils, fertilizer, crop protectants, tomato stakes or cages – the list goes on. The sales dollars aren’t collected, though, until the crop is sold. How will you cover those expenses in the meantime?” from the Field Guide to the New American Foodshed website

Please see these tools to get you going:

- **[Growing Farms Workbook from OSU](#)**

This will help you consider all of the important decisions you need to make prior to starting your business, from how to incorporate or what kind of marketing tools you might employ.

- **[AgTools from OSU](#)** are FREE online computer programs that assist farmers and ranchers make long term decisions on a whole farm basis. You can load in your financial and farm information to analyze ratios and performance measures. You can see how different decisions you make will affect your operation in long term, such as implementing technologies, changing crop systems, conservation practices, or adding additional land. These tools will help you get ready to talk with a lender or investor.

- **[The New American FoodShed Guide Decision Tree](#)**

This decision making guide will help start up farmers determine how they should incorporate as a business. It is a very simple way to understand and consider different business models. They also have numerous resources related to farm management and financing.

- **[Local Farm Management Workshops](#)**

Check out local workshops and classes on managing the business of small farms.

Certification

Summary and Current Context

Consumers are increasingly demanding certified organic, sustainable, humane, or safe certified foods. Deciding on a certifier and becoming certified can be costly in both time and money. There is a lack of information for small urban farmers to decide what's best for them in their area.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program	X	X		X	X
Project			X		
Regulation					

Barriers/Challenges

There are numerous advantages of becoming a certified organic grower, but deciding which certification program can be intimidating. The first step is choosing a certifier.

Opportunity/Proposed Actions

Develop an info sheet/guide for Portland area farmers to guide their decision making. Make the existing information more readily available to farmers.

Resources, Models, Best Practices (click titles for links)

An extensive list of certifiers can be found on the [Rodale](#) webpage, which also has an option to [compare certifying agents](#) to determine which is right for you. Below is a list of various certification programs that serve growers and producers in Oregon:

[Oregon Tilth Certified Organic \(OTCO\)](#)
[Stellar Certification Services](#)
[California Crop Improvement Association](#)
[CCOF](#)
[Global Organic Alliance](#)
[Natural Food Certifiers](#)
[Nature's International Certification Services](#)
[Nutriclean/Scientific Certification Systems](#)
[OneCert](#)
[Organic Crop Improvement Association International \(OCIA\)](#)
[Quality Assurance International](#)
[Quality Certification Services](#)

In addition to Organic Certification, your farm may be interested in another certification such as one of the following:

[Certified Naturally Grown](#)
[Salmon Safe](#)
[Low Input Viticulture and Enology \(LIVE\)](#)
[Food Alliance Certified](#)
[American Grass-fed](#)
[Certified Humane](#)
[Animal Welfare Approved](#)

Community Design

Summary

Local governments can take steps to integrate agriculture and the agricultural economy directly into the urban landscape by encouraging local food production through community planning and design tools, such as local planning and zoning, development and redevelopment, and parks policies. Portland State University can develop a regional resource for community design for food in the Portland region.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X	X	X
Policy					X
Program					
Project	X	X	X	X	X
Regulation					
Tax Changes					

Current Context

Current examples of urban agriculture in community design in the region include local farmers' markets, school gardens, garden landscaping in developments, backyard or shared garden space, community gardens in parks, and agricultural park/centers such as Zenger Farm in Portland, Luscher Farm in Lake Oswego and the Multnomah County CROPS farm.¹ These community food assets are not normally developed systematically. Therefore, as highlighted in the Portland Plan's background report on food systems, community gardens and farmers' markets are not equally distributed throughout the region. The lack of availability in some neighborhoods presents a significant equity issue.

Barriers/Challenges

Barriers and challenges are two-fold: lack of a coherent vision for incorporating food systems in community planning and design, and limited education as to where and how urban agriculture can be integrated into a community. This has not been a priority for the Metro regional government and information and resources regarding regional or community design for food production are limited.

¹ Bureau of Planning and Sustainability, (2009). *Portland plan food systems*. Portland, OR: City of Portland.

Opportunity

There is a wide variety of national and international examples and case studies of integrating urban agriculture in community design. Identifying which models most closely apply to the Portland region and applying them at the policy level to integrate urban agriculture in zoning and design/landscaping guidelines can help support greater access to local healthy food in the region.

Urban agriculture can be supported by community planning, design, development and redevelopment in multiple ways:²

- Backyard and shared garden space such as in curb strips
- Community garden systems
- Community gardens as landscaping in affordable housing communities, co-housing projects, corporate campuses, and private rental or housing projects
- Farmers' markets and public markets such as the planned James Beard Public Market in Portland and Hacienda CDC's current initiative to build a Latino-themed public market
- Local urban Community Supported Agriculture (CSA) including those with production distributed in several locations
- Public educational farm/parks such as Zenger that also incubate new farmers and farm products
- Open space as food production zones including instead of or as part of golf courses
- Eco-roof and wall eco/food projects
- High value food production facilities with significant employment including multi-story food production towers³
- Major agricultural parks such as the planned Intervale Park in Burlington, Vermont⁴

Other examples include Urban Ag Design from Milwaukie, Wisconsin, which works to create positive change in food and farming systems in urban areas to increase food access, provide community gathering, engage youth, create jobs and economic development and provide ecosystem benefits. Concept plans exist in the City of Seattle and other cities to create vertical farms and completely self-sufficient buildings which provide food in addition to energy. Finally, Carrot City is a traveling exhibit which shows how design can enable the production of food in cities. It examines the relationships between design and urban food systems at five distinct scales: city, community, housing, rooftops and products.⁵

² In part see *Cities as Natural Processes* pages 205-243 (1995). Michael Hough, Routledge.

³ http://mithun.com/news/article/video_center_urban_agriculture_remix/

⁴ http://www.usc.edu/schools/price/research/NCEID/Profiles/Mini_Sites/Intervale_Food_Center.html

⁵ <http://www.ryerson.ca/carrotcity/>

Proposed Actions

Portland State University's Urban and Regional Planning student Planning Workshop, in cooperation with Metro and other participating organizations, can develop a regional foodshed community design vision and on-line resource on how food production and related development can be integrated into community planning, design, development and redevelopment. .

Resources, Models, Best Practices

Land Use Planning and Urban-Peri Urban Agriculture

<http://www.cdc.gov/healthyplaces/healthtopics/healthyfood/landuse.htm>

Zenger Farms, Portland, OR: <http://zengerfarm.org/urban-farming>

Intervale Parks, Burlington, VT: <http://www.intervale.org/>

Carrot City: <http://www.ryerson.ca/carrotcity/>

Diversifying Agricultural Activities in Rural Zones

Summary

Agriculture-related activities, such as event agricultural-tourism, the processing and sales of agricultural products, incubation of farm products, distribution and education and training, provide farmers with supplemental income that help make their farms viable. Local governments can update rural zoning regulations to permit activities that complement agricultural uses. A regional network of food processing facilities that serve small and medium sized growers also could be established.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X				
Policy	X				
Program	X	X	X		X
Project		X			
Regulation	X				

Current Context

State regulations for rural lands permit many farm-related uses as long as they are subordinate to the primary agricultural use and don't impact neighboring farms. Some diversified uses are allowed as home occupations. A survey of counties throughout the Portland regional foodshed (Clackamas, Columbia, Multnomah, Washington, Yamhill) shows a broad range of regulations on ag-related uses in agriculture and rural zones that are often more restrictive than State requirements. Wineries are allowed in all five counties, but regulations on other activities such as event hosting, farmstays, farm stands, signs and parking, storage, and the processing and sales of agricultural products vary. This indicates that perceptions of what state regulations do and do not allow differ from county to county.

On-site processing of agricultural products is of particular interest for urban area farmers. When asked in a survey of Portland region foodshed farmers, 36 percent of respondents identify "value added and processing activities" as a primary source of their gross farm income. Value-added food products will continue to be a major feature of the regional food economy and the region has significant food processing expertise. Currently small scale processing locations such as USDA certified collective kitchens and small-medium meat processors do not appear to be adequate to the potential demand.

Barriers/Challenges

Urban area farmers face many unique challenges and often struggle to maintain an economically viable farming operation. Agriculture-related activities can bring a second stream of income to help these farms survive. Potential impacts of traffic, noise and odors are a primary concern. There also is some concern that wineries are becoming more event-centered than for agriculture/viticulture uses. It is not clear how newer agricultural innovations such as demonstration or educational farms, aquaculture, hydroponics, and aquaponics will be accommodated in rural zones.

Opportunity

The emergence of broad interest in local healthy food from the region presents local governments with the opportunity to develop their own strategies to strengthen the viability of their agricultural industries. Many of the agriculture-related activities described above are permitted by state regulations. Counties may want to work with state representatives to ensure their agricultural codes allow the broadest range of agriculture-related uses. Counties also may wish to advocate for expanding the list of allowable agriculture-related uses. One possible tool would be an agri-business zone or overlay that allows more intensive agricultural uses.

Oregon Senate Bill 960 was signed into law in June 2011 providing for increased agri-tourism activities on land zoned for exclusive farm use. Specifically, it “creates processes by which counties may conditionally approve agri-tourism events and other commercial events or activities related to and supportive of agriculture in EFU zones zoned for exclusive farm use (EFU), including events in EFU areas designated as rural or urban reserves.” The law provides an opportunity for counties to review their land use ordinances and diversify the list of permitted and conditionally permitted activities, while minimizing impacts, such as noise and traffic, to adjacent properties.¹

Additionally, local governments may wish to work with the private sector, including the Northwest Food Processors Association, to stimulate a regional network of small scale food processing facilities for small and medium growers to increase value of food produced in the region and potential for exports.

Proposed Actions²

Local governments can:

- Review state and local statutes regulating agriculture-related activities in natural resource and rural zones.
- Update local statutes to diversify allowed and conditionally allowed activities that may include:
 - Community kitchens
 - Educational classes and programs

¹ Oregon State Legislature. Oregon Senate Bill 960.
<http://www.leg.state.or.us/11reg/measpdf/sb0900.dir/sb0960.en.pdf>

² Clackamas County Master Plan for Agritourism Development (detailed information not yet available).

- Event hosting
- Bed & breakfasts
- Farm stands
- On-site processing
- Tours
- U-Pick
- Provide agri-tourism training for planning and code enforcement staff.
- Develop codes that clearly accommodate educational and incubation farms, small and medium sized farm related food processing, aquaculture, hydroponics, and aquaponics and other advanced and intensive food production techniques.
- Create informational materials to educate rural landowners on allowed uses and packages of pre-approved farm site plans for fast track approval.
- Advocate for further changes to state regulations to allow uses such as farmstays and farm restaurants.
- Allow a coordinated system of high-quality agri-tourism road signs.
- Work with the private sector to develop a vision and action plan for a regional network of food processing facilities that serve small and medium sized growers based on global best practices.

Resources, Models, Best Practices

The Master Plan for Agri-tourism Development in Clackamas County was recently completed to diversify agricultural activities in rural zones.

Energy Efficiency and Renewables

Summary

Energy efficiency improvements and development of renewable energy systems on Portland regional farms can lower costs and take advantage of on-farm natural resources. This tool targets soil and water conservation districts, federal and state agencies such as the Department of Energy, local utilities, and the Energy Trust of Oregon.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					X
Investment					X
Plan	X				
Policy	X				
Program	X	X	X	X	X
Project					X
Regulation					

Current Context

Many farms in the 1940s and 1950s had iconic steel wind mills producing power for wells and homes. Today, energy is a significant expense for small farmers because of the older buildings and equipment they use. Farmers living in the urban fringe often have higher energy costs than their urban counterparts based on the distances they drive to markets. Farmers who distribute directly have an additional cost of delivery to multiple farmers' markets or other locations. They are also often dependent on the high cost of gasoline and diesel fuel, electricity, natural gas or propane with limited development of renewable energy on their farms.

Barriers/Challenges

Smaller urban area farmers often pay city prices for their services or a premium for delivery of energy in the urban fringe. Multiple programs are focused on implementing energy efficiency measures in buildings and the development of renewable energy capacity in cities. The Energy Trust of Oregon (ETO) does have a program for farms in the territories of Portland General Electric and Pacific Power, comprising most of the Portland region. ETO programs support energy efficiency projects in irrigation equipment, greenhouse upgrades, motors and drives, heating and cooling, insulation,

compressed air systems, bio-power, solar electric, solar water heating, small scale wind, commercial scale wind, geothermal, and hydroelectric power.¹

These excellent programs are not clearly linked to the organizations focused on small urban area farmers including soil and water conservation districts, Oregon State University Cooperative Extension, and the USDA Natural Resources Conservation Service (NRCS).

Opportunity

An important study published in 1980 documents a wide range of ways farms can benefit from energy efficiency and renewable energy innovations.² This report and the work of the National Center for Appropriate Technology (NCAT) sustainable agriculture project, document multiple opportunities for on-farm energy including:³

Renewable Sources	Energy Efficiency
Anaerobic Digesters and Other Biomass Options	Climate Change and Sustainable Agriculture
Biodiesel	Conserving Fuel and Electricity
Energy Co-ops and Local Ownership	Dairy Energy Efficiency
Ethanol	Farm Energy Calculators
Funding Opportunities	Funding Opportunities
Hydro Power	Irrigation Efficiency
Solar Energy	Reducing Food Miles
Wind Energy	Reducing Nitrogen Fertilizer and Indirect Energy Usage

In addition, there may be an opportunity to develop new techniques for small farmers to streamline and share their delivery systems to markets in the region.

Proposed Actions

Soil and water conservation districts, the USDA Natural Resource Conservation Service, ETO, and the Oregon Department of Energy can develop a region-wide program to assist small urban-impacted farmers with energy efficiency measures and renewable energy system development and financing. The focus should be on reducing operating costs.

It is clear that subsidies or sources of patient capital will be needed given the thin profit margins of urban area farms. This program can identify the needs of producers, workable models for diverse situations, the technical expertise available, and financing strategies, such as revolving low interest loans, equity investment, and coordinated grants can be explored. There may be some potential to engage Oregon Best and Manufacturing 21 to identify economic development initiatives related to on-farm energy efficiency and renewable development.

¹ *Harvest more energy savings every season.* (2012). Retrieved from <http://energytrust.org/industrial-and-ag/incentives/agriculture/>

² Small Farm Energy Project (1980). *Small Farm Energy Primer*, Center for Rural Affairs.

³ *Farm energy alternatives.* (2011). Retrieved from https://attra.ncat.org/attra-pub/farm_energy/

Resources, Models, Best Practices

Oregon Department of Agriculture, Energy Efficiency and Renewables, Opportunities for Oregon's Agricultural Producers, March 1011. Overview of approaches useful in Oregon:

http://www.oregon.gov/ODA/docs/pdf/ag_energy_brochure.pdf?ga=t

National Sustainable Agriculture Information Service energy efficiency and renewable energy on farms: https://attra.ncat.org/attra-pub/farm_energy/

Sustainable Agriculture Research and Education overview of efficiency and renewable strategies on farms: <http://www.sare.org/Learning-Center/Bulletins/National-SARE-Bulletins/Clean-Energy-Farming>

Main Rural Partners, Harvesting Clean Energy Guide and web site provides a comprehensive set of tool addressing energy efficiency and renewable energy: <http://www.mainerural.org/energy/fieldguide/>

Increasing Exports

Summary

Develop a regional strategy to expand the supply and markets for regionally-produced food outside the Portland region. Such an export strategy can be led by public and private economic development organizations.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment	X				X
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project					
Regulation					
Tax change					

Current Context

Exporting is an economic development strategy with significant potential for the regional foodshed economy. Portland is an export powerhouse with a total of more than \$22 billion in exports overseas in 2011. The region is ranked second in the nation for exports as a percentage of gross metro products. The region is one of four nationally receiving assistance from the Brookings Institution to create and implement a customized Metropolitan Export Plan.¹ In choosing Portland as a pilot city, the Brookings Institute notes that there is great potential to boost Portland's export performance even further, driving our regional economy beyond the recession and serving as a model for other regions around the country.

Increasing US exports is part of a national program laid out by President Obama in 2010 to double exports from the US in five years. According to Brookings, metropolitan regional economies account for most US exports. The Portland region is one of the most export-dependent regions in the nation, serving as a gateway for products from the Pacific Northwest.

The Portland region currently exports substantial food commodities, processed products and fresh fruits and vegetables. The Oregon Department of Agriculture estimates that 85 percent of Oregon agricultural products are exported outside the state.² Oregon has a specific focus on foreign exports to the Pacific Rim. A recent trade success was the opening of the South Korean market to Oregon blueberries, which grow abundantly in the Portland region.

¹ Brookings Institution (2010). *Export Nation* and other reports. Also see: <http://www.brookings.edu/metro/MetroExports.aspx> Also see: http://www.brookings.edu/projects/state-metro-innovation/about_MEI.aspx for a discussion of the regions being assisted by Brookings.

² *Regional and national market development*. (n.d.). Retrieved from http://www.oregon.gov/ODA/ADMD/mktg_regional.shtml

Barrier/Challenge

There are several challenges to increasing Portland regional food exports. First, the current Brookings Institution strategy for Portland is focused on overseas markets rather than West Coast markets and does not address the agricultural industry. The focus on international markets is limiting for relatively small urban-impacted growers who distribute their products locally and regionally. Another potential barrier is the supply of land and productive capacity in the region. Finally, relatively small urban-oriented producers do not have adequate marketing expertise or networks to export outside the region let alone internationally.

Opportunity

A regional food export strategy has the potential to “grow the grower” as they develop capacity to expand, become profitable, and target markets outside the Portland region. This strategy could be addressed in several ways. A regional food economic cluster strategy (see Food Cluster Development and Import Substitution tools) could help identify potential markets and relationships in the value chain of production, processing, distribution and consumption. A cluster strategy can address how small growers can build the network of connections necessary to export to the West Coast or globally. Available land does not appear to be a problem. According to Ecotrust, there is more than enough land to meet local food demand and increase production of food for exports. Application of advanced covered and greenhouse, aquaculture, hydroponics and aquaponic systems can increase production dramatically. Finally, distribution companies such as Organically Grown, Sysco, Bon Appetite and others can help small growers expand into larger West Coast and international markets.

Proposed Actions

Develop a regional food export strategic plan in cooperation with the Oregon Department of Agriculture. A regional advisory committee or outreach process can ensure the strategy builds upon the work of regional economic development partners.

1. Identify a lead organization to convene regional partners, develop the strategy and form an advisory committee composed of major partners. Potential candidates include:
 - Oregon Department of Agriculture
 - Representatives of the counties and cities in the region
 - Oregon State University and Portland State University
 - Oregon Department of Agriculture
 - Greater Portland, Inc.
 - Business Oregon
 - Ecotrust
 - Brookings Institution
2. Obtain funding.
3. Analyze of the regional food economy and its potential for export growth.
4. Develop a strategy to increase exports of foods outside the Portland region and overseas.
5. Identify clear benchmarks for implementation.
6. Assign responsibility for actions to implement the strategy.

Resources, Models, Best Practices

National Export Strategy focuses on small and medium sized firms: 2011 National Export Strategy, Trade Promotion Committee. <http://trade.gov/publications/pdfs/nes2011FINAL.pdf> See especially page 3 and 13 addressing the the top priority of the strategy to support small and medium sized firm exports.

Midwest support organization for small and medium sized farm exports provides a set of tools to support exports: <http://www.iatp.org/about/programs>

Farm Management Workshops

Summary and Current Context

People get into farming because they are passionate about working the land to create a valuable product for their community, not because they love running a business. However many small growers do not have a business plan which often prevents farms from even starting as you cannot access capital with one.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program	X	X	X	X	X
Project	X	X	X	X	X
Regulation					

Barriers/Challenges

There is a lack of educational service providers for small, urban area farmers for business and farm management expertise.

Opportunity/Proposed Actions

Expand the existing workshops and classes for small farm management and/or hold these classes in the Metro area.

Resources, Models, Best Practices

[Beginning Urban Farmer Apprenticeship \(BUFA\)](#) Portland, OR

<http://web.multco.us/sustainability/bufa>

This program is a partnership between [Oregon State University \(OSU\) Extension Service](#) and [Multnomah County](#) designed to provide in-depth and comprehensive training in sustainable, small-scale, urban farming methods.

Building Farmers in the West Program Aurora, OR

<http://www.buildingfarmersinthewest.org>

The Portland Metro program consists of a series of six weekly workshops for farmers who need help developing a comprehensive, strategic business plan.

THRIVE Ashland, OR <http://www.buylocalrogue.org/index.php>

Small Farm technical Assistance, Regional Cooperative Marketing and Farm Incubator Programs.



Farm Management Workshops Tool

There's two new programs for learning whole farm management for small urban area farmers.

1. [Building Farmers in the West Program](#)

A new, federally-funded program [Building Farmers in the West](#) offers new and transitioning commercial farmers in Western states tools and strategies to help build and maintain the economic vitality of their operations. The Portland Metro program consists of a series of six weekly workshops held at the North Willamette Research and Extension Center in Aurora.

Who is Building Farmers in the West For?

- Farmers who want to start a market farm enterprise
- Farmers who have a market farm business but have farmed less than ten years
- Farmers who desire to improve their business management & marketing skills
- Farmers who would like to network closely with other market farm producers
- Farmers who recognize the need to plan carefully and develop a farm business plan
- Farmers who would like to market directly to consumers, chefs, and local wholesale or retail firms

Farmers Teaching Farmers

The Oregon "Building Farmers" program builds farm community and farmer capacity through classroom and experiential learning for beginning farmers (farmers who have less than ten years of farming experience). The program is a series of eight evening classes designed to help potential or very new farmers explore farming as a business and to provide intermediate and experienced farmers with tools and ideas necessary to refine and enhance their strategic planning, business management, and direct marketing skills.

The program includes six workshops held every Wednesday, starting May 2nd 2012. Course Schedule- Every Wednesday (Portland Metro) for six weeks, as follows:

- **May 2, Strategic Planning**
- **May 9, Financial Management**
- **May 16, Direct Marketing**
- **May 23, Agritourism**
- **May 30, Elective**
- **June 6, In-Class Presentation of Business Plans**



To register or for more information click here www.buildingfarmersinthewest.org

Or contact Bart Eleveld, Ph.D., Extension Economist

Ballard Extension Hall 213

Corvallis, OR 97331-3601

541-737-1409 | bart.eleveld@oregonstate.edu

[2. The Beginning Urban Farmer Apprenticeship Program \(BUFA\)](#)

The Beginning Urban Farmer Apprenticeship (BUFA)



The Beginning Urban Farmer Apprenticeship (BUFA) <http://web.multco.us/sustainability/bufa> program is a partnership between Oregon State University (OSU) Extension Service and Multnomah County designed to provide in-depth and comprehensive training in sustainable, small-scale, urban farming methods.

Through formal classes, hands-on training, field-trips, online learning, farmers' market sales and supervised apprenticeships, BUFA instruction will prepare students to produce market fresh vegetables, fruits, grains, cut flowers, and other value-added products using organic methods. Participants will also learn the knowledge and skills needed to design, install, and manage farm and community landscape infrastructure in urban and peri-urban settings. BUFA will provide educational programming to build participants' knowledge and skill-base in small-scale urban farming and farm business management through:

- Classroom training, online learning platform and field trips
- OSU's established Growing Farms: Successful Whole Farm Management Workshop Series – with a concentration in farm business planning
- Supervised, hands-on, in-the-field apprenticeship with experienced farmers



Course Topics Include:

- Soil management including fertilizers, compost, mulch, and cover crops
- Intensive vegetable production using hand tools and small power tools
- Berry and fruit tree production and edible landscaping
- Ecological landscape management including native and ornamental plants
- Organic Integrated Pest Management (IPM) with special emphasis on weed control
- Farm/landscape infrastructure including irrigation, materials choices, and installation
- Farm business planning and marketing
- Community resources and next steps

PLEASE NOTE that the 2012 BUFA program has begun, but check back for next year!

Other Farm management classes are here:

[OSU Small Farms Growing Farms Workshops Series](#)

Growing Farms workshops provide beginning farmers with the tools and knowledge needed to manage the biological and financial risks of farming. Workshops are through out the year, check website for topics and dates. <http://smallfarms.oregonstate.edu/growing-farms-workshop-series>

[OSU Small Farms Program](#)

This program has a variety of resources for small farmers new and old, including workshops, classes, and their annual Small Farms Conference which brings together growers from across the NW to share knowledge and inspiration. <http://smallfarms.oregonstate.edu>

[Clackamas Community College Urban Agriculture Certificate Program](#)

This new program is for beginning farmers focusing on small scale, organic food production. Classes are focused on the biological aspect of food production. For more information contact Loretta Mills at 503-594-3292.

http://www.clackamas.edu/News_Stories/CCC_Offers_Oregon%E2%80%99s_First_Urban_Agriculture_Certificate_Program.aspx

Farmers Markets

Summary

Local governments can work with regional farmers to encourage development of farmers markets in each city in the region. They also can support Oregon State University's Farmers Market Association programs to assist markets in the Portland region. A critical need is to increase demand for farmers market products.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment	X	X	X		X
Plan	X				
Policy	X				
Program	X	X	X	X	X
Project	X	X	X	X	
Regulation					

Current Context

People shop at farmers markets for high-quality products, good value, specialty items, organic produce, convenience, to support farmers, to socialize, and for entertainment.¹ A 2008 study indicates that successful markets require vendors, a good product mix, a visible location, clarity of vision and mission, professional management, value for both customers and communities, partnerships, promotion, a sound business plan, and vibrant public spaces.³ Most farmers markets serve a variety of economic functions, including incubating new farms, connecting farmers directly to consumers, creating vital urban spaces and creating a variety of cultural and community interactions.

Barriers/Challenges

Consumers in urban areas of the Portland region do not have equal community access to farmers markets and often shop at large retail chains. According to several studies, the perception that products at farmers markets cost more than conventional markets is not accurate, especially for organic products.ⁱ²

¹ *Characteristics of successful farmers.* (p. 13-20) Retrieved from City of Portland website: <http://www.portlandonline.com/bps/index.cfm?c=49940&a=236585>

² "Is Local Food More Expensive" Leopold Center. 2009. Retrieved from <http://www.leopold.iastate.edu/>. July 17, 2012.

Anthony SCALE, Inc. "Is Local Food Affordable for Ordinary Folks? A Comparison of Farmers Markets and Supermarkets in Nineteen Communities in the Southeast." Retrieved from <http://www.ruralscale.com/>. November 2011.

In 2011 there were 40 markets in the region with 20 within Portland city limits.³ A 2008 study found there are two major reasons people do not shop at farmers markets: inconvenient times and problematic parking.⁴ The Portland region also has a temperate climate with a rainy fall and winter climate which limits production and market visitors in the fall and winter seasons. Open-air markets also may be a shopping deterrent during inclement weather. In addition, expertise on farmers markets in the region is fragmented and could be more focused to support growth of this part of the foodshed economy. Demand for the products at farmers markets varies based on seasonality and market demand.

Opportunities

The vitality of the regional grassroots local food movement indicates opportunities for increased purchases and activity at farmers markets in the Portland region. These markets can also help increase the availability of nutrient dense fruits and vegetables in areas with limited access to healthy foods. Several programs for low income and childhood nutrition support food purchase at farmers markets.⁵

Successful farmers markets are often located in vital community spaces and surrounded by other shopping and services. Local governments can increase the viability of these markets and local neighborhoods by incorporating them into community economic development or urban renewal plans. Farmer incomes, the vitality of urban areas and access to local healthy food appear to be strengthened by expanding the number, hours of operation, and convenient locations of farmers markets. Indoor farmers markets, such as those in European cities, may be able to use indoor spaces not fully utilized on weekends or other times. In addition, a coordinated marketing campaign can increase demand for products sold at farmers markets.

Proposed Actions

Each city and urban community can assess the need for and potential of locating a farmers market in their area. Initial feasibility analysis and planning can be supported by students at Portland State University or Oregon State University (OSU). In addition, the OSU-supported Oregon Farmers Market Association⁶ is well-positioned to develop a regional strategy and support structure to help urban-area farmers markets be successful.

Claro, Jake. "Vermont Farmers Markets and Grocery Stores: A Price Comparison" Retrieved from <http://nofavt.org/pricestudy>. January 2011.

³ *2011 guide to Oregon farmers markets*. (n.d.). Retrieved from http://oregonfarmersmarkets.org/directory/docs/OFMA_2011_Directory_Final.pdf

⁴ *Characteristics of successful farmers* (2008), (p. 11) Retrieved from City of Portland website: <http://www.portlandonline.com/bps/index.cfm?c=49940&a=236585>

⁵ Women Infants and Children (WIC) and Supplemental Nutrition Assistance Program (SNAP) programs

⁶ <http://oregonfarmersmarkets.org/>

In addition, there appears to a need for collective marketing to increase demand for local food products offered at farmers markets. Several farmers suggest that increase demand is critical to support profitable local small farms.

Resources, Models, Best Practices

Characteristics of successful farmers. (p. 11) Retrieved from City of Portland website:
<http://www.portlandonline.com/bps/index.cfm?c=49940&a=236585>

Ten Principles for Successful Farmers' Markets from New York Association of Farmers' Markets:
<http://agmarketing.extension.psu.edu/ComFarmMkt/PDFs/marketprinciples.pdf>

Marketing strategies to increase the sales at farmers markets:
http://www.cascadeharvest.org/files/u1/FM_marketing_plan_FINAL_II.pdf

“Is Local Food More Expensive” Leopold Center. 2009. Retrieved from
<http://www.leopold.iastate.edu/>. July 17, 2012.

Anthony SCALE, Inc. “Is Local Food Affordable for Ordinary Folks? A Comparison of Farmers Markets and Supermarkets in Nineteen Communities in the Southeast.” Retrieved from
<http://www.ruralscale.com/>. November 2011.

Claro, Jake. “Vermont Farmers Markets and Grocery Stores: A Price Comparison” Retrieved from
<http://nofavt.org/pricestudy>. January 2011.

Farmworker Housing

Summary

Local governments working in conjunction with community development corporations (CDCs) can develop a regional strategy to expand the development of affordable housing for farmworkers and food service laborers in cities and on farms with access to education, child care, healthcare, and other community services.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X		X
Policy	X		X		X
Program	X	X	X		X
Project	X	X	X		X
Regulation					
Tax change					

Current Context

Existing farmworker housing is insufficient to provide for the number of farmworkers needed in regional agriculture and related food processing. For example, a recent Washington County study identified the number of needed beds for farmworkers in 2009 as between 10,500 and 11,500.¹ Existing farmworker housing typically involves multiple families living in small apartments or homes, or on-farm housing with far more people per unit than would typically live in a structure. Housing is often crowded, sub-standard, and located in areas with limited access to needed support services. Locations are often far from farmworker jobs, which adds commute time and cost. Due to cost or housing availability fluctuations, low-income farmworker families with children do not often have the opportunity to live in stable home and educational environment. Housing options located on farms are limited in Oregon due to rural land use regulations. Farmers and growers often do not have the expertise or resources to provide affordable farmworker housing or are not able to comply with regulations that can lock them into agreements they are not willing or capable of taking on. Some regulations can be particularly onerous, including from one funding source that dictates farmworker housing be offered in perpetuity for 33 years.²

¹ Portland State University, Tierra Planning. (2010). *Harvesting opportunity: A strategic vision for farmworker housing*. Retrieved from website: http://pdx.edu/sites/www.pdx.edu.usp/files/usp_2010_harvesting.pdf

² Quartini, L. (2012, January 04). Interview by E. Wyoming [Personal Interview]. Casa of Oregon housing manager interview.

Barriers/Challenges

Agricultural producers in the region lack a dependable high quality labor force. Farmworkers need safe, sanitary, and supportive housing for themselves and their families. Challenges to obtaining and providing farmworker housing include income, language and cultural differences, household size, migrant status, eligibility criteria to enter farmworker housing, real or perceived legal repercussions, and discrimination. The ability of local governments to provide an adequate supply of housing overall in the region is limited by lack of funds for predevelopment, high land costs, land use limitations, and meeting the support service needs of residents.

Opportunity

Existing networks of housing service providers in the region can be encouraged to develop exemplary community-based urban farmworker housing which address several of the barriers listed above. CDCs engaged in this work currently include the Community and Shelter Assistance Corporation of Oregon (CASA of Oregon, www.casaoforegon.org, based in Sherwood, OR), Hacienda Community Development Corporation (www.haciendacdc.org, based in Portland, OR) and the Farmworker Housing Development Corporation (www.fhdc.org, based in Woodburn, Oregon). Community-based housing provides the stability needed for families of farmworkers which other types of farmworker housing do not provide. Community-based housing also comes with supportive services such as education, child care, training, and agricultural business incubation support services for farmworkers and their families. Local governments can support CDC efforts to provide quality, lasting, and supportive community-based farmworker housing in the region as a distinct investment opportunity. Such housing would directly support the local food economy and related food industry cluster.

Proposed Actions

Four actions should be considered: 1. Develop a coalition of farmworker housing developers who are experts in providing homes with built-in services for farmworkers and their families. Focus on models built by the FHDC, CASA of Oregon, or Hacienda CDC to build farmworker housing within an urban environment. Subsidies need be packaged to increase urban projects feasibility. 2. Currently, farmworker housing is permitted on farms, but innovations are needed to expand its availability and improve its quality. For on-site farm-worker housing the California Agricultural Innovations Network is exploring the feasibility of assisting farmers and growers with covenants that protect farmworker rights and allow growers to receive public funds to maintain and supply farmworker housing on their property that is supported by a community partner³. 3. A third opportunity is to develop new strategies for farmworkers to innovate new businesses and assume ownership or other equity opportunities in farm land and farm operations. 4. Local governments can also support policy clarification in the Oregon Revised Statutes to better define types of accessory dwelling units for

³ McIntyre, J. (2012, January 05). Interview by E. Wyoming [Personal Interview]. Ag innovations network director interview.

farmworkers that are allowed on agricultural property for seasonal or migrant farm-workers. Although these dwelling seem to be permitted in EFU zones there is uncertainty regarding local interpretation of state policy.

Resources, Models, Best Practices

USDA Farm Labor Housing Funding Programs:

http://www.rurdev.usda.gov/rhs/mfh/brief_mfh_flh.htm

Oregon Farmworker Housing Tax Credit Program:

http://www.oregon.gov/OHCS/HRS_Farmworker_Housing_TC.shtml

Farmworkers Housing Development Corporation: <http://www.fhdc.org/>

Hacienda CDC: <http://www.haciendacdc.org/>

CASA of Oregon: <http://www.casaoforegon.org/>

Food Cluster Development

Summary

State, regional and local economic development organizations can develop a Portland region food economic cluster strategy and action plan.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project					
Regulation					

Current Context

The Oregon Business Plan focuses on industry clusters as a core concept for economic development in Oregon. Industry clusters are geographic concentrations of similar and/or related firms that draw competitive advantage from their proximity to competitors, a skilled workforce, specialized suppliers and a shared base of sophisticated knowledge about their industry. Businesses thrive in particular locations because their local connections to a skilled workforce and suppliers in proximity to one another generate business advantages that cannot easily be imitated or competed away by low cost competitors.¹

The food production sector (farming) is only one part of a much larger cluster that also includes food processing, distribution and consumption. These four elements interact and have strong supply chain relationships throughout the Portland region. In 2008, the cluster included an estimated 16,000 firms, with 156,000 employees and an annual payroll of almost \$3 billion per year.²

Barriers/Challenges

In spite of its strength, the regional food economy is not a focus of regional economic development organizations such as Greater Portland, Inc. or the Portland Development Commission. Both Clackamas and Multnomah counties have made foodshed economic development important economic development goals. Oregon continues to focus on protection of prime productive farmland, but not on increasing the economic viability of small-medium sized farmers in the urban region.

¹ *About oregon's industry clusters.* (n.d.). Retrieved from <http://www.oregonbusinessplan.org/Industry-Clusters/About-Oregons-Industry-Clusters.aspx>

² SARE Portland Regional Foodshed: Current Situation Report, Cogan Owens Cogan, LLC October 1011, page 18.

Opportunities

In order to maximize the potential and linkages within the regional foodshed economy, economic development agencies can identify the food cluster as an economic development focus. They can analyze the linkages among the elements of the food economic system -- food production, processing, distribution and consumption -- and develop a cluster strategy that includes food production, processing, distribution and consumption. The strategy can support and examine the benefits of both import substitution and export strategies to expand and support food production in the Portland urban region. By focusing on the entire food system, an economic cluster strategy can consider opportunities for family wage jobs and skilled workers across the industry.

Proposed Actions

Develop a Portland region foodshed economic cluster strategy that defines current and potential linkages in the system to benefit producers, processors, distributors and consumers. The cluster can also strengthen local connections to skilled labor and suppliers. The food system strategy can also encourage research, innovation, development and technology transfer within the cluster. Key steps include: conducting a food cluster economic analysis and landscape study of the Portland region, and identifying leaders, such as Clackamas and Multnomah Counties. Other counties and major cities in the region can be encouraged to participate. Partners or supporters may include the Portland Development Commission, Greater Portland Inc., Oregon Business Council, the Oregon Department of Agriculture and Business Oregon. A similar plan, focused on skills and education in the food system, was developed in Vermont.³

Resources, Models, Best Practices

Food economy cluster studies and strategies for: <http://www.crcworks.org/?submit=fffc>

Creating jobs through regional foodshed strategies:

http://www.ucsus.org/food_and_agriculture/solutions/big_picture_solutions/market-forces.html

Lane County food as an economic development strategy:

<http://www.planning.org/awards/2011/pdf/oregonnarrative.pdf>

³ Rosenfield, S. Regional Technology Strategies, Inc., (2010). *Growing jobs Vermont style: Skills and knowledge for Vermont's "sustainable food system cluster" and natural resources. Prepared for the Vermont department of education.* Retrieved from website: http://rtsinc.org/publications/documents/VTRreport_000.pdf

Import Substitution

Summary

Public and private economic development organizations can develop a regional strategy to substitute locally produced food for food currently imported from outside the Portland region.

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project					
Regulation					
Tax change					

Current Context

Import substitution is an economic development strategy with significant potential for the regional foodshed economy. The 2011 Union of Concerned Scientists report outlines ways to create local jobs through public investments in local and regional foods systems.¹

Other regions throughout the US are implementing import substitution strategies. The Cleveland region has developed a plan to shift 25 percent of current food purchases from imported to food produced in the region.² The plan details current consumer and institutional demand by crop and product. The plan also identifies a localization scenario including potential employment benefits, challenges such as economic reality, human capital, land, and financial capital, and describes how these challenges can be overcome. Multiple strategies to encourage local food consumption address food access and public health, urban agriculture, rural-urban collaboration, education and skill training, and business support.

Barrier/Challenge

The Portland region currently imports more than 95 percent of the food consumed. If 10 percent of food currently imported from outside the region was locally produced, it would generate

¹ O'Hara, J. K. Union of Concerned Scientists, UCS Food and Environment Program. (2011). *Market forces: Creating jobs through public investment in local and regional food systems*. Retrieved from UCS Publications website: http://www.ucsusa.org/assets/documents/food_and_agriculture/market-forces-report.pdf

² Masi, B., Schaller, L., & Shuman, M. H. (2010). *The benefits of food localization in northeastern ohio & how to realize them*. Retrieved from website: <http://www.neofoodweb.org/sites/default/files/resources/the25shift-foodlocalizationintheNEOregion.pdf>

approximately \$470 million in increased local economic wealth per year. This assumes adequate capacity for additional production by that amount without reducing food exports.³

Currently, neither the Portland region nor its cities have an economic development strategy to increase the amount of regionally produced food consumed in urban areas. In addition, there is no regional organization charged with coordinating the development of such a strategy. The lack of institutional capacity and incentives for regional import substitution will need to be addressed.

Opportunity

Regional and local governments can engage a wide range of stakeholders, to develop a regional import substitution strategy that builds on work currently underway in the region's cities and counties and takes advantage of vitality of local food movements in the region. See the Market Development and Regional Food Distribution for strategies to make regionally produced food more competitive through regional infrastructure and cooperatives development.

Proposed Actions

Develop a broad-based regional import substitution strategic plan (see the Food Cluster Development tool for a definition of linkages between food production and processing, distribution, and consumption.) A multi-sector regional advisory strategy committee or outreach process would ensure the strategy builds upon the work of regional partners.

1. Identify a lead organization to convene a broad-based regional partnership, develop the strategy and form an advisory committee. Potential candidates include:
 - Representatives of the counties and cities in the region
 - Oregon State University and Portland State University
 - Oregon Department of Agriculture
 - Greater Portland, Inc
 - Ecotrust
2. Obtain funding.
3. Conduct an economic landscape analysis of the regional food economy.
4. Develop a strategy to increase consumption of foods produced in the region.
5. Identify clear benchmarks for implementation.
6. Assign responsibility for actions to implement the strategy

Resources, Models, Best Practices

A detailed strategy to substitute regionally produced food for food imported into NE Ohio was developed: <http://www.neofoodweb.org/sites/default/files/resources/the25shift-foodlocalizationintheNEOregion.pdf>

The Crossroads Center has conducted multiple studies of regional food purchase flows and: <http://www.crcworks.org/>

³ Current Situation Report, October 2010, Cogan Owens Cogan, LLC,

Institutional and Agency Procurement

Summary

Public agencies, institutions, and private companies that purchase large amounts of food can work to develop procurement standards that support purchases of local, nutritional foods.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project					
Regulation					
Tax change					

Current Context

A variety of institutions and associations are developing strategies to encourage support of local healthy food. The Oregon Farm to School Program supports schools to increase local purchases.¹ A leading example of a procurement strategy has been developed by Health Care Without Harm. Their Healthy Food and Healthcare pledge, signed by hundreds of hospitals in the United States, provides a framework for procurement of local healthy foods. The pledge includes the following elements²:

- Work with local farmers, community-based organizations and food suppliers to increase the availability of locally-sourced food.
- Encourage our vendors and/or food management companies to supply us with food that is, among other attributes, produced without synthetic pesticides and hormones or antibiotics given to animals in the absence of diagnosed disease and which supports farmer health and welfare, and ecologically protective and restorative agriculture.
- Increase our offering of fruit and vegetables, nutritionally-dense and minimally processed, unrefined foods and reduce unhealthy (trans and saturated) fats and sweetened foods.
- Implement a stepwise program to identify and adopt sustainable food procurement. Begin where fewer barriers exist and immediate steps can be taken. For example, the adoption of rBGH-free milk, fair trade coffee, or introduction of organic fresh produce in the cafeteria.
- Communicate to our Group Purchasing Organizations our interest in foods that are identified as local and/or third-party certified.

¹ *Oregon farm to school programs*. (n.d.). Retrieved from <http://www.farmtoschool.org/OR/programs.htm>

² *Healthy food pledge*. (n.d.). Retrieved from <http://www.healthyfoodinhealthcare.org/pledge.php>

- Educate and communicate within our system and to our patients and community about our nutritious, socially just and ecological sustainable food healthy food practices and procedures.
- Minimize or beneficially reuse food waste and support the use of food packaging and products which are ecologically protective.
- Develop a program to promote and source from producers and processors which uphold the dignity of family, farmers, workers and their communities and support sustainable and humane agriculture systems.
- Report annually on implementation of this Pledge.

Barriers/Challenges

School systems, colleges and universities, hospitals, corporate cafeterias and public agencies face several challenges in purchasing local healthy foods. One is the complexity of dealing with multiple farmers to obtain a wider range of foods. Institutional procurement officials also may not have sufficient information on what their colleagues are doing to obtain local health food in the region. Further, procurement policies are often driven by low cost or other procurement requirements. Consistent supply is another barrier often identified by institutions.

Opportunity

If institutions adopt local, healthy food procurement policies, the resulting market demand will help increase local production, processing and distribution to strengthen the regional food economy. Under House Bill 2763 passed on 2009, public agencies are allowed to pay 10 percent more for local food than the low bid price.

Proposed Actions

Multnomah County can continue its leadership to create a regional institutional purchasing coalition to develop coordinated strategies to purchase more local nutritious food by multiple institutions. A purchasers' coalition should, regardless of leadership, include public, private, educational, health care, faith institution, prison and other major purchasers.

Resources, Models, Best Practices

Michigan institutional food purchasing strategy covers the entire range of food purchasing in the public sector.:

<http://www.michiganfood.org/assets/goodfood/docs/Inst%20Food%20Purchasing%20Report.pdf>

Oregon House Bill 2763 providing incentives to purchase local foods:

<http://www.leg.state.or.us/09reg/measpdf/hb2700.dir/hb2763.a.pdf>

Labor Laws and Interns

Summary

Labor is a critical part of farming operations, finding skilled, reliable workers and navigating the legal system governing them can be daunting.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy	X	X			
Program			X	X	X
Project					
Regulation	X				

Current Context

Many small farms rely on family members and intern/apprentice labor. Often the family members or interns do not have the same skills as experience farm workers but are interested in learning more about farming and helping your farm. Interns/apprentices often work for free in exchange for lodging and a valuable educational experience. However, if someone is contributing to the financial gain of a farm, then they are considered a worker and farmers must ensure that they are following state and federal laws. This means that farmers legally obligated to pay interns/apprentices minimum wage and provide necessary insurance to protect your hard-earned assets.

Barriers/Challenges

There is a lack of clarity in the laws and ways to find easy answers to labor law questions. It is difficult for new farmers to apprentice with existing farms legally.

Opportunities/Proposed Actions

Develop an internship model with Portland Community College to legalize and formalize farm internships to provide necessary experience for the new generation of farmers. Programs could be based on Oregon's own Rogue Farm Corps Farms Next internship program. Rogue Farm Corps *Farms Next* internship program provides beginning farmers and ranchers entry-level training in sustainable agriculture. Through an innovative cooperative education program, *Farms Next* combines hands-on training, classroom learning and farm-based education on a diverse network of commercial family farms in Southern Oregon's Rogue Valley.

Resources, Models, Best Practices

Rogue Farm Corps Farm Internship Program http://roguefarmcorps.org/?page_id=43

Rogue Farm Corps Legal Guide <http://roguefarmcorps.org/wp-content/uploads/2011/11/Farm-Mentors-Guide-to-Employment-Law.pdf>

Oregon State Bureau of Labor Handbook
http://www.oregon.gov/BOLI/WHD/FLL/docs/fl_handbook.pdf

Market Development, Processing and Regional Food Distribution

Summary

Support organizations focused on helping growers market, process and distribute local and regional food products profitably. This strategy can be facilitated by public and private economic development organizations.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan	X	X	X	X	X
Policy	X	X	X	X	X
Program					
Project	X	X	X	X	X
Regulation					

Current Context

Many local growers are unable to achieve adequate sales to local markets. The process of linking growers to consumers is complex and relies on face-to-face sales. Small growers do not generate enough volume to sell through existing distributors.¹ They are also not able to sell product through shoulder seasons because of limited processing facilities for canning and freezing. They also may face other challenges such as growing products similar to other growers and inadvertently lowering the price for the goods. Small growers often do not have the technical expertise to grow what is marketable in the area, and the costs of transporting their goods to market are exceptionally high if the distribution is not shared across a number of growers. Institutional purchasers (schools, hospitals, corporate cafeterias) are not accustomed or able to procure small amounts from a number of growers to meet their needs. Assistance is needed through partnership with distributors and processors for additional value-added services that provide top-quality products to buyers and bring high value prices back to the grower for their work.

¹ Low, S., & Vogel, S. U.S. Department of Agriculture, Economic Research Service. (2011). *Direct and intermediated marketing of local foods in the united states*. Retrieved from USDA website: <http://www.ngfn.org/resources/ngfn-database/knowledge/ERR128.pdf>

Barriers/Challenges

Portland regional farms are relatively small in terms of acreage. Currently, there is no single organization focused on helping producers improve their business operations, as well as market, process and distribute food within the Portland region. Few funding sources to cultivate key grower/distributor partnership models necessary to expand regional markets exist. Organizations such as the Oregon Fresh Market Growers Association (OFMGA) appear to be addressing some of these challenges, but may need additional funding.

Opportunity

The Portland region has a rich network of small and medium growers in the urban fringe. The regional food and related supplies market is \$4.7 billion per year. Information from interviews with Community Supported Agriculturists (CSA) and farmers' market leaders indicate an opportunity to increase the profitability of growers, demand for local foods (processed and fresh), and systematic distribution of foods produced in the urban region through a coordinated market development strategy. One model is the Organically Grown Company (OGC), which started as a cooperative and became a West Coast supplier of produce. OGC helps growers produce, market and distribute their products throughout the Interstate 5 corridor. Another model is the Oregon Fresh Market Growers Association that supports market growers address a variety of challenges. It is currently a statewide association with some members in the region. Additionally, Adelante Empresas in Forest Grove², part of the community development corporation Adelante Mujeres, is currently developing a distributor model for their organic farmers that echoes recommendations listed in the following section of this paper.

Proposed Actions

Local economic development agencies can work with food processors and distributors to create a business plan focused on developing the Portland regional food economy. Key elements include³⁴.

- Develop a feasibility study and business plan to provide support and resources for local growers to brand and market regionally produced, processed and distributed food throughout the region. This can build on the work of the OFMGA and the current capabilities of private companies.
- Distributors, through a cooperative or membership model, can focus on assisting growers with the following services:
 - Identify markets growers would like to sell to – wholesalers, retail, or direct.

2 Brown, A. (2012, January 26). Interview by E. Wyoming [Personal Interview]. Interview with director of Adelante Empresas.

3 Reitman-White, N. (2012, January 19). Interview by E. Wyoming [Personal Interview]. Interview with sustainability manager at organically grown.

4 Costello, T. (2012, January 19). Interview by E. Wyoming [Personal Interview]. Interview with produce supply-chain expert.

- Assist with good business practices.
- Coordinate with growers to prevent saturation of the market.
- Assist growers to determine a volume ahead of the season.
- Provide services and offer education in high quality post-production handling.
- Provide adequate cold storage to preserve produce that can be stored and sold throughout a season.
- Provide technical assistance to grow the best looking crops to compete with other regions.
- Assist with marketing and branding strategies.
- Assist or manage processing and micro-processing facilities (canning and freezing) to facilitate the sale of goods throughout the year.
- Collaborate with other regional distributors and share “specialist resources,” which is a significant challenge for small farms..

Resources, Models, Best Practices

Rural Cooperatives: http://www.rurdev.usda.gov/supportdocuments/RuralCoop_NovDec11.pdf

Regional Food Hubs: http://www.usda.gov/oce/forum/2012_Speeches/Barham.pptx

Organically Grown Company: <http://www.organicgrown.com/>

Northwest Cooperative Development Center: <http://www.nwcdc.coop/>

Marketing

Summary/Current Context

Many farmers would like marketing support, such as assistance with websites, marketing, advertising and farm membership systems. 60% of our survey respondents said they would like assistance with marketing.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment		X			
Plan					
Policy					
Program		X	X		X
Project	X	X	X	X	X
Regulation					
Tax Changes					

Barriers/Challenges/Opportunity

Many small farmers do not have the skills or resources to adequately market themselves. In part this is due to a gap in the business management educational resources. Develop a regional brand so consumers can determine local sourcing.

Proposed Actions

Increase marketing capacity through education and regional branding. Develop a marketing educational and low cost consulting or peer-to-peer service for growers to build their marketing capability. Increase access to existing resources through linking contact information and content in one place such as a website made for small urban farmers.

Resources, Models, Best Practices

Buy Fresh Buy Local PA, Philadelphia, PA <http://www.buylocalpa.org/philadelphia>
Regional marketing cooperative program through FoodRoutes.org

Eco Trust FoodHub Portland, OR <http://food-hub.org/>
An online tool from EcoTrust to connect local institutions like schools and restaurants with local growers.

Grower's Alliance Portland, OR <http://www.growportland.org/growers-alliance>
A marketing collective for small and beginning farmers

Gorge Grown Hood River, OR <http://www.gorgegrown.com/>
Regional Marketing Network and Advocacy Group

Portland Farmer's Markets Portland, OR <http://www.portlandfarmersmarket.org/>

Portland Area CSA Coalition Portland, OR <http://portlandcsa.org/Welcome.html>

THRIVE Buy Local Rogue Ashland, OR <http://www.buylocalrogue.org/index.php>
Regional Cooperative Marketing and Farm Incubator Program



Farmer/Producer Marketing Tool



Successfully marketing your goods is often the most challenging aspect of a farming business. How will you connect with consumers? The Portland area has more than 50 Farmers Markets and 100 Community Supported Agriculture programs (CSA's). How do you know if its better to sell directly at a farmers market or through a CSA or to use a distributor? How important is it your market to be certified Organic or Natural, or Local? What do those labels mean to your market? Most small farms cannot compete with large growers who sell wholesale, but use a direct marketing approach through CSA's or farmers market, but these are not the only tools.

Potential marketing channels:

- Roadside stands
- Farmers markets
- Community-supported agriculture (CSA)
- Restaurants
- Public institutions (e.g., hospitals and group homes)
- Farmers cooperative
- Websites
- Wholesale
- Other direct marketing opportunities
- Value-added processing (e.g., jams, dried food, and culinary herbs)
- Agritourism (e.g., farm stays, entertainment, and education)



Marketing Plan

Many growers and ranchers employ a variety of marketing tools to connect with the customer. Below are some questions you should consider in creating a marketing plan:

1. Who will purchase your product? What is important to these customers? How can your product appeal to this audience? Think about labeling and packaging regarding your customers.
2. What is your production capacity? What is a manageable market for this production level? If you establish a community-supported agriculture (CSA) operation, how many subscribers would be manageable to start with? How many farmers markets are feasible for you to attend?
3. Who is your competition? How can you increase your competitive advantage? What is your niche marketing strategy? How will you differentiate your product from the competition?
4. What are the standard prices for your product? What's the competition?
5. Are there regulations or special licenses or permits needed to grow and sell your products? (Examples: Do you need to use a USDA-inspected slaughter facility? Some food buyers require Good Agricultural Practices (GAP) certification, Oregon Department of Agriculture egg handlers' license, plant materials permit, food handlers license, etc.)
6. Is there an advantage to marketing your products by using "certified organic," "sustainable," "locally grown," "natural," "grass fed," or other terms? Are there certifications that would be valuable for your farm or products? (Example: Animal Welfare Approved certification of humane livestock production practices for livestock producers) However trying to decide what's best for your farm is up to you, below are some local resources to get started.



Local marketing outlets

[FoodHub](#)

An online tool from EcoTrust to connect local institutions like schools and restaurants with local growers.

[Grower's Alliance](#)

A marketing collective for small and beginning farmers, they connect beginning urban farmers with consumers through Portland farmers markets and Community Supported Agriculture (CSA).

[Portland Farmer's Markets](#)

Non-profit organization hosting 6 farmer's markets with 250+ vendors from around the region. They also have a comprehensive list of regional farmer's markets with market manager contact information.

[Portland Area CSA Coalition](#)

PACSAC is an open group of CSA farmers. We keep in touch through a listserv that is open to CSA farmers and related professionals, and we work to promote CSA to the greater Portland community through our web site, tabling at events, and print materials.

[People's Food Co-op](#)

This co-operative prioritizes purchasing locally grown products over other criteria. They also host a weekly farmer's market.

Regional

[Local Harvest](#)

An online directory for sustainable and local food producers. You want to get listed on this so consumers can find you and where to purchase your products.

[Organically Grown](#)

Organically Grown is the largest wholesaler of organic produce in the Pacific Northwest with Eugene and Portland, OR and Kent, WA locations. They distribute to Fred Meyers, Whole Foods, New Seasons and more.

[Oregon Farmers Market Association](#)

Rainwater Harvesting

Summary

Soil and water conservation districts can promote passive (land based, like ponds) and tank storage rainwater harvesting techniques to store water for agricultural use.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive	X	X	X		X
Investment					
Plan					
Policy					
Program	X	X	X	X	X
Project	X	X	X		X
Regulation					
Tax change					

Current Context

Rain is abundant in the Portland region with anywhere from 35 to 150 inches of precipitation each year. This is a free ecosystem service to the region. Rainfall is seasonal (winter and spring) and otherwise intermittent during summer and fall. Traditionally, farmers employ multiple strategies to harvest rainwater on site through approaches such as conservation tillage, conservation farming and other landscape level techniques.¹ Other landscape level strategies include pitting systems and strip catchment. Many of these techniques are of interest to urban area farmers. Several producers in Oregon have developed water storage techniques involving above and below ground storage in barrels and tanks. These catchment systems are sized to a farm’s particular needs.²

Barriers/Challenges

Farmers in urban areas face several challenges to securing water supplies, including changing weather patterns, low well yields, exhausted wells, the high cost of municipal water and groundwater-restricted areas throughout the region (five areas in Clackamas County alone). In addition, studies have shown that static groundwater levels are dropping west of the Cascades.³ Urban areas face the added challenge of polluted groundwater. Some growers are doubtful that this tool will be feasible because of the scale of water demands and the cost of installing systems.

¹ N Ibrahim, P Munguambe, WaterNet (2007). Rainwater Harvesting Technologies for Small Scale Rainfed Agriculture in Arid and Semi-arid Areas.

² Clackamas County, Soil and Water Conservation District. (2010). *Rainwater harvesting*. Retrieved from website: <http://www.conservationsdistrict.org/packets/rainwaterharvesting.pdf>

³ Ibid

Opportunity

In situ crop management, landscape catchment, deepening an existing well, digging a new well (without assurance of sufficient supply) and designing a rainwater catchment system are among the possible strategies to harvest rainwater. On-farm catchment systems are relatively new and can be a comparatively inexpensive solution.

There are a wide range of water tank storage systems. Water storage rain barrels and small systems are not cost-prohibitive and are relatively easy to install. Larger systems need to be carefully engineered and sized appropriately to the farm. The Clackamas Soil and Water Conservation District, for example, has assisted a number of demonstration systems to show the value of rainwater catchment. Presently, the demonstration sites include a 300 gallon series of 50 gallon barrels, a 7,000 gallon system, a 12,000 gallon tank and delivery system, a below ground 20,000 gallon tank and delivery system, and an 88,000 gallon above ground tank and delivery gallon system. A more systematic approach could be taken to harvest and store rainwater in urban impacted farms.

Proposed Actions

Soil and water conservation districts, the USDA Natural Resource Conservation Service, local water agencies and the Oregon Department of Water Resources can develop a demonstration program to assist small urban-impacted farmers with rainwater harvesting system development and subsidized financing. This program can identify the needs of producers, workable models for diverse situations, available technical expertise, and financing strategies such as revolving low interest loans, equity investment, and coordinated grants. There may be an opportunity for local agencies to finance rainwater harvesting systems on small farms in lieu of supplying water services. There may be some potential to engage Oregon Best and Manufacturing 21 to identify economic development initiatives related to on-farm rainwater harvesting technologies.

Based on growers' review of this tool, it should be considered as a research and development activity to demonstrate proof-of-concept requiring subsidies for some small farms. It may prove to be viable in the future as part of a strategy to adapt to climate change.

Resources, Models, Best Practices

Clackamas Soil and Water Conservation District is supporting and developing models for rainwater harvesting: <http://conservationdistrict.org/?s=RAINWATER>

Source for rainwater harvesting strategies: <http://www.harvesth2o.com/>

Market analysis of rainwater harvesting: http://www.harvesth2o.com/2010_industry_report.shtml

Funding sources for rainwater harvesting: <http://www.harvestingrainwater.com/rainwater-harvesting-inforesources/water-harvesting-tax-credits/>

Regional Branding

Summary

Local governments and industry partners can develop a local/regional brand to help urban consumers determine regional sourcing.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program	X	X		X	X
Project					
Regulation					

Current Context

It is not clear how urban consumers can determine the province of foods they purchase so they can decide to “buy local” or not. Research indicates that at least 95 percent of food purchases are imported from outside the Portland region.¹

There appears to be market growth in food purchases at farmers’ markets, participation in community supported agriculture initiatives, and institutional purchases of regional food. In the Portland region, regional food purchases are facilitated by the Ecotrust FoodHub, an online service that links buyers and sellers of regionally produced food products.² Processors, distributors and consumers in urban areas can use the FoodHub web site to determine the availability of some regionally produced foods. Additional support is provided by companies such as the Organically Grown Company that assists and distributes organic food on the West Coast.

Barriers and Challenges

Consumers in urban areas, excluding those shopping at farmers’ markets, CSAs and regional outlets such as New Seasons and Burgerville, generally have limited information on the sources of their foods. Until recently, major food chains and fast food companies have appeared to have limited interest in local food purchases.

Some industry giants such as Wal-Mart are exploring the possibility of shortening supply chains and increasing direct purchases from growers and processors in order to reduce costs and increase the

¹ SARE Portland Regional Foodshed: Current Situation Report, Cogan Owens Cogan, LLC, October 2011.

² Ecotrust food and farms: Foodhub. (n.d.). Retrieved from <http://www.ecotrust.org/foodhub/>

market for healthy foods to urban consumers. Farmers have experienced situations when major markets advertise products as “local” when they were imported or from mixed sources.

Opportunities

The combination of a grassroots local food movement exhibited by increased purchases at farmers markets and the supply chain strategies of giants like Wal-Mart increase the opportunity for regionally produced food. Wal-Mart plans to increase its purchases from one million small and medium sized local farmers globally by \$1 billion.³ This and other similar initiatives will need to be monitored to track sourcing and economic benefits to growers.

A distinctive regional brand to clearly identify foods grown and processed in the region can be used to capitalize on these and other trends. However, defining the region for promotion by the brand is challenging. A regional food brand could define its region as a county, Portland region, Willamette Valley, Columbia-Willamette, Oregon or Cascadia. A nested system of brands such as a county brand tied to a state or Columbia-Willamette brand is another possibility.

Lessons learned from the Oregon Bounty branding campaign need to be considered in any branding effort. Funding for the Oregon Bounty, a state-sponsored campaign, has been eliminated. The marketing campaign was sponsored by the state tourism agency, Travel Oregon, and was aimed at increasing the visibility of Oregon agricultural products in the national media and to attract visitors to Oregon for food tourism.⁴ It did not address the source of local or regional food products.

Proposed Actions

Develop a regional brand for both the Portland region and the state of Oregon so consumers can determine the source of foods they purchase. This effort can be led initially by Clackamas and Multnomah Counties, possibly with support from Portland State University, Business Oregon and the Oregon Department of Agriculture. Initial steps can include development of a strategic plan to define the goals of the brand, its territory, a strategic assessment analysis (strengths, weaknesses, opportunities and threats), and an action plan.

Resources, Models, Best Practices

Developing local food brands in Japan based on international best practices:

<http://www.iasdr2009.org/ap/Papers/Orally%20Presented%20Papers/Design%20Management/A%20Study%20of%20Design%20Methodology%20on%20Local%20Brand%20of%20Foods%20-%20Focus%20on%20Design%20Elements%20of%20Regional%20Properties.pdf>

³ Walmart unveils global sustainable agriculture goals. (2010, October 14). *Walmart Corporate Pressroom*. Retrieved from <http://walmartstores.com/pressroom/news/10376.aspx>

⁴ *Brand Oregon*. (2007). Retrieved from <http://library.state.or.us/repository/2007/200705180934455/index.pdf>

Succession Planning

Summary and Current Context

The average age of principal farmer owners responding to the survey is 48, the average for all farmers in Oregon is 57. This indicates that there will be a major transfer of farm ownership in the next twenty years. Sixty-eight percent of survey respondents do not have land/farm transference plans formalized in a legal document, and 82 percent indicate they need assistance with legal and tax issues.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive					
Investment					
Plan					
Policy					
Program			X	X	X
Project					
Regulation					

Barriers/Challenges

Many farmers plan to transfer land/farm ownership but do not have land/farm transference plans formalized in a legal document. There is a lack of online resources for finding out how to get started on developing a succession plan.

Opportunity/Proposed Actions

Provide easy access to information and educational programs on alternatives for succession planning and related legal and financial tools. Develop on-line and educational courses and a handbook on succession planning including relatives, employees (including farm labor), cooperatives, land trusts, bank trusts, institutional ownership, public agencies and other ownerships.

Resources, Models, Best Practices

OSU Small Farms Success Planning Videos, Corvallis, OR

<http://smallfarms.oregonstate.edu/pdx-foodshed>

Gorge Grown Hood River, OR <http://www.gorgegrown.com/>

Regional Marketing Network and Advocacy Group host's workshops on Succession Planning

Land for Good Farm Transfer Planning Program, Keene, NH

http://www.landforgood.org/farm_transfer_planning.html



Succession Planning Tool

The average age for all farmers in Oregon is 57. This indicates that there will be a major transfer of farm ownership in the next twenty years. There are many beginning farmers that would like to acquire land or existing farms. Many farmers plan to transfer land/farm ownership but do not have land/farm transference plans formalized in a legal document.

These videos produced by OSU are available to anyone for free, will help you understand the steps you need to take to get a plan in place and the resources to get there. You can see these videos at <http://smallfarms.oregonstate.edu/pdx-foodshed>.



The videos are broken up into the following sections:

Part One: The Planning Process

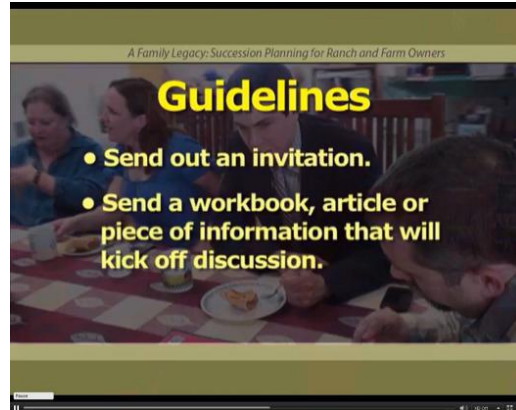




Part Two: The Importance of Planning



Part Five: Family Communication



Part Three: Valuing the Legacy

A Family Legacy: Succession Planning for Ranch and Farm Owners

The Barlow Ranch

	Current	Expanded
Gross Income:	\$407,138	\$600,000
Cash Expenses:	\$320,000	\$514,000
Depreciation:	\$ 50,000	\$ 65,000
Net Income (Profit):	\$ 38,000	\$ 54,000
Net Cash Income:	\$ 88,000	\$120,000
Non-Ranch Income:	\$ 23,500	\$ 33,500
Family Living:	\$ 48,000	
Taxes:	\$ 7,200	
Cash DEFICIT:	\$ 10,000	

Part Six: The Tools of the Trade



Part Four: Building your Team of Experts



Part Seven: Implementation, Maintenance and Review



Transferable Development Rights

Summary

Local governments can implement a Transferable Development Rights (TDR) program to protect prime agricultural land in the rural-urban fringe from development pressures. Such programs allow rural landowners to receive financial compensation without having to sell or fully develop their land.

Tool Type and Potential Partners

	Public	Private	Nonprofit	Academic	Partnership
Incentive	X	X	X		
Investment					
Plan	X				
Policy	X				
Program	X	X	X		X
Project					
Regulation	X				

Current Context

Current land use laws in Oregon are designed to concentrate higher density development in urban areas while protecting protect farm and forest land from sprawl. This creates a situation in which land in designated urban reserves has a much higher value in its potential for urban-scale development than it does for agricultural production. Farmers are faced with the choice of maintaining their land for lower value agricultural purposes or selling it to developers at a significant profit.

In 2009, the Oregon Legislature authorized local governments to develop and adopt TDR programs and created the Oregon TDR Pilot Program. The program is intended to test different TDR approaches that conserve private forest lands for timber production and other forest uses.

Barriers/Challenges

Farmers in areas of transition between urban and rural uses receive lucrative offers to convert their farms to more intense urban uses. The conversion of farm land to residential or commercial uses can result in a lack of orderly land use planning and loss of jobs in the agricultural sector. It appears that tools are needed to reduce the pressure to develop and help retain existing farms in these areas.

Opportunity

Transferable development rights (TDR) programs use a market-driven approach to compensate rural land owners for their willingness to forgo development. Land owners are able to realize the full value of their land while protecting natural resources. These voluntary, incentive-based programs

allow landowners in designated “sending areas” (urban-rural fringe) to separate the right to develop land from the bundle of other property rights. These development rights become a tradable commodity that farmers can sell to developers of designated “receiving sites” (urban areas) where development is conditionally permitted. Developers gain the ability to build at densities that exceed what is allowed in the base zone. Farmers receive financial compensation without having to sell or fully develop their land. Some programs permanently preserve agricultural land through a conservation easement, while others allow development rights to be restored by purchasing rights from other “sending” properties.¹

In addition to the benefits for urban-rural fringe land owners and developers, the following are often cited as public benefits of TDR programs:

- Sustained access to healthy foods for local communities
- Privately-owned and managed agricultural land preserved at no public cost
- Orderly development and land use certainty
- Efficient use of urban infrastructure and reduced costs for serving rural development

Challenges to developing a successful TDR program can include:

- Public and farmer education efforts may be needed to build community support
- TDR programs can require extensive governmental administration
- Declining real estate markets have reduced the prospects for establishing receiving areas
- Some TDR programs lack flexibility, which can be a long-term disadvantage as land use needs change over time

There are many examples of successful TDR programs throughout the Western United States. For example, the Washington State’s Regional Transfer of Development Rights Alliance is a partnership of King, Pierce and Snohomish Counties, the Cascade Land Conservancy, the Washington State Department of Commerce, and the Puget Sound Regional Council, encouraging cities to participate in TDR programs.² In 2009, the Oregon Legislature authorized local governments to develop and adopt TDR programs and created a TDR Pilot Program to test different ways to use the tool.³

¹ Cornell University:

<http://government.cce.cornell.edu/doc/html/transfer%20of%20development%20rights%20programs.htm>

² King County, Washington: <http://www.kingcounty.gov/environment/stewardship/sustainable-building/transfer-development-rights.aspx>

Kitsap County, Washington: http://www.kitsapgov.com/dcd/community_plan/tdr/tdr.htm

Washington Department of Commerce: <http://www.commerce.wa.gov/site/1305/default.aspx>

³ State of Oregon: http://www.oregon.gov/LCD/tdr_pilot_program.shtml

Proposed Actions

- Study best practices from TDR programs throughout the United States.
- Monitor and actively participate in Oregon's TDR Pilot Program.
- Design and implement a community process to define sending and receiving areas and determine landowner and developer incentives.
- Identify an entity, such as a county or land trust, to hold and monitor conservation easements over the long term.
- Update local plans and zoning ordinances (overlay zones) to implement the program.
- Develop a process for keeping records of development rights assigned to properties within sending areas and facilitating with the sale and purchase of TDRs.

Resources, Models, Best Practices

The Department of City and Regional Planning and the Cornell Cooperative Extension at Cornell University created a web site on restructuring local government that includes an overview of TDR programs:

<http://government.cce.cornell.edu/doc/html/transfer%20of%20development%20rights%20programs.htm>.

Washington State provides the best examples of TDR programs. Information on the program can be found on the Department of Commerce web site and on the sites of individual counties:

<http://www.commerce.wa.gov/site/1305/default.aspx>.

The State of Maryland has some of the oldest TDR programs in the U.S. A study of five TDR programs in Maryland highlighted the characteristics of effective TDR programs:

<http://www.cga.ct.gov/2010/rpt/2010-R-0464.htm>.

More information on Oregon's Transfer of Development Rights can be found at:

http://cms.oregon.gov/LCD/Pages/tdr_pilot_program.aspx.

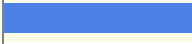

Appendix 7

Tool Evaluation Results

Vision and Sustainability Framework Report: Planners and Policymakers

Last Modified: 06/22/2012

1. This vision is consistent with my goals for the food-shed in our region.

#	Answer		Response	%
1	Strongly agree		2	50%
2	Agree		2	50%
3	Neither Agree nor Disagree		0	0%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%

2. I support policies that will move us toward this vision.

#	Answer		Response	%
1	Strongly agree		3	75%
2	Agree		1	25%
3	Neither Agree nor Disagree		0	0%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%

3. The vision is attainable and sustainable

#	Answer		Response	%
1	Strongly agree		3	75%
2	Agree		0	0%
3	Neither Agree nor Disagree		1	25%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%

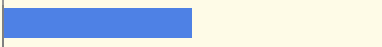
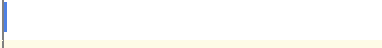
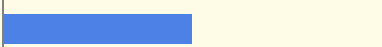

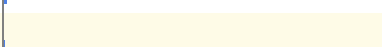
4. The sustainability framework is consistent with my goals for the region

#	Answer		Response	%
1	Strongly agree		3	75%
2	Agree		1	25%
3	Neither Agree nor Disagree		0	0%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%

5. I support policies that are aligned with this framework

#	Answer		Response	%
1	Strongly agree		4	100%
2	Agree		0	0%
3	Neither Agree nor Disagree		0	0%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%

6. This framework is attainable

#	Answer		Response	%
1	Strongly agree		2	50%
2	Agree		0	0%
3	Neither Agree nor Disagree		2	50%
4	Disagree		0	0%
5	Strongly Disagree		0	0%
	Total		4	100%







7. Comments

Text Response











Vision and Sustainability Framework Report: Growers

1. This vision is consistent with my goals for the food-shed in our region.







#	Answer		Response
1	Strongly agree		12
2	Agree		21
3	Neither Agree nor Disagree		4
4	Disagree		0
5	Strongly Disagree		0
	Total		37

2. I support policies that will move us toward this vision.






Answer		Response
Strongly agree		12
Agree		20
Neither Agree nor Disagree		2
Disagree		0



		
Strongly Disagree		0
Total		37

3. The vision is attainable and sustainable







#	Answer		Response
1	Strongly agree		8
2	Agree		19
3	Neither Agree nor Disagree		10
4	Disagree		0
5	Strongly Disagree		0
	Total		37

4. The sustainability framework is consistent with my goals for the region






Answer		Response
Strongly agree		12
Agree		22
Neither Agree nor Disagree		3
Disagree		0

		
Strongly Disagree		0
Total		37

5. I support policies that are aligned with this framework

#	Answer		Response
1	Strongly agree		14
2	Agree		20
3	Neither Agree nor Disagree		3
4	Disagree		0
5	Strongly Disagree		0
	Total		37

6. This framework is attainable

#	Answer		Response
1	Strongly agree		6
2	Agree		21
3	Neither Agree nor Disagree		10
4	Disagree		0

5	Strongly Disagree	<input type="checkbox"/>	0
	Total		30

13. Comments

Text Response	
I am a wait-and-see kind of person on these things. I do not think a perfect way is likely from the outset, and conditions change, which may require negotiated changes with stakeholders.	

SARE Farmer Survey Response Report

Last Modified: 07/02/2012

1. Who sent you to this survey?

29- Friends of Family Farmers

8- OSU

2. 1. FOR FARMERS- Generally these tools are easy to understand. Please review each "Tool" Category, not each tool. LAND ACCESS AND USE-(Agricultural Permitting in Urban Zones, Diversifying Ag Activities in Urban Areas, Farm Worker Housing, Transferable Development Rights.)MARKET DEVELOPMENT- (Farmers Markets, Regional Branding, Food Cluster Development, Market Development and Regional Distribution)BUSINESS EDUCATION AND MANAGEMENT- (Ag tools, Business Planning, Certification, Labor Issues, Marketing, Networking and Resources, Obtaining Financing, Succession Planning)RESOURCE INPUTS- (Energy Efficiency Renewables, and Rainwater Harvesting)

#	Question	Land Use and Access tools	Market Development	Business Education and Management	Resource Inputs
1	Strongly agree	8	12	10	4
2	Agree	20	16	19	25
4	Disagree	1	3	2	1
5	Strongly Disagree	2	1	1	2
6	Not Applicable	2	1	1	3

3. 2. FOR FARMERS- These tools are relevant to the issues I face in my farm operation. LAND ACCESS AND USE-(Agricultural Permitting in Urban Zones, Diversifying Ag Activities in Urban Areas, Farm Worker Housing, Transferable Development Rights.) MARKET DEVELOPMENT- (Farmers Markets, Regional Branding, Food Cluster Development, Market Development and Regional Distribution) BUSINESS EDUCATION AND MANAGEMENT- (Ag tools, Business Planning, Certification, Labor Issues, Marketing, Networking and Resources, Obtaining Financing, Succession Planning) RESOURCE INPUTS- (Energy Efficiency Renewables, and Rainwater Harvesting)

#	Question	Land Use Access and Use	Market Development	Business Education and Management	Resource Inputs
1	Strongly agree	17	20	16	14
2	Agree	12	10	12	14
4	Disagree	3	3	4	1
5	Strongly Disagree	0	0	0	0
6	Not Applicable	1	0	1	3

4. 3. FOR FARMERS- These tools provide new information or strategies that I have not seen or tried before. LAND ACCESS AND USE-(Agricultural Permitting in Urban Zones, Diversifying Ag Activities in Urban Areas, Farm Worker Housing, Transferable Development Rights.) MARKET DEVELOPMENT- (Farmers Markets, Regional Branding, Food Cluster Development, Market Development and Regional Distribution) BUSINESS EDUCATION AND MANAGEMENT-

(Ag tools, Business Planning, Certification, Labor Issues, Marketing, Networking and Resources, Obtaining Financing, Succession Planning) RESOURCE INPUTS- (Energy Efficiency Renewables, and Rainwater Harvesting)

#	Question	Land Use Access and Use	Market Development	Business Education and Management	Resource Inputs
1	Strongly agree	1	4	5	3
2	Agree	12	15	12	15
4	Disagree	17	12	14	11
5	Strongly Disagree	0	0	0	0
6	Not Applicable	1	0	0	2

5. 4. FOR FARMERS- I will use these tools to address my farming or farm planning issues. LAND ACCESS AND USE- (Agricultural Permitting in Urban Zones, Diversifying Ag Activities in Urban Areas, Farm Worker Housing, Transferable Development Rights.) MARKET DEVELOPMENT- (Farmers Markets, Regional Branding, Food Cluster Development, Market Development and Regional Distribution) BUSINESS EDUCATION AND MANAGEMENT- (Ag tools, Business Planning, Certification, Labor Issues, Marketing, Networking and Resources, Obtaining Financing, Succession Planning) RESOURCE INPUTS- (Energy Efficiency Renewables, and Rainwater Harvesting)

#	Question	Land Use Access and Use	Market Development	Business Education and Management	Resource Inputs
1	Strongly agree	7	11	10	8
2	Agree	14	16	16	15
4	Disagree	8	4	4	6
5	Strongly Disagree	0	0	0	0
6	Not Applicable	3	1	2	3

6. Comments

Text Response
Would appreciate additional info not in video form on Succession page.
I would add Farm to Restaurant, in addition to CSA and Farm-to-School. I think this is a very good way to get started, and with urban farmers, the restaurant operators might even be able and willing to harvest, as part of their monitoring of the growing location.
The materials are hard to navigate and understand and they don't address the needs we have -- a new farmer (18 year old) wanting to purchase or rent farm land on the urban/rural fringe, use horses, do organic, find local internships or land cooperation.
Needs to be simplified, revised and in "non-grant" terminology to make ANY of this accesible to the majority of farmers w/o Ag degrees.
Thanks for taking a serious look at the small urban farmer population!
I'm not a farmer
Too small a vision. Getting land and capital is key. The rest can be self-community-organized and coordinated.

Regulatory and Capital permission to farm in the sustainable consciousness which is emerging are the critical components.

Applicable											
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5. Comments

Text Response
I would like more hyperlinks to sites when agency/org names are listed

FOR CONSUMERS: This Tool is easy to understand

Question	Access to Healthy Food	Farmers Markets	Institutional and Agency Procurement	Responses
Strongly Agree	2	2	2	6
Agree	2	2	1	5
Neither Agree nor Disagree	1	0	2	3
Disagree	0	0	1	1
Strongly Disagree	0	0	0	0

FOR CONSUMERS: This Tool is relevant to my/our customers

Question	Access to Healthy Food	Farmers Markets	Institutional and Agency Procurement	Responses
Strongly Agree	3	3	3	9
Agree	1	3	1	5
Neither Agree nor Disagree	1	0	0	1
Disagree	0	0	1	1
Strongly Disagree	0	0	0	0

FOR CONSUMERS: My customers would support this tool

Question	Access to Healthy Food	Farmers Markets	Institutional and Agency Procurement	Responses
Strongly Agree	3	3	3	9
Agree	2	2	0	4
Neither Agree nor Disagree	0	0	2	2
Disagree	0	0	0	0
Strongly Disagree	0	0	0	0

Appendix 8

Case Farm Scenarios

- **Blue Fruits Farm– A Beginning Farm Operation in the Portland Metropolitan Region**
- **Hubbard Farms – A Wholesale Vegetable Farm within the Portland Metro**
- **Muddy Boots Farm – A Small Farm Operation Serving the Portland Metro**



Blue Fruits Farm– A Beginning Farm Operation in the Portland Metropolitan Region

Brooke Horton and her stepfather, Neal, are beginning farmers in the Portland Metropolitan region. They established three acres of blueberries in the fall of 2010, which they expect to begin selling as a u-pick operation in 2013. This is the first experience in farming for both Brooke and Neil. Brooke grew up in Michigan and then lived on the Virgin Islands for several years. Brooke and her husband, Brent, both went to college in Portland and then lived in Southeast Portland prior to moving to Sauvie Island in 2006.

Neil and his wife, Kelly, lived on the Virgin Islands for 21 years, where Neil worked in construction. Kelly is an artist specializing in oil painting and illustration. Neil and Kelly came to visit Oregon for Brook and Brent's wedding in 2004. After visiting, they decided to move back to be near the grandkids. Neil and Kelly fell in love with Sauvie Island and they purchased acreage there in 2005. Brooke and Brent also moved onto the new property, a 13-acre parcel, which has about five acres available for farm use. Brooke saw a lifestyle that she wanted for her two children and had a desire to forge a connection to the food her family eats; out of that her dream of farming was born.

The family initially established a wide variety of crops, fruit, and nut trees on their acreage. Their plan was to establish a diversified farm in the first few years, which would give them time to test and determine what grew best on the land, what the family most enjoyed growing and eating, and which crop had the most potential for their business. Initially, Neil and Brooke had approximately two acres planted with plans for establishing three more in the coming season.

Business Structure

Going into business together came naturally for Brooke and Neil. They have been in business as a family before, as they ran a vacation property together on the Virgin Islands. While the three acres of blueberries are in the establishment period, Brooke is growing dahlias, sunflowers, and wildflowers to gain a small return to the business. She sells the flowers at a co-op in nearby St. Johns and at Alma Chocolate in Southeast Portland.



Risks and Threats to the Business

Brooke and Neil's farming operation is faced with three fundamental threats. The most frustrating for them is Multnomah County's restrictive zoning laws. Their property is classified for high value farm use—thus they run into challenges as they look towards their future goals of adding value to the farm site through a farm stand or educational facility. Additionally, the family initially completed an application to the county to obtain a Certificate of Occupancy for the property's second home. This house was present when they acquired the land, but turned out to be not legal for residence. Neil and Brooke first completed their application to renovate this home as a farm help dwelling, to comply with the island's zoning regulations. When discussing the application with a county employee, they were given copies of successful Farm Help Dwelling applications within Multnomah County to use as a reference. All of these applications were for blueberry farms. After discussing the farm with the county employee, they were convinced their application was unlikely to be approved unless they removed their then-current crops, and planted a high value crop on at least three acres. The farm as it then stood, with a wide variety of crops on a small acreage, was not a farm business at all, according to the county.

Brooke, Neil, and the family debated about this recommendation and finally decided to establish blueberries to help gain zoning approval and avoid fines from the county. Recognizing that planting blueberries wasn't necessarily their first choice of cropping systems, Brooke and Neil still intend to expand into other crops later on, and currently have several dozen fruit and nut trees, as well as about 40 table grape vines on the perimeter of the property which are serving as their research and development plots.

Like most developing small businesses, Neil and Brooke are challenged with barriers to financing and labor. They had the initial capital to establish the blueberries. However, they do not have adequate cash flow in the years prior to having a harvestable crop to hire an additional employee to help on the farm when needed. Brooke and Neil do occasionally hire individuals for temporary work, which occurs a couple times a year for a few days at a time. They have used individuals off the neighboring farm's call list, though without great success. One of the more difficult challenges for Brooke and Neil is their lack of knowledge and experience in farming. To help overcome this knowledge barrier, Brooke is participating in the Beginning Urban Farmer Apprenticeship (BUFA) program, which is conducted for aspiring farmers in the Portland Metro region. Though the BUFA program is primarily aimed



towards those interested in starting vegetable and CSA type farms, Brooke has still gleaned a great deal of information about farm practices. She cites that since the program isn't necessarily targeted for individuals who plan to own farmland, helpful ways to work with the county's restrictive zoning laws have been largely unaddressed in this setting. Brooke and Neil do gain a great deal of advice from others—though taking advice can be difficult as there is limited research on organic methods for growing blueberries. It also seems that everyone they talk to has differing views about the best way to grow this crop, and having no previous farm experience, Brooke and Neil never know the “right” advice to take.

Market Research and Competitive Advantages

Blue Fruits Farm has competitive advantages in its location on Sauvie Island, which is a mecca for agri-tourism during the autumn season. The other u-pick operations currently on the island are quite busy throughout the harvest season. To gain an advantage over these established competitors, Brooke aims to be the only u-pick blueberry operation that is both organic and no-spray. She believes this distinguishing factor is desired by consumers. Additionally, the only other organic u-pick operation on the island does not have a welcoming ambiance to keep drawing families back to their farm. Brooke believes her prior experience in marketing and design will allow her to establish a comparative advantage over the other u-pick farms as she aims to make Brooke's Blueberries a destination for families to come relax and enjoy farm life. Brooke feels that pulling her strengths from design and marketing will allow her to create the aesthetic of comfort on the farm that will draw people in.

Measuring Success

Blue Fruits Farm needs to generate a return large enough to provide an adequate income for Brooke and Neil, as well as pay the taxes on the property. A successful business will be one that is both economically sustainable, as well as adheres to the family's ideals of organic and local.



Future Business Changes

Ideally, in the next five to 10 years, Brooke desires to expand to two u-pick crops; though she is not yet sure what other crop may be established to complement the blueberries. Brooke feels that diversification will be helpful to the business. With the current fruit trees and vines, the family also plans to expand the orchard and vineyard once they have determined successful varieties. With her desire to make the u-pick patch a comfortable place for families to come to spend time together in mind, Brooke ultimately would like to implement a value-added educational building so customers can learn about preservation and canning. She also has considered implementing a farmstand, if she can comply with the county's restriction that 90% of produce sold through her farmstand is grown by Blue Fruits Farm.



Hubbard Farms – A Wholesale Vegetable Farm within the Portland Metro

Thirty-three years ago, Warren Stewart was a beginning farmer. At the time, he worked in Salinas Valley in California as a Grower/Manager/Pesticide Advisor for a Vegetable Production Company. When the timing was right, Warren started searching for land to start his own farm. After looking around the St. Louis, Missouri area, Warren talked to a friend who owned land in Oregon, and decided to visit the Willamette Valley and look around. He ended up purchasing 42 farmable acres in 1979 near Hubbard, and Hubbard Farms was established. Warren's experience in Salinas Valley was in lettuce, so lettuce composed a substantial portion of his early crops. Growing lettuce in the Willamette Valley, however, proved too difficult given the market and unsatisfactory weather conditions. Warren soon began to diversify into several different vegetable crops.

Business Structure

Today, half of Warren's owned acres are set up in a Limited Liability Company (LLC) with his sons, who are in their late 30's and 40's. The other half of the LLC is owned by Warren. One of Warren's sons works on the farm with him. The other sons have jobs elsewhere. Hubbard Farms has 181 acres in farm production, with 120 in production annually. Warren has multiple leases to farm the acreage he does not own. Warren wholesales all of the farm's production. Hubbard Farms has about seven year-round employees and an additional 30 seasonal employees.

Warren's original farm acreage was financed by the Bank of Oregon and through a Farm Service Agency loan. When he moved to Oregon and purchased the land, the only infrastructure was an old livestock barn. Warren had two tractors. By 1980, the farm was growing, washing, and packaging bunch carrots, among other vegetables. By 1990, approximately 90 acres were under production. By 2000, Warren had expanded to farming 140 acres and had significant infrastructure on the farm to wash, chill, and pack his produce. Throughout the years, there have been various trials and changes in markets and crops.

One example of this is during the 1990's, the rent on the land where the carrots were growing quadrupled. Warren quickly exited the bunch carrot market, and found a better cropping mix. As a farmer with multiple crops, Warren has found that it takes time to



determine the best cropping mix, and the market will constantly change as demand, pests and disease, or extraneous events such as the lease agreement, determines it necessary. Warren's leases are set up as open-ended agreements between himself and the leasers. He currently pays approximately \$100,000 rent annually which works out to be about \$500 per acre.

Risk Factors and Risk Management at Hubbard Farms

When Warren began farming he was initially, and still is, competing against established families in the north valley area who also grow vegetable crops. Those families have owned their land and been farming in the area for at least three generations. While Warren admits he brought a lot of knowledge to farming when he started, he didn't have enough cash. As a result, while his competitors in the area have had their land paid off for years, Warren is still paying for his land purchase, and in comparison, is limited financially in what he can do.

Additionally, Warren's other challenges are in acquiring adequate skilled labor, adequate and timely financing, acquiring a land base suitable to what he wants to do with it, i.e. with adequate land and water rights, and to provide education of growing practices to his employees. Warren cites the H-2A guest worker program as a potential source for acquiring scarce farm labor. The program does offer some drawbacks in being expensive and bringing the uncertainty of not knowing which employees will be able to return to work each season. In addition, Warren acknowledges securing land with good water rights is a serious challenge. There is often a long time lapse between the request of a water right and the water right being granted or denied, and the determination of granting a water right doesn't always reflect the amount of ground water available in a given area.

Future Business Changes & Goals

In the future, Warren would like to expand his cold room/storage facility. Another of Warren's ideals is to have an additional 50-100 "luxury" acres, to be able to put more land aside for cover cropping to repair and/or better manage the soil structure that farming intensively causes. Warren also believes that stricter food safety compliance laws are in the near future. He knows that when this requirement comes, additional costs will be incurred to meet regulations, and depending on what the laws constitute, potential challenges for the farm might be inflicted.



Warren has no plans to retire in the near future. Neither are there further plans to bring new family members onto the farm. Though only one of Warren's sons works on the farm currently, there is room for another to return, should he desire, when Warren decides to step out of the operation. For now, Warren plans to eventually have an employee take over some duties but otherwise will continue shared management of the operation with his son. |

Though Warren is now an established farmer in the Portland Metro region, given his history as an outsider starting up a business in an area with established farming families, he understands the challenges that beginning a farming operation with few resources entails. It is only now, after all these years, that Warren feels he has overcome most financial challenges. Like other farmers in the Portland Metro, however, Warren still faces his share of farming barriers.

The following financial information does not represent Hubbard Farms. This information is however assumed to be representative of a commercial whole vegetable operation in Oregon of similar size, scope and markets.

Financial Information:

Gross Sales \$1,800,000

Total Expenses \$1,600,000

Net Income \$ 200,000

Operation loan \$ 250,000

Loan on Land (15 years remaining) \$ 441,000

Annual Equipment Depreciation \$ 40,000

Market value of machinery & equipment \$ 600,000

Real estate Value \$ 590,000

Possible discussion areas:

-Given what you know about Hubbard Farms, what would be your suggestions for long-term success?

-Do you think Warren is missing opportunities, or perhaps has challenges that are unclear to him?



Muddy Boots Farm – A Small Farm Operation Serving the Portland Metro

Muddy Boots Farm began in 1993 after Jane Cooper transitioned from working in the San Francisco restaurant scene to begin farming near the Portland metro region of Oregon. Growing up, Jane never intended to farm. She wanted to own a restaurant. After attending Hotel and Restaurant Management school at Cornell, Jane moved to San Francisco and began working in restaurants that connected with and supplied from local farmers. She soon found a desire to supply restaurants with fresh produce and completed the UC Santa Cruz Farm and Garden Apprenticeship Program. Jane learned about the Community Supported Agriculture (CSA) model of garden-marketing and then began looking for land.

She bought six and a half acres located 15 miles from downtown Portland, and began farming alongside her friend, Teresa James. Jane began by primarily selling produce to farmers markets and restaurants in Portland. After her first two years, she had successfully developed a small client base to begin her first season of CSA.

Today the farm is 18.26 acres of cultivated land, which encompasses 40 different crops. The farm is certified organic by Oregon Tilth and the CSA makes up 75 percent of gross sales. Since 1999, the farm has not sold produce via farmers markets, opting instead to build the CSA from its original 30 boxes to 500. Jane's initial business partner, Teresa, bought her own farm in 2000, and has since moved out of the area. Muddy Boots Farm continues to diversify its marketing strategies by selling to restaurants and institutions throughout the Portland area.

What is Community Supported Agriculture?

Community Supported Agriculture or CSA is a business partnership built between a grower and a consumer. Consumers purchase a farm share or box of produce in advance at the beginning of the growing season, and in turn receive fresh farm products weekly throughout the season. Under this model, consumers receive the market value of the products received and support the farmers' operation by supplying a guaranteed market for their products and a steady, known cash flow. The farmer, in turn, makes a commitment to supply a diverse range of products at a sufficient quantity for a set number of weeks.

At Muddy Boots Farm, CSA members purchase a farm share for a 28 week growing season. The weekly produce supplied to consumers varies from week to week and month to month



depending on availability. Jane opted to develop her CSA as a primary form of marketing due to the economic stability of having a pre-sold market for her produce.

Business Structure

Muddy Boots Farm is set up as a single member LLC—Jane is the single member. Her husband works off the farm and she hires four year-round, full-time staff. She has a farm manager for the day-to-day running of the business, a field manager who oversees the mechanical operations, irrigation, and cultivation, a field assistant who is primarily the irrigation manager, and a sales and marketing director. Jane hires additional seasonal employees for field work on the farm and to make CSA and restaurant deliveries throughout Portland.

Risk Factors and Risk Management at Muddy Boots Farm

Jane's primary market is her CSA program, which makes up 75 percent of gross sales. The CSA has been a very successful risk management tool, as shares are pre-sold at the beginning of the season, and Jane has a guaranteed market for the majority of her produce. Despite its success, the current economy and increasing market competition are now making it difficult to fill up CSA box shares without doubling marketing efforts. Current CSA shares sold throughout the Portland region are stagnant, while farms offering CSA shares continue to rise. To manage her risk, Jane opts to diversify her market by also selling produce to restaurants and institutions. She works with Bon Appétit for institutional sales.

Although Jane charges only what she needs to be financially stable, she does hear complaints that local food is too expensive. Jane knows that customers who believe local, organically grown food is better are willing to pay the additional price for it. However, certification is one component of the higher cost of organic foods, and along with the practices that go along with growing organically, such as extensive labor, Jane's prices are generally higher than customers would find in a traditional grocery store.

Muddy Boots Farm was initially certified Organic by Oregon Tilth. From 2001 through 2008, however, the farm chose not to pay for certification. Farm practices during that time period did not change. Jane's reason for not being certified during those years was because she was no longer selling produce at the farmers market and had a continuously growing CSA membership; therefore her clients weren't demanding her to be certified organic. In 2009 Muddy Boots Farm was re-certified organic.



Amidst concern for the economy and saturation of the CSA market, Jane began to think about the possibility of re-entering the farmers markets to diversify her marketing outlets. There, customers demand certification for premium prices.

While Jane is never without a steady supply of qualified labor, due to her proximity to Portland, she would like to be able to offer higher wages, full-time status, and benefits to all employees. Currently 63 percent of the farm budget goes towards labor. To manage this risk, in addition to her four full-time staff who receives benefits, Jane hires 10 to 12 seasonal workers.

Land Use and Zoning Barriers

Though Jane has considered adding an agro-tourism or recreational component to her farm business to help generate additional income, she is limited by land use and zoning laws, which otherwise would allow her to hold weddings and other events on the farm. Other regulations require a great deal of time and work in following to ensure farm practices are in compliance.

Food Quality Control and Logistics

Some CSA programs partner with other local farmers to combine products such as eggs, bread, or meat to put in CSA boxes. Jane cites food safety and quality control risks as limiting factors for why she chooses not to form similar partnerships.

Threats to the Business

A large portion of the farm is located on land leased from Portland Metro—only one farmed-acre is owned. The lease is set up on a five-year rolling basis. Setting up the business this way allows for the risk that at every five-year renewal period, Portland Metro could choose to not renew the lease. Nonrenewal would severely limit production and threaten to put the farm out of business.

The current economy and lack of expansion in CSA membership also threatens profit margins. Currently the market may be saturated, as the economy makes people choose not to return or begin a CSA box subscription. Increasing consumer awareness and appreciation for this market is critical to the farm's long-term sustainability, if it is to continue to expand. One of the challenges in expanding the customer base is to figure out how to get more people to buy locally.



Comparative Advantages

Muddy Boots Farm relies on its history and reputation as comparative advantages. The farm has one of the oldest CSA programs in the Portland metro region. In 1996, when Muddy Boots Farm began offering a CSA subscription, the farm offered a weekly newsletter, which was sent out to CSA members. Over time, as Internet technology developed and access became widespread, the newsletter slowly evolved to what is now an online blog. Additionally, the CSA membership developed from a sign-up form at the farmers market to an online sign-up.

Muddy Boots Farm's diversity of over 40 crops enables it to be competitive and to meet customer desires over the course of the CSA season. Additionally, the farm has 20 different CSA box pick-up locations throughout the Portland Metro region, and deliveries take place on multiple days of the week.

In 2011, the farm began offering half-shares for families of one to two people, in addition to the original family share. The farm offers two types of pick up, either bulk or box.

Marketing Methods and Market Outlets

The marketing strategies for Muddy Boots Farm have changed over the course of the farm's history. While produce was initially sold to customers at the Portland Farmers Market and to high end restaurants, the farm began to diversify by offering a CSA subscription to 30 members in 1996, after making contacts at the farmers market. After three years of offering the CSA, growing demand allowed for the farm to stop selling produce at the farmers market in 1999. The family share for a season of CSA membership is priced at \$920 and the half share is priced at \$495. For crop planning, each share is broken down by crop so customers are receiving more produce than the market value of their \$920.

The farm currently sells produce to 33 restaurants. The Sales and Marketing Director cultivates relationships with local chefs to secure this market source. The farm works with Bon Appétit who markets the farm's produce to institutions such as Universities and OMSI. Generally, restaurant products are not pre-sold. Produce is delivered to restaurants on Wednesdays and Fridays. An email list of products available is sent out weekly, and orders are fulfilled via email. For some items, such as salad mixes, standing orders are established for an entire season. For example, some restaurants have a standing order of 20 pounds of salad from May to October.



Advertising and Promotion

Currently, the farm uses its website as a promotional tool. There, customers can read about Muddy Boots Farm, access the CSA blog, and sign-up for CSA membership.

Future Business Changes & Goals

Jane has several goals she would like to achieve in the next 10 years. The immediate goals of Muddy Boots Farm, however, are to:

- 1) **Provide higher wages and salaries to all employees**
- 2) **Provide healthcare to every employee**
- 3) **Increase salaries annually**
- 4) **Provide year-round employment**

To accomplish the first three goals, Muddy Boots Farm must increase revenues. This can be achieved by increasing either price charged for products or acreage, resulting in increased crop sales. Jane can achieve her fourth goal by lengthening the growing or marketing season, or diversifying into other business opportunities.

Jane believes the best way to achieve her first three goals are to increase acreage and crop production to increase returns. This may require additional employees. Jane believes that along with her four excellent managers already in place, the farm would only require one new manager position if acreage increases no more than 100 percent. Increased production also means the packing facilities will need to be expanded, and the current distribution chain will need revised. This new infrastructure necessary to expand will require long-term financing. Once the land and financing is in place, the main question for Jane will be how to market the increased crop production.

Jane has identified the following strategies to meet her goals:

- 1) **Increase the number of CSA customers,**
- 2) **Increase institution and restaurant customers and/or sales,**
- 3) **Sell to customers at local farmer markets,**



- 4) Sell to the wholesale and retail markets in Portland and
- 5) Provide a venue for agri-tourism opportunities.

Table 1. List of crops, acreage and their contributions to fixed costs for 2012.

Crop	Acres	% of Total	Contributions to Fixed Costs	Crop	Acres	% of Total	Contributions to Fixed Costs
Basil			😊	Parsley			
Beans			😊	Parsnips			
Beets			😊	Peas			
Broccoli			😊	Peppers			
Brussel Sprouts			😊	Potatoes			
Cabbage			😊	Pumpkins			
Carrots			😊	Radishes			
Celeriac			😊	Romanesco			
Chard			😊	Scallions			
Cilantro			😊	Spinach			
Collards			😊	Squash— Summer			
Corn			😊	Squash— Winter			
Cucumbers			😊	Tomatoes			
Dill			😊	Turnips			
Eggplant			😊				😐
Fennel			😊				😐
Garlic			😊				
Greens			😊				
Kale							😞
Leeks							😞
Lettuce							😞
Melons							😞
Onions							😞

- 😊 - Crops that generate positively to the farm's fixed costs and to profits
 - 😐 - Crops that may or may not generate positively to the farm's fixed costs and to profits
 - 😞 - Crops that do not generate positively to the farm's fixed costs but are demanded for weekly boxes by customers and/or they are required in the crop rotation
- The following financial information does not represent Muddy Boots Farm. This information is however assumed to be representative of organic vegetable operations in Oregon of similar size, scope and markets.



Financial Information:

As of January 1, 2011, the beginning cash is \$15,000 with \$2,000 in prepaid expenses and \$1,000 in investment in growing crops. The market value of machinery is \$175,000. The value of facilities and other improvements has a market value of \$50,000.

Muddy Boots Farm leases all the cropland with annual cash rent payments. They have two tractor loans. The first tractor loan has three years remaining before it expires and the second loan has two years remaining. The first loan was originally for \$55,000 with an 0% interest rate and the term of the loan was for five years. The second loan's original amount was \$50,000 with an interest rate of 0% for five years in length as well. The pickup was recently leased for a five-year period with a \$4,000 annual lease payment. There is no special buyout package when the lease expires.

As with the CSA market, customers pre-pay for boxes to be received during the course of the year. These pre-paid sales pay for all production costs throughout the year, thus no operating loans are required from a lending institution.

To keep intermediate assets current, Jane would like to continue to take out new equipment loans for the same loan amount, assuming a 3% inflation rate each year. Thus, a loan will be obtained for \$55,000 in year five and another equipment loan for \$55,000 in year eight. She also plans to continue leasing a new pickup when the current lease expires.

Jane consulted several lenders and agricultural professionals to come up with the following financial ratios and established minimums and maximums for each of these criteria:

- a) **Cash on hand cannot fall below \$25,000 in any one year.**
- b) **The current ratio cannot drop below 2.**
- c) **Working capital must remain above 40% of annual expenses, which includes loan and lease payments.**
- d) **The debt-to-asset ratio cannot exceed 35%.**
- e) **Term Debt Coverage Ratio must remain above 1.50.**

These criteria helped Jane establish the financial boundaries that were needed to develop a marketing strategy.



Given what you know about Jane's business, what would be your suggestions to Muddy Boots Farm and its long-term success?

Possible discussion areas:

Should Jane consider expanding the farm acreage?

- Is Jane in a position to acquire the capital to invest in the equipment needed to expand?
- Will she be able to pay the necessary personnel the wage she desires to, if she does expand?
- What happens if Jane has an emergency situation? What will happen to the farm?
- Where and how will Jane sell the extra produce, if she chooses to expand?

What risk management tactics should Jane consider when farming leased land?

- Is farming on primarily leased land a wise planning decision?
- What should Jane's back-up plan be, should the county decide not to renew her lease?
- Should Jane put hoophouses and/or other infrastructure on leased land?

What tactics should the farm take towards making the CSA distribution system more efficient?

- Should Jane consider less (or less frequent) CSA distribution points?
- Should the farm coordinate CSA distribution with another nearby farm—thus cutting costs?

What marketing tactics should the farm take to retain and build the CSA membership?

- Should Jane consider collaborating with other farms to incorporate a variety of products in CSA boxes to offer more than produce?
- Should Jane look at growing year-round to entice customers to retain membership?
- Should the farm actively consider returning to selling at farmers markets?

Appendix 9

Damascus Case Study

Growing a Sustainable Portland Metropolitan Foodshed



Case Study City of Damascus Damascus, Oregon



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June 2011

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Cogan Owens Cogan, LLC (COC)
The City of Damascus

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Executive Summary

The project, *Growing a Sustainable Portland Metropolitan Foodshed* was a partnership between Portland State University (PSU), Oregon State University (OSU), consultants Cogan Owens Cogan, LLC (COC) and the City of Damascus (City).

For purposes of the project, the foodshed was defined as Multnomah, Columbia, Clackamas, Washington and Yamhill Counties in Oregon and the systems that support the regional food supply. Clark County, Washington, was not included.

The toolkit was developed for three distinct audiences in the Portland Metropolitan Foodshed: producers, planners/policy-makers and consumers. This analysis shows that though some revisions to the tools may be necessary, the current contexts, challenges and barriers are identified and address several of the key practical and policy barriers and challenges.

The proposed recommendations in the toolkit to resolve these concerns enhance opportunities for improvements in the food system and increase the ability of those entities vital to the foodshed to expand their capacity. Using these tools can help change the foodshed landscape to allow producers to be more productive, increase overall consumption of healthier foods and to expand economic impacts throughout the region.

To the extent possible, the tools can be replicated in areas inside and outside the Portland metropolitan area. However, Oregon's land use planning laws determine what can and cannot take place in urban and rural zones. This is different from many other states, so with that caveat, the tools can be useful outside the state of Oregon.

The five main takeaways of this review are:

1. Land use tools administered by land use regulatory agencies (State, regional, local) need to be revised or updated to reflect more integrated land use patterns that allow value-added farm activities in rural zones and farm/agricultural activities in urban zones. These changes will help diversify agriculture and increase the viability of farming, making it profitable for producers. Productive urban agriculture helps retain it close to cities, potentially reducing transportation costs and greenhouse gas emissions.
2. Tools to conserve agricultural land, such as conservation easements, transferable development rights, etcetera, may be feasible, but the costs and benefits must be clear to the public, landowners and jurisdictions.
3. Tools that require high expenditures by farmers/producers will not likely be introduced on the farm unless there is affordable financing or a demonstration project. This is most applicable to the rainwater harvesting and energy efficiency tools. For rainwater harvesting, federal regulatory standards may need to be considered for organic farms.
4. The regional marketing and branding may already be underway within a variety of organizations and formats. There may not be a need for a new organization to take on this role. This tool has limited applicability to the Portland metropolitan region.
5. The applicability of some of the tools should be tested after they are adopted at some jurisdictional level to really ascertain their viability. This "case analysis" was limited because given the political situation in the City of Damascus, the tools were not adopted as had originally been intended at the time of the grant proposal, which proposed a "case study".

Portland Metropolitan Foodshed

SARE Toolkit Case Study and Evaluation

Background

Portland State University, Oregon State University, Cogan Owens Cogan LLC (COC) and the City of Damascus received grant funding from the USDA's Western Region Sustainable Research and Education (SARE) program to define the Portland, Oregon Metropolitan Foodshed and develop policy tools to address the sustainability of the foodshed. Consultants Cogan Owens Cogan, LLC drafted a number of policy tools and Oregon State University developed separate online tools that were distributed to a variety of stakeholder groups: producers, policy makers/planners and consumers, to review and evaluate. Each group evaluated the tools' potential to affect and enhance the productivity, marketability and sustainability of urban agriculture to support the Portland metropolitan foodshed.

Toolkit Development Process

In 2010-2011, challenges and opportunities within the regional food system were explored in the first phase of the SARE project through in-person interviews and on-line surveys, as well as a best practices literature review. Areas explored included export expansion, import substitution, processing, distribution, consumption, regional foodshed cluster development, capital, land, water, labor, education and management, regulations and requirements, transportation, energy, marketing and ownership/succession management.

Stakeholders reviewed and tested these challenges and opportunities, and responses were gathered through a series of personal interviews. After the review, tools were developed, refined and reformatted to make them user-friendly and quickly identifiable to those seeking answers about "what to do". The "toolkit" is composed of fifteen papers that summarize an issue, explain the current context, identify barriers, challenges, and opportunities, then identify recommendations for proposed actions. Resources, models and best practices are also provided at the end of each "tool".

Context

One of the project objectives identified in the SARE grant application was "to ensure the toolkit will be used by and useful to farmers, planners, public officials and others who participate in and influence the market environment for local food." The tools were reviewed and assessed in a case study in the City of Damascus involving producers, local and state planners and consumers. The project team was not able to "ensure" the toolkit will be useful because none of the tools were actually adopted or implemented. We were limited to analysis of opinions on

the tools to test their potential efficacy due to the lack of ability to implement, enact or adopt certain policy tools within the timeframe of the grant. Changing policies and laws requires a considerable public process, which was not possible within this grant timeframe.

Case Study

The City of Damascus was selected as the case study venue because it is within the region's Urban Growth Boundary (UGB), and has incorporated as a city, but it has not yet developed as an urban area. It is still a heavily rural and agricultural landscape, with commercial farms and nurseries, as well as significant large-lot development.

The City has struggled to adopt a Comprehensive Plan land use plan that is acceptable to the local residents, many of whom are reluctant to see community changes implemented in a historically rural area. Many of the tools proposed in the 2010 Damascus Comprehensive Plan, *Envision Damascus*, were similar to those proposed in the toolkit, such as tools to preserve agricultural land and low impact development strategies; i.e. energy efficiency, rainwater harvesting, etc.. The previous inclusion of some of the study's policy tools in *Envision Damascus*, indicates that there may be future acceptance of these types of tools from the toolkit in the next version of the City's Comprehensive Plan, which would provide the opportunity for use and future analysis of the toolkit.

Methodology

In order to meet the terms of the grant, the City of Damascus used a two-tiered methodology to evaluate the regulatory tools that targeted three stakeholder groups: producers, local planners and consumers. Each stakeholder group was given the applicable set of tools to review. Producers also got agriculture-related sections of the formerly adopted *Envision Damascus* Comprehensive Plan document (adopting ordinance was repealed in May 2011). Each interviewee was then asked to answer a set of questions related to the tools. Some responded in writing as well as in the one-on-one interview. Responses were then recorded on the matrix in this report and conclusions made about the effectiveness of the toolkit.

Producers

Two Damascus-area commercial farms were selected to participate in the case study to review the tools in relation to their farm operations:

- **Thompson Farms**, owned by Larry Thompson and family; growers of pesticide-free fruits and vegetables; and,
- **Siri & Son Farms**, owned by Fred, Jim and Joe Siri; commercial organic vegetable growers.

The two small farms are not necessarily representative of the farms that may use the tools, but they each have a distinct operation, Thompson sells through farmers' markets and stands only, and Siri sells through wholesalers to local and national chain grocers only.

Each producer answered questions about the tools' potential applicability, effectiveness and benefits to their operations, the community, economy and environment. As part of the case study producer participants received a set of the eleven (11) tools, listed below.



1. *Economic and Market Development*
 - A. Food Cluster Development
 - B. Farmers' Markets
 - C. Market Development and Regional Food Distribution
 - D. Regional Branding
2. *Food Access and Labor*
 - E. Farm Worker Housing
3. *Resource Inputs*
 - F. Rainwater Harvesting
 - G. Energy Efficiency and Renewables
4. *Land Use and Community Design*
 - H. Agricultural Permitting in Urban Zones
 - I. Diversifying Agricultural Activities in Urban Zones
 - J. Transferable Development Rights

Researchers provided a policy summary of the City's former *Envision Damascus* Comprehensive Plan as background information with highlighted sections of the Plan goals and policies (repealed May 2011) related to urban agriculture and food systems, as well as a SARE project fact sheet. Then, each participant considered the following questions as they read each of the policy tools.

Questions:

1. Though Damascus does not currently have an adopted Comprehensive Plan, under the previous “*Envision Damascus*” Plan policies, did the policies highlighted in the enclosed Policy Summary address the broad direction needed to implement many of the enclosed policy tools? If so, which ones? What other policies do you think are needed?
2. Which tools in the toolkit would you find most useful in your farm operations and in your role as a food producer and why?
3. Which tools are you least likely to use? Please tell us why not.
4. Can you place a dollar value on efficiencies or savings resulting from implementation of any of the tools? Which ones? How much?

As a follow up, participants were subsequently directed to a project Web site, where the toolkit was provided for farmers (producers), planners and consumers and each participant was asked to respond to a different set of questions to evaluate the tools based upon their stakeholder category.

Planners and Policy-Makers

While the original grant application cited adoption of a number of governmental policies, regulations and/or programs, voters repealed the City of Damascus’ ordinance that adopted the 2010 Comprehensive Plan, *Envision Damascus*, in May 2011. The original project application stated that grantees cause adoption of the tools by different jurisdictions. Since the City of Damascus is not in a position to compel adoption of specific policies by the City or any other governmental entity, we proposed that the tools be reviewed within the context of the repealed goals and policies that address urban agriculture and food provision. The tools will then be included as background information to local planners as they draft a new Comprehensive Plan for the City of Damascus.

Agencies and individual planners were asked to review the applicable tools as they pertained to local, regional, or state solutions to identified barriers/challenges and opportunities and respond to the following questions:

1. Is the tool on target with identifying issues?
2. Are there barriers or challenges that have not been addressed that need to be?
3. Are the proposed actions/recommendations on target?
4. Are there modifications that should be made to the tool?

The following agency staff participated in the interviews for the case study:

- City of Damascus: P. Elise Scolnick, AICP, CSBA, Senior Planner
- Oregon Department of Land Conservation and Development: Katherine Daniels, AICP, Farm and Forest Specialist

METRO regional government planner: Ray Valone, AICP, Principal Planner

Project team partner Cogan Owens Cogan, LLC also conducted a number of informational interviews to gather input on the issues and tools, which were informative in the development of toolkit.

Consumers

Consumers were included in the review as they are “eaters”, those most instrumental in assessing the success at the delivery end of the local food system. A group of consumers that are participating in a related grant project, the Kaiser Health Initiatives funded, “Access to Healthy Food: The Healthy Damascus Food Plan”, were presented with a set of tools and questions that applied to three specific tools in the toolkit: Access to Healthy Food, Farmers’ Markets and Institutional and Agency Procurement. Their responses were included in an online evaluation survey, but not in this case study.

All the information gathered in the development and evaluation of the toolkit will be used to further refine and revise the tools. The revised toolkit will reflect both best practices and what was heard from the interviewees.

THE TOOLKIT DISTRIBUTION

The following table shows the tools evaluated by the three stakeholder groups.

Table 1. Portland Metropolitan Foodshed Toolkit

Tool	Policy Makers/Local Planners	Producer	Consumer
Access to Healthy Food	●		●
Agricultural Permitting in Urban Zones	●	●	
Community Design	●		
Diversifying Agricultural Activities in Urban Zones	●	●	
Energy Efficiency and Renewables		●	
Exports	<i>To be evaluated at the county, regional or state level</i>		
Farm Worker Housing	●	●	
Farmers Markets	●	●	●
Food Cluster Development		●	
Import Substitution	<i>To be evaluated at the county, regional or state level</i>		
Institutional and Agency Procurement	●		●
Market Development and Regional Food Distribution		●	
Rainwater Harvesting		●	

Tool	Policy Makers/Local Planners	Producer	Consumer
Regional Branding		●	
Transferable Development Rights*	●	●	

Producer/Farmer Background Information

Larry Thompson, Thompson Farms, 24727 SE 242nd Avenue, Damascus, Oregon



Within the City of Damascus, Larry Thompson owns and leases approximately 110 acres. He farms a total of 140 acres in the Mt. Hood region. His other fields are nearby in Gresham, Estacada and Sandy, Oregon. Approximately two thirds of the acreage is owned and the other third is leased. Mr. Thompson is in produce farming, raising fruits and vegetables. He has been farming his whole life, having grown up farming with his parents. Currently, he is teaching his son the trade. He also serves as a mentor/teacher of farming to immigrants and refugees through Mercy Corps, a non-profit, non-governmental organization based in Portland, Oregon.

Larry grows all organic produce; however, he does not pursue organic certification. One hundred percent of his produce is sold within Oregon, directly to customers via farm stands and farmers’ markets. He has had a U-pick business in the past, but not anymore. Currently he sells produce at three farm stands, seven farmers’ markets and four area hospitals. Hospital customers are a mix of staff and visitors.

When his father was farming, they would supply to canneries, grocers and restaurateurs, but as time progressed, these entities were dictating price structures to the point of weakening the farmer’s ability to sustain a living. He chose to take the business in a direction of direct marketing to the consumer and this enabled him to highlight the locally grown, organic aspect of his product, which had been diminished by wholesalers and competition from larger non-local, non-organic competition. He has also cut back on the U-pick aspect of his business quite a bit because the income to acreage ratio was weakening.

Labor supply is not an issue for him, though he points out a key challenge in continuing small-scale farming, the scarcity of young people who want to go into farming. It is not something that we focus on when educating young people and that is unfortunate. Another challenge is the presence of subsidies. Larry has strong feelings about subsidies. They kill innovation and that will kill farming in the end. Damascus has a real opportunity to create a farm-based market where people come to enjoy the experience of shopping for produce.

Downsizing the farm operation as growth pressure fetches a good price for the land is a strong consideration for Larry. Much depends upon how long his son will sustain interest in farming. Currently his son wants to continue the family farm but he has already stated that “he does not want to work as hard as Dad does.” Larry is planning on farming until he cannot physically

handle the work anymore...he is not likely to continue farming in a different location though he acknowledges that this is how some farmers might deal with growth around them. He expects to sell some of his land for development.

Larry used to be active in the Food Alliance; however, he says it became much too cost-prohibitive and complicated to keep up with the programs

Larry has focused his marketing efforts on the concept of a community-based farm. He maintains strong relationships with neighbors and other local buyers, community leaders and opinion leaders. This is a key aspect of his business model. People buy his produce because they like the idea of a community farm. They like to know the farmer and have access to the field.¹



Thompson Farms Produce Stand. Damascus. OR

¹ Thompson Farms and Siri and Son Farms history and background information excerpted and edited from interviews for the “Damascus Farm and Nursery Report and Recommendations” by M. Gregory, Soapbox Enterprises, 2009, edited by Anita Yap.



Siri and Son Farms, 16410 SE Highway 212, Damascus, Oregon

Father Joe, son Fred and grandson Jim Siri have been farming within the Damascus area for many years. They own about 40 acres and lease about 100 acres. Much of the family's property is in the Happy Valley/Damascus area. Siri and Son Farms is a family-owned produce farm with a packing shed on their property on

Highway 212. They also have other field locations.

The Siri's grow mostly organic produce. They sell about 80% of their produce within Oregon, and export approximately 20% of it out-of-state. Their distribution market is to wholesale grocers such as New Seasons, Fred Meyer and Safeway grocery chains.

They have all seasonal workers, around 50 of them from May to November. They provide housing for about half their workers. There is a fleet of about 15 tractors and trucks to serve the farm. A packing shed on the farm is important to their business, allowing them to package on-site, thereby saving transport costs.

Credibility problems with organic production have been a challenge, but doing more advertising and promoting better health programs and environmental values is helpful to the business. They believe that over time, more people will appreciate organic produce.

Organic farming is much more expensive to farm - more labor intensive, especially if there is an infestation. Beneficial's do not control everything. The degree of culling of seedlings needed for a crop reduces the amount of crop per acre by about 35%, whereas conventional farming affords a higher rate of return. However, more value could be added through canneries, processing foods, or produce being quick-frozen.

With regard to farmland preservation in the urban areas, yes - Siri has seen how it works in Europe and other countries, and it is mostly smaller farms with roadside operations. Here (in the U.S.) we move food production all around the country via corporate distribution systems. We can sustain it for a while but at the expense of losing our connection to the land and the farmer. Farmland preservation has not taken hold here the way it has in Europe. Siri thinks it could work fine here with an industrial interface. In urban areas, we need to build up instead of out to preserve farmland.

A Brief History of the Damascus Comprehensive Plan

Founded in 1851, the Damascus area was put into the Portland Metropolitan Urban Growth Boundary in 2002 by Metro, the regional government entity. The City incorporated in 2004 and adopted Core Values in 2005. From 2005 until December 2010, the community worked diligently to create a new Comprehensive Plan. Adopted by City Council in December 2010, the *Envision Damascus* Comprehensive Plan was a watershed moment for the community. The Plan was a progressive document that addressed sustainability, including provisions for urban agriculture, and the use of ecosystem services for infrastructure, and calling for strong environmental protections.

Upon adoption, the Plan was sent to the State of Oregon's Land Conservation and Development Commission for acknowledgement. However, community discontent over some of the provisions of the Plan, such as extensive natural features protections and the public involvement process led to a citizen's initiative petition to repeal the Plan's adopting ordinance. The voters passed the initiative in May 2011 and the Plan was repealed at that time.

As of June 2012, the City is drafting a new Comprehensive Plan that will meet the goals and aspirations of the majority of Damascus residents and property owners. As there is no adopted Comprehensive Plan for use in this case study, the excerpts below from the 2010 *Envision Damascus* Comprehensive Plan show the previously adopted policies and implementation measures related to urban agriculture or food systems. These chapters provide a context within which the tools for the case studies were examined by producers. The new Comprehensive Plan may or may not contain similar goals and policies as it moves forward through the adoption process, anticipated to be complete by 2014.

2010 City of Damascus Agriculture/Food System-Related Comprehensive Plan Goals, Policies and Action Measures from *Envision Damascus*²

CH.2 SUSTAINABLE COMMUNITIES GOALS, POLICES, ACTION MEASURES AND IMPLEMENTATION TOOLS

G-4: Develop a sustainable food system program.

CH.4 GOAL 2 LAND USE PLANNING GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

Built Environment Policies

- P-15: Denser, more developed areas shall be clustered to minimize encroachment on open space and rural landscape.
- P-12: Urban and rural components of the city shall be developed and integrated in a sustainable and environmentally responsible manner.

CH.5 GOAL 9 ECONOMIC DEVELOPMENT GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

- P-2: The City shall encourage and support existing employment in the area.
 - AM-3: Support existing farms, tree nurseries and sustainable forest production in the interim as the City urbanizes including associated activities such as agri-tourism and food service opportunities.

CH.6 GOAL 10 HOUSING GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

- P-4: The City shall balance a wide range of land use types and scales for different areas of the city, keeping in mind that future land uses should reflect and enhance the existing character of Damascus.
 - AM-4: Include a requirement for buffers in new developments adjacent to, or across the street from existing farms and nurseries.

CH.9 GOAL 14 URBANIZATION GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

G-13: Develop policies and standards to guide transitions as properties urbanize that address urban design, architectural features, location, density, landscaping, buffering, setbacks and other methods to ensure compatibility between land uses and building types.

- P-18: Agriculture and forest-zoned lands shall be identified to an appropriate designation that takes into account the economic, social, and environmental value of the land. Said land shall be entitled to continue their existing uses subject to all ordinances, policies and rules which would affect the citizens at large.
- P-26: The City shall encourage and support home-based businesses.

² This text was taken from “*Envision Damascus: The Damascus Comprehensive Plan*” which was originally adopted in December 2010. A citizen’s initiative vote to repeal the adopting ordinance passed in May 2011. No Comprehensive Plan is in force at the time of this case study.

- AM-1: Encourage and support existing and future home-based businesses that do not negatively impact the residential character of neighborhoods.
- P-33: The City shall develop a strategy and implementation requirements for the transition from low-level urban and rural activities to higher-level urban development.

FARMS AND NURSERIES TRANSITION AND URBANIZATION POLICIES

- P-1: The City shall encourage sustainable farming practices as an economic development strategy.
 - AM-1: Work with existing farms and nurseries and develop a strategy to allow continuation of agricultural practices until such time that urbanization is appropriate.
 - AM-2: Explore mechanisms to encourage the continuation of farming in the area. These may include farmer training programs to incentivize new, young farmers to the area, farm operation adaptation, parcelization to make farm size affordable to those who are interested in farming but who do not have enough capital to buy a large farm.
- P-2: Conversion of rural agricultural land to urbanizable land shall be based on the following factor:
 - As the city expands its boundaries, land designated for agricultural, forest or rural residential uses by Clackamas County shall be re-designated to an urban City of Damascus zoning designation according to procedures and methodologies established by the State of Oregon, Metro, Clackamas County and the City.
- P-3: Continue to encourage the practice of local food and plant generation on land that is viable for such and within proximity to an urban population.
- P-4: Respect the Right-to-farm laws and acknowledge farmers' right to retire.
- P-5: Consider a farmland Transfer Program, which could include options for transfer of ownership, lease or other options to allow continuation of farming.
- P-6: Discuss water issues with agriculture land as an alternative water user.
- P-7: Consider transitional uses, such as "bridge uses" or industries on edges of farmland for commercially-related uses such as markets, etc.
 - AM-1: Consider a requirement strategy for compatibility between uses. Develop transition performance standards in the Development code for future development within or adjacent to farms and nurseries.
- P-8: Prevent conflicts and promote a farm-friendly culture.
 - AM-1 Integrate farming within the urban design of the community and develop cluster communities around and along with farms to limit conflicts and encourage compatibility between uses.
- P-9: Develop both a philosophical and pragmatic rationale for an agriculture overlay zone inside the urban growth boundary.
 - AM-1: Develop an urban Agriculture Overlay zone in the Comprehensive Plan and zoning map with standards in the city's Development Code.

- P-10: The City shall develop a strategy to link urban agriculture opportunities, sustainable food systems and economic development, within the city and the region.

CH.11 GOAL 6 AIR, WATER & LAND RESOURCES QUALITY

GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

G-3: Reduce noise levels in Damascus and maintain the quiet rural character of the community in which people can converse, relax, play and sleep without interference from noise.

CH.13 GOAL 8 RECREATIONAL NEEDS GOALS, POLICIES, ACTION MEASURES & IMPLEMENTATION TOOLS

POLICIES FOR CREATING A SENSE OF COMMUNITY

- P-5: The City shall build upon the history of the agrarian landscape by encouraging agricultural preservation and incorporation with park space.
- P-6: The City shall provide linear parks as linkages to major transportation corridors, to villages and centers, and to agricultural areas (or urban farms).



Matrix of Interview Responses

The following matrix reflects the core comments made in response to each of the tools reviewed by either producers or policy makers/planners. Consumers, comprised of members of the City of Damascus' Kaiser Grant Technical Advisory Group (TAG), were directed to a web site to evaluate the tools applicable to the consuming public.

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
<p>Access to Healthy Food</p>	<ul style="list-style-type: none"> • Provide training for county social service agency staff and clients on healthy food education, preparation and storage. • Tie health and nutrition standards and local food purchases to public agency procurement policies. • Incentivize community development corporations and micro-enterprise developers to support community economic development, workforce training and micro-merchant development in to increase wages and enable people to buy healthier food to combat obesity and hunger. • Support federal legislation to increase the minimum allotment of SNAP dollars allowed to be spent at farmer’s markets for obtaining healthy and local food. • Strengthen HB 2800 legislative and operations guidelines with recommendations provided by Upstream Public Health’s May 2011 Report. 	<p>Agency: City of Damascus</p> <ul style="list-style-type: none"> • The City of Damascus is currently the recipient of a Kaiser Permanente Health Initiative Grant, <i>Access to Healthy Food: The Healthy Damascus Food Plan</i>. The grant project is to ensure policy development related to healthy food access as a new Comprehensive Plan is drafted. It includes community input on priorities and outreach efforts. This tool accurately reflects the challenges and barriers to obtaining healthy food. However, in the tool, there is a focus on low-income populations and on Multnomah County. This issue encompasses the whole region. The tool should reflect the whole region. • Lack of access to healthy food can exist irrespective of income. Lack of transportation, land use patterns, cooking skills, cultural patterns, isolation, age, and infirmity can all contribute to hindering access to healthy foods. • Access to healthy food can be achieved by the actions recommended, among others. Healthy Food Retail Initiative is not listed and is one such program. This is a program to help small markets increase the opportunity for provision of fresh produce and other healthy foods through group purchasing, grants or loans for refrigeration equipment, identification of healthy food options in-store and other marketing assistance. • HB 2800 is the farm-to-school legislation, increasing the amount of farm-fresh foods served in public schools. The cooperation of school districts is essential to rounding out the access to healthy food efforts. Damascus has five different school districts that serve the city. Coordinating healthy food access awareness and actions with all of the districts will likely be challenging. The hope is that separate actions of each district will result in healthier school meals, and healthier children. Purchasing decisions should be coordinated between all districts to ensure that fresh, local foods are available in each school and that there is consistent nutritional content across the districts’ schools.
<p>Agricultural Permitting in Urban Zones</p>	<p>Local government can conduct a comprehensive review of local zoning codes and associated policies; identify codes that could be added, deleted or</p>	<p>Agency: City of Damascus</p> <ul style="list-style-type: none"> • City of Damascus does not currently have a development code. Codes will need to be drafted that allow urban agriculture uses within most zones as either permitted, accessory or conditional with protective or performance standards.

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
	<p>modified to support urban food production and sales; initiate code updates accordingly to allow agricultural uses in all or most zones; and enact regulations that minimize impact to adjacent uses and address other environmental considerations.</p>	<ul style="list-style-type: none"> • Appropriate setbacks, buffering, fencing and/or landscaping requirements will be necessary for protection of adjacent residential or commercial uses. • Agricultural permitting in urban zones could serve as part of an economic development strategy. <p>Agency: METRO</p> <ul style="list-style-type: none"> • This tool is useful to jurisdictions. • Need to add in Public under “Plan” in the Tool Type and Potential Partners matrix. • Additional challenge is the dilemma of what to zone land and the issue of certainty for agricultural use: for example, if a landowner no longer wants to use it or lease it for ag use, but instead uses it for urban development, this depends on how it is zoned. Remember, even established farms, like Thompson’s, don’t want the land zoned exclusively for farming. • It is not clear what the first paragraph under “Opportunities” means. The way it is worded suggests keeping large sized parcels already in agricultural use should remain, and not be broken down into smaller lots sizes for other types of development. • Under the “Proposed Actions” subtitle, are these to be regarded as a call to action or recommendations? If so, call the subsection a more representative title reflecting what is being implied, i.e. “Recommendations”. • Must address, and modify as needed, state regulations regarding agricultural uses and zoning within Urban Growth Boundaries. <p>Agency: DLCDC</p> <ul style="list-style-type: none"> • Ms. Daniels felt that this tool somewhat overlaps with the Community Design tool. • Agricultural permitting in urban zones is good for providing food to urban dwellers. Chickens in the city are good. • Agricultural employment in urban areas is not counted as “employment” for Goal 9 economic analyses and buildable lands in Oregon. Perhaps it should be counted as employment. Industrial land could be used for agriculture if local regulations allow it. Perhaps consider locating agriculture in “employment zones”, instead of “industrial zones”. • Farm use preservation in urban areas can be done by putting farmland into conservation easements, or use transfer of development rights (TDR’s) to achieve goal. TDR’s are preferable. • Right-to-Farm legislation -Urban farms can keep farm tax deferral as long as they keep farming.

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
		<p>Once a farm goes out of farm use, the deferral is terminated and the right-to-farm ceases to exist. This is the same with no matter if it is a rural or urban farm. (See Oregon Revised Statutes 30.930)</p> <p>Farmer/Producer: Thompson:</p> <ul style="list-style-type: none"> • Allowing urban agriculture would bring (forth) the reality of how food is produced and the amount of work it takes to produce it. Most important is the improved social and community networking. • These codes are needed and would be used to breed the next generation of farmers and create more local jobs, and reinstate the nobility of farming. • Pesticide use would conflict with residential uses. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> • Supports agricultural permitting in urban zones. Buffering would be helpful to prevent conflicts with residential neighbors. Weed contamination and noise would still be problems though.
Community Design	Have Portland State University students, in cooperation with Metro, develop a regional foodshed community design vision and on-line resource for how food production and related development can be integrated into community planning, design, development and redevelopment.	<p>Agency: City of Damascus</p> <ul style="list-style-type: none"> • Community design can incorporate urban agriculture with little impacts on existing land uses. The City is looking at incorporating low impact development standards that encourage open space and landscaping that includes food production. <p>Agency: METRO</p> <ul style="list-style-type: none"> • This tool would be useful to jurisdictions, developers. <p>Agency: DLCD</p> <ul style="list-style-type: none"> • No comment on this tool.
Diversifying Agricultural	Local governments can: - Review state and local statutes	<p>Agency: City of Damascus</p> <ul style="list-style-type: none"> • The City does not currently have a development code. When the City adopts urban zones, code

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
<p>Activities in Rural Zones</p>	<p>regulating agriculture-related activities in natural resource and rural zones. Update local statutes to diversify allowed activities that may include:</p> <ul style="list-style-type: none"> • Community kitchens • Educational classes and programs • Event hosting • Farmstays • Farm restaurants • Farm stands • Tours • U-pick <p>- Provide agri-tourism training for planning and code enforcement staff. - Create informational materials to educated rural landowners on allowed uses. - Allow a coordinated system of high-quality agri-tourism road signs - Work with the private sector to develop a vision and action plan for a regional network of food processing facilities that serve small and medium sized growers based on global best practices.</p>	<p>can address agri-tourism, though land will no longer have rural zoning. Damascus is currently regulated through Clackamas County’s 2005 development code, which limits events. The newer County Code does allow some more diverse uses in rural zones. Clackamas County is currently the zoning authority. They are preparing a <i>Master Plan for Agri-tourism Development</i> to diversify ag activities in rural zones.</p> <ul style="list-style-type: none"> • The County’s current code does allow for some diversification of uses through the conditional use and home occupation permit processes. If Damascus adopts the County’s most recent version of the code (2010), there would be more opportunities for ag-related activities within the City. <p>Agency: METRO</p> <ul style="list-style-type: none"> • This tool is helpful, though consideration for what will be gained versus the trade-off of protecting other rural uses (i.e. traffic, noise, odors and other impacts). • Need to consider groups and organizations who should be involved in such changes. • Barriers/Challenges: The statement that tools are needed to reduce pressure to develop and help retain production farmland raises the question of how this is so within UGBs? If it is within Urban Reserves, then don’t see a problem. If offers are in the Rural Reserves, then it is moot (and the offerer may be uninformed of existing policies). • What about the added impacts of traffic and potential nuisances, to roads and adjacent lands? • Under “Proposed Actions” (recommendations) should apply to counties, not necessarily local governments, as they are relevant to rural zones only. <p>Agency: DLCDC</p> <ul style="list-style-type: none"> • Need to clarify that local restrictions are not more stringent than State regulations. • The tools should identify why diversification of agricultural activities is needed; i.e. providing secondary income to support agricultural activities, as educational service. • There has been pressure to do more agri-tourism. Senate Bill 960 signed into law 2011 allowed up to 24 events. Counties may or may not implement the bill through ordinances. House Bill 3280, Winery and Events bill, passed allowing wineries to hold a number of events yearly if they meet certain criteria. There is concern that some wineries are becoming more event-centered than for agriculture/viticulture uses.

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
		<ul style="list-style-type: none"> • Traditional agri-tourism is not event-centered. It is U-pick, community supported agriculture (CSA's), tractor pulls and the like. • Currently, farmstays are not allowed but could be as a bed & breakfast for up to five unrelated persons in the main farmhouse only. No additional buildings can be used for guests. • Farmstands are allowed. Up to 25% of the value of what is sold must be from the farm. • Processing currently is a conditional use in farm zones with limitations. HB 2872 exempts farms from Oregon Dept. of Agriculture food licensing rules for slaughter of up to 1,000 poultry. However, this bill does not exempt farms from the land use rules governing this type of processing use. Slaughtering is a conditional use in the EFU zones. Counties can impose additional regulation. If there are more restrictive county or city regulations, DLCD wants to know about them. • Barriers and challenges: lands within the Urban Growth Boundaries are intentionally urban, not rural. Rural reserves can continue to farm, but the land value will increase significantly. The EFU zone can be kept as a holding zone (10 acres or more). Smaller properties could have more value for niche crops or apprenticeships. • Family farm groups would like smaller lot sizes, less than the currently-required 80 acre minimum. In order to put a house on EFU land, need 160 acres and gross \$80K/year for 2 years from farming. This is an impediment to newly starting farmers. • Conditional use process model language is in ORS 215.237. • On farms in rural zones: Farm restaurants are not allowed. Educational classes are allowed. <p>Farmer/Producer: Thompson:</p> <ul style="list-style-type: none"> • Need to align state and local ordinances, especially in Damascus to create a more vibrant agricultural economy and take marketing advantage of buildout, yet keep some ag-related entertainment. • Community kitchens and or farm processing would provide healthy alternative to stores, plus less shipping and trucking and their environmental costs. • The tool needs to ensure good economic return for producers on an ongoing basis. • Change land use laws to allow EFU (Exclusive Farm Use) - zoned land to be broken into smaller

Table 2. SARE GRANT: PORTLAND METROPOLITAN FOODSHED TOOLKIT CASE STUDY

RESPONSE MATRIX

SARE Toolkit Topic	Tool Proposed Actions	Implementation Perspective-Impact on Farm or Public Agency
		<p>acreages before urban zone changes.</p> <ul style="list-style-type: none"> Regional network of small-scale food producers: Damascus could take part in this. Allow farmstand signage. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> Diversifying farming operations would not be helpful to this farm. They are successful in what they are already doing and do not see a need to diversify. They do see the benefit for others though.
<p>Energy Efficiency and Renewables</p>	<p>Develop a region-wide program to assist small urban-impacted farmers with energy efficiency measures and renewable energy system development and financing.</p> <ul style="list-style-type: none"> Identify economic development initiatives related to on-farm energy efficiency / renewables development 	<p>Agency: City of Damascus The City would not have direct jurisdiction over a region-wide program such as this. The only jurisdiction would be siting standards that would be in the development code. The City does not currently have a development code.</p> <p>Farmer/Producer: Thompson:</p> <ul style="list-style-type: none"> Energy efficiency and renewable energy are much needed. Thompson would use. Instead of one trip to a distribution center with 300 crates, direct marketers (such as Thompson) currently have multiple deliveries of 30 crates each, using much more fuel. This is energy inefficient. With reference to USDA Natural Resources Conservation Services (NRCS): Need to strengthen program to include small-scale farms. NRCS does not recognize the importance of small-scale direct farms. Profits for small-scale farms are so low that they cannot afford upgrades for energy efficiency and renewable energy innovations. Thompson agrees with the proposed action for region-wide program to assist small urban-impacted farmers with energy efficiency/renewables systems. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> Renewables and energy efficiency resources would be very helpful to this farm. Solar energy,

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		especially for electricity to run the coolers in the packing shed, and other general office use would be useful. However, funding is needed. Financing, grants or other methods of getting the renewables paid for would be needed.
Increasing Exports	<p>Develop a regional food export strategic plan. A regional advisory committee or outreach process can ensure the strategy builds upon the work of regional economic development partners.</p> <ol style="list-style-type: none"> 1. Identify a lead organization to convene regional partners, develop the strategy and form an advisory committee composed of major partners. Potential candidates include: <ul style="list-style-type: none"> • Representatives of the counties and cities in the region • Oregon Department of Agriculture • Oregon State University and Portland State University • Oregon Department of Agriculture • Greater Portland, Inc. • Business Oregon • Ecotrust • Brookings Institution 2. Obtain funding. 3. Analyze of the regional food 	<p>Comment:</p> <ul style="list-style-type: none"> • Increasing exports is existing State policy and the purview of the Department of Agriculture.. However, if there is to be a regional effort to increase export, there needs to be a coordinate effort between all the players listed in the tool. • This tool should be vetted by the Oregon Department of Agriculture and regional economic development agencies to determine impact on the regional foodshed. These agencies were not part of the case study. A broad-based public-private partnership, as recommended, would be best to implement the suggested strategies successfully.

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	<p>economy and its potential for export growth.</p> <ol style="list-style-type: none"> 4. Develop a strategy to increase exports of foods outside the Portland region and overseas. 5. Identify clear benchmarks for implementation. <p>Assign responsibility for actions to implement the strategy.</p>	
<p>Farm Worker Housing</p>	<p>Actions proposed:</p> <ol style="list-style-type: none"> 1. Develop coalition of farmworker housing developers. Package subsidies to make projects feasible. 2. On-site farmworker housing: explore feasibility of assisting farmers/growers with covenants that protect farm worker rights and allow growers to receive public funds to maintain and supply farm workers housing on their property that is supported by a community partner. 3. Develop new strategies for farm workers to innovate new businesses and assume ownership/other equity opportunities in farmland and farm operations. 4. Local government: support clarification of Oregon Revised 	<p>Agency: City of Damascus The actions proposed should be implemented at a state, county and/or regional level. City participation should be encouraged. For the item requiring development code, the City may pursue code language to accommodate farmworker housing at the time we have a development code. None currently exists.</p> <p>Agency: METRO</p> <ul style="list-style-type: none"> • Under “Tool Type and Potential Partners”, in the “Project” row, add X’s in the Public, Private and Nonprofit columns. What about a joint pilot project, actually constructing housing? <p>Agency: DLCD</p> <ul style="list-style-type: none"> • The State of Oregon Housing Division has been meeting on farmworker housing within an interagency workgroup. • There is an existing statute to require counties to provide for adequate vacant, buildable land and applied zoning for housing for farmworkers. • In the EFU zone, accessory farm dwellings are allowed: single dwellings, duplexes, RV’s are allowed on property or adjacent properties for farmworkers and their families to live. There must be a primary farm dwelling already existing on the site. • Farmworker housing must be in compliance with agricultural land use policy (ORS 21.278) <p>Farmer/Producer:</p>

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	<p>Statutes to better define types of accessory dwelling units for farm workers that are allowed on agricultural property for seasonal/migrant farm workers.</p>	<p>Thompson:</p> <ul style="list-style-type: none"> • Will probably use this tool. The key is for the pay scale for both farmers and workers to be high enough to afford housing ownership. Land use regulations at the state level must also be changed to allow for housing options. • If farm worker housing is done in Damascus, better make sure farms are profiting sustainably or may eventually sell land and then not need worker housing. • Farm site ordinance within Damascus may not support farmworker housing investment. In addition, probably will not be supported by residents within the city limits. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> • Will likely use this tool. This tool has potential to contribute to a fund to pay for farmworker housing. Currently, Siri has about half his workers living in 2 housing units. There is a need for local affordable housing for farmworkers. He'd be willing to pay into a fund for such housing development.
<p>Farmers' Markets</p>	<ul style="list-style-type: none"> - Feasibility analysis to assess need, location for local farmers' market by PSU/OSU students. - Develop regional strategy and support structure to help markets be successful. - Increase customers at farmers' markets through targeted marketing. 	<p>Agency: City of Damascus A local resident's committee is pursuing a Damascus Farmers' Market. There is also an existing market in Boring, Oregon. Feasibility analysis may be beneficial to ascertain appropriate location(s), operating procedures or perhaps advantages and disadvantages of consolidating the markets.</p> <p>A regional strategy for supporting markets is clearly needed to ensure best operating procedures, locations, mix of vendors, etc. Marketing assistance is greatly needed to attract local buyers as well as making Damascus/Boring markets destination markets.</p> <p>Agency: METRO</p> <ul style="list-style-type: none"> • Add in an X in under Plan and Policy in the "Public" column to reflect the idea of local governments incorporating markets into their community economic development or urban renewal plans. <p>Agency: DLCD</p>

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		<ul style="list-style-type: none"> No comment on this tool from DLCD. <p>Producer/Farmer: Thompson:</p> <ul style="list-style-type: none"> Local farmers’ market is good, but we need local citizen buy-in. Need to build a permanent Damascus farmers’ market with shelter. Provide grants for season-extending structure in Damascus for true farmers. Farmers’ market in Boring has not worked. Most citizens in Damascus are commuters and drive to WinCo, Walmart, etc. Must convince them to shop locally. Provide “local” coupons for the markets. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> Siri does not participate in farmers’ markets. Feels there is too much competition and people stepping on each other’s toes. He sells at local stores such as New Seasons, and chains Fred Meyer (Kroger) and Safeway.
<p>Food Cluster Development</p>	<p>Develop a Portland region foodshed economic cluster strategy that defines current and potential linkages in the system to benefit producers, processors, distributors and consumers. The cluster can also strengthen local connections to skilled labor and suppliers. The food system strategy can also encourage research, innovation, development and technology transfer within the cluster. Key steps include conducting a food cluster economic analysis and landscape study of the Portland region, and</p>	<p>Farmer/Producer: (Note: The term “cluster” was misinterpreted to mean clustering of farmland by our reviewer)</p> <p>Thompson:</p> <ul style="list-style-type: none"> Local farms already established, cannot cluster. Ag future in Damascus is local, small scale, not large corporate (farms). Development of a regional foodshed economic development strategy is a good idea for unincorporated Multnomah and Clackamas Counties. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> Siri might participate in food cluster development if there is time. He thinks it is good for the Portland Metropolitan Foodshed to develop the cluster.

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	identifying leaders, such as Clackamas and Multnomah Counties.	
Import Substitution	<p>Develop a regional import substitution strategic plan.</p> <ol style="list-style-type: none"> 1. Identify a lead organization to convene regional partners, develop the strategy and form an advisory committee. Potential candidates include: <ul style="list-style-type: none"> ○ Representatives of the counties and cities in the region ○ Oregon State University and Portland State University ○ Oregon Department of Agriculture ○ Greater Portland, Inc ○ Ecotrust 2. Obtain funding. 3. Conduct an economic landscape analysis of the regional food economy. 4. Develop a strategy to increase consumption of foods produced in the region. 5. Identify clear benchmarks for implementation. 6. Assign responsibility for actions to 	<p>Comment: The Oregon Department of Agriculture, universities and regional economic development agencies should vet this tool to determine the impact on the regional foodshed and economy as suggested in the tool. These agencies were not part of the case study. A broad-based public-private partnership, as recommended, would be best to implement the suggested strategies successfully.</p>

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	implement the strategy.	
Institutional and Agency Procurement	Multnomah County can continue its leadership to create a regional institutional purchasing coalition to develop coordinated strategies to purchase more local nutritious food by multiple institutions.	<p>Agency: City of Damascus</p> <ul style="list-style-type: none"> The recommendation in this tool needs to be broader in applicability than Multnomah County. Each county, city and other jurisdiction in the region can institute an internal procurement policy focusing on local, nutritious food. In addition, private institutions such as hospitals, churches, schools, jails and others can participate in a coalition and have their own healthful internal purchasing policies. <p>Agency: METRO</p> <ul style="list-style-type: none"> Reword last sentence under “Opportunity” in the tool. Should read: “Public agencies, under House Bill 2763, passed in 2009, are allowed to pay up to 10 percent more for local food than low bid price.”
Market Development and Regional Food Distribution	<p>Local economic development agencies can work with processors and distributors to create a business plan focused on developing the Portland regional food economy: Key elements include:</p> <ul style="list-style-type: none"> - Develop a feasibility study and business plan to provide support/resource for local growers to market/brand regionally-produced, processed and distributed food throughout the region. - Distributors through a cooperative model can focus on assisting growers with the following services: <ul style="list-style-type: none"> o Identify markets growers 	<p>Farmer/Producer:</p> <p>Thompson: Would use somewhat.</p> <ul style="list-style-type: none"> Agrees that assistance is needed through partnership with distributors and processors for additional value-added services that provide top-quality products to buyers and bring high value prices back to the grower. Oregon State Extension, Oregon Fresh Market Grower’s Association and others are very involved, but do not have adequate financial resources. Adelante Empresas, a part of the community development corporation Adelante Mujeres, in Forest Grove, Oregon, is currently developing a distributor model for their organic farmers that echo some of the proposed actions (list under the “Tool” herein). This organization has services and funds to accomplish the mission. That is what is needed here, but the question is, who funds it? Under the proposed actions, finding a willing partner will be hard. Determining a production volume ahead of time is difficult due to the market, weather and variable prices. Regarding technical assistance to grow best-looking crops, this is not appropriate for Damascus.

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	<p>would like to sell to-wholesalers, retail, or direct.</p> <ul style="list-style-type: none"> ○ Assist with good business practices. ○ Coordinate with growers to prevent saturation of the market. ○ Assist growers to determine a volume ahead of the season. ○ Provide services and offer education in high quality post production handling. ○ Provide adequate cold storage to preserve produce that can be store and sold throughout a season. ○ Provide technical assistance to grow the best-looking crops to compete with other regions. ○ Assist with marketing and branding strategies. ○ Assist or manage processing and micro-processing facilities (canning and freezing) to 	<ul style="list-style-type: none"> ● To increase value, producers need more processing and micro-processing facilities. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> ● Believes that Oregon Fresh Market Growers Association (OFMGA) already does what is recommended in this tool. He already participates in this organization.

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	<p>facilitate the sale of goods throughout the year.</p> <ul style="list-style-type: none"> ○ Collaborate with other regional distributors and share “specialist resources”, which is a significant challenge for small farms. 	
<p>Rainwater Harvesting</p>	<p>Coordination of agency development of region-wide program to assist small urban-impacted farmers with rainwater harvesting systems development and financing.</p> <p>Example: Water Capture and Storage Systems Applied to Small Farms in Urbanizing Areas</p>	<p>Farmer/Producer : Thompson: Will not use current models.</p> <ul style="list-style-type: none"> • The amount of water needed (for farming) far exceeds manmade catchment abilities. Need 1-2 acre-feet of water per year. • This tool is best left to the Soil and Water Conservation Districts. It is bigger undertaking than appropriate for the City of Damascus. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> • Would not use this tool. He has 400 acres growing. Rainwater harvesting would not be efficient. For us as an organic farm, rainwater contamination from collection is a potential problem with USDA. USDA regulations could hinder the use of collected rainwater. Lower water rates for agricultural use would be the most helpful to farmers.
<p>Regional Branding</p>	<p>Develop a regional brand for both the Portland region and state of Oregon so consumers can determine the source of foods they purchase. Can initially be led by Clackamas and Multnomah Counties</p>	<p>Farmer/Producer : Thompson:</p> <ul style="list-style-type: none"> • Would use some. Currently only 11% of residents in a subdivision across the road from Thompson’s farmstand on SE 242nd Ave. buy from him. He’d like to increase that. • He believes that large chains that advertise “local” produce do so as a marketing ploy. His experience has been that grocery chains will buy from him for the initial stock for an advertised “local” produce sale item, and then bring in the bulk from Mexico. This has been his experience each fall with broccoli.

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		<ul style="list-style-type: none"> For Damascus, a local brand may be sponsored at a <i>percentage off</i> sale to local schools, with a county match. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> They wouldn't participate in regional branding. He has participated in a regional branding effort like this in the past and it was a negative experience. There ended up being a group of farms setting prices, and then other farms proceeded to undercut the set price. Only a few farms prospered.
<p>Transferable Development Rights</p>		<p>Agency: City of Damascus:</p> <ul style="list-style-type: none"> A transferable development rights (TDR) program was a policy considered under the <i>Envision Damascus</i> Comprehensive Plan. However, there was/is no development code to implement it. TDR programs are notoriously difficult to finance, develop, manage and implement. The State of Oregon has a TDR experimental program that is being tested. The future of TDR's may make their use less onerous. <p>Agency: METRO</p> <ul style="list-style-type: none"> Under "Current Context" need to change "urban-rural fringe" to "designated urban reserves". <ul style="list-style-type: none"> Last sentence in this section, revise to: "The conversion...results <u>in</u> a lack...and a loss <u>of</u> jobs...". A "lack of orderly land use planning" only results if an area is defined by agriculture-oriented uses, not necessarily by urbanization (in fact, temporary use of urban land with agriculture uses, then conversion later, may have the opposite effect). <p>Agency: DLCD</p> <ul style="list-style-type: none"> There is a State Transferable Development Rights (TDR) demonstration program. City of LaPine has used TDR's for groundwater protection. TDR's can be workable when development demand is high. <p>Farmer/Producer :</p>

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		<p>Thompson:</p> <ul style="list-style-type: none"> • Thompson is not a big fan of TDR's. • With regard to the benefits of TDR's, it does not cost the public significant money in the overall picture. Everybody pays for this program. • With regard to challenges, this creates a huge governmental bureaucracy that is expansive and hard to function. • TDR's are very expensive and not flexible over time. The best way to preserve farmland is not legislatively, but economically. Somehow, get the residents to demand and buy local produce from farms to the extent it assures farm profitability and farmers plus future generations will want to continue. This would not cause any increase in public cost. It would keep the local community dollars here. <p>Siri & Son Farms:</p> <ul style="list-style-type: none"> • They might use TDR's in the future. . They have considered industrial or commercial use of their property as it is located on a state highway. Not clear on exactly how it would work for them

What Did We Learn?

For this project, the Portland Metropolitan Foodshed was defined as Multnomah, Columbia, Clackamas, Washington and Yamhill Counties in Oregon and the systems that support the food supply. Clark County, Washington, was not included.

The toolkit was developed for three distinct audiences in the Portland Metropolitan Foodshed: producers, planners/policy-makers and consumers. This analysis shows that though some revisions to the tools may be necessary, the current contexts, challenges and barriers are identified and address several of the key practical and policy barriers and challenges.

In some instances, some of the tools prove not to be useful to the interviewees, especially those that require significant expenditures by farmers that exceed their available capital, or cause conflicts with other regulatory agencies; for example the rainwater harvesting tool. This does not necessarily mean the tool is not useful region-wide, but only that it may need refinement and model development with some subsidization. In the rainwater harvesting case, US Department of Agriculture rules regarding water contamination may need to be addressed before a successful program or project can be developed.

The proposed recommendations in the toolkit to resolve these concerns enhance opportunities for improvements in the food system and increase the ability of those entities vital to the foodshed to expand their capacity. Using these tools can help change the foodshed landscape to allow producers to be more productive, increase overall consumption of healthier foods and to expand economic impacts throughout the region.

To the extent possible, the tools can be replicated in areas inside and outside the Portland metropolitan area. However, Oregon's land use planning laws determine what can and cannot take place in urban and rural zones. This is different from many other states, so with that caveat, the tools can be useful outside the state of Oregon.

The five main takeaways of this review are:

1. Land use tools administered by land use regulatory agencies (State, regional, local) need to be revised or updated to reflect more integrated land use patterns that allow value-added farm activities in rural zones and farm/agricultural activities in urban zones. These changes will help diversify agriculture and increase the viability of farming, making it profitable for producers. Productive urban agriculture helps retain it close to cities, potentially reducing transportation costs and greenhouse gas emissions.
2. Tools to conserve agricultural land, such as conservation easements, transferable development rights, etcetera, may be feasible, but the costs and benefits must be clear to the public, landowners and jurisdictions.
3. Tools that require high expenditures by farmers/producers will not likely be introduced on the farm unless there is affordable financing or a demonstration project. This is most applicable to the rainwater harvesting and energy efficiency tools. For rainwater harvesting, federal regulatory standards may need to be considered for organic farms.

4. The regional marketing and branding may already be underway within a variety of organizations and formats. There may not be a need for a new organization to take on this role. This tool has limited applicability to the Portland metropolitan region.
5. The applicability of some of the tools should be tested after they are adopted at a jurisdictional level to really ascertain their viability. This “case analysis” was limited because given the political situation in the City of Damascus, the tools were not adopted as had originally been intended at the time of the grant proposal, which proposed a “case study”.

Overview of Responses

Agencies:

For agencies such as local governments, the toolkit can provide valuable information on specific policy and implementation directives that may challenge the status quo, but bolster the provision and availability of agricultural products. Policies and implementation measures on urban agriculture, access to healthy food, zoning, and community design all have an impact on the foodshed.

The use of tools such as transferable development rights, conservation easements and open space designations may help stem development pressure on urban agricultural sites. Other tools may be less valuable to jurisdictions with regulatory purviews because they require significant public or private investments (i.e. farmworker housing), or are already in place. There must be willingness by policymakers to adopt and use the tools. Counties, water districts or agricultural agencies such as the State Department of Agriculture, can provide support for tools that include **energy and renewables, rainwater harvesting and regional marketing or branding efforts**; as well as **increasing exports and import substitution**.

For regional and state government, several concerns were raised regarding changes or challenges to existing land use policies. The separation of agricultural land from urbanizable land is the hallmark of the Oregon land use planning system. Allowing large-scale agriculture to remain within urban growth boundaries challenges some long-held land use precepts. Conversely, allowing urban-type uses in rural zones can lead to unintended impacts, while also increasing the economic diversity for farmers, allowing them to increase their incomes and remain in production and/or processing. Mitigation strategies need to be identified to help jurisdictions, neighbors and producers navigate the conflicts inherent in diversification activities. Not all jurisdictions are in compliance with State laws and the tool encourages review and updating of applicable codes.

There is a need to identify upfront, in the “**diversifying agricultural activities in rural zones**” tool, that allowing additional ag-related activities serves economic development and farmland preservation purposes. If producers/farmers are able to increase their income without succumbing to the pressure of land development, there may be a greater chance of retaining urban agriculture over the long term.

Large-scale **agricultural use in urban zones** creates a particularly challenging situation, especially when it comes to transitioning land from agriculture to urban land uses. Methods

such as conservation easements, **transferable development rights** (TDR) and substantive changes in State laws, such as reducing the required acreage needed for farm use, would be desirable to curtail speculative purchases of farmland and keep farming within the urban areas and urban reserves feasible and affordable.

Making sure a **TDR** program is understandable and that it can work with market forces during variable economic conditions is important. As noted below, producers/farmers have not embraced TDR's; mostly because their application is difficult to comprehend in real world situations. TDR pilot programs, such as that of the Oregon Department of Land Conservation and Development (http://www.oregon.gov/LCD/tdr_pilot_program.shtml), are paving the way for working through the challenges of instituting such programs. Challenges include navigating the market demand, identifying receiving areas and acceptance of additional density as compensation.

Protecting urban development and farming from the impacts of each other creates opportunities for new **community designs** and creative mitigation techniques. This recommendation for joint academic and regional government coordination can work to develop a replicable community design toolbox for urban designers and developers' use.

Producers/Farmers:

The tools reviewed by the producers/farmers vary in their applicability and usability, given each interviewee's plans for their agricultural enterprise. Both producers/farmers plan on some type of development of their properties in the long term, but still retaining some agricultural use in the near term. Both supported the tool for **agricultural permitting in urban zones** on a practical, as well as philosophical, basis. The tool provides guidance for comprehensive reviews of policies and codes that may hinder urban food production. Flexibility in codes would allow continued farming activities to some degree, but does not address growth pressure. This tool applies to a range of agricultural activities in urban zones that don't necessarily involve full scale farming. Accommodating urban and community gardens, edible landscaping and small animals in urban zones are all under this tool heading.

The farmers/producers differed on **diversifying agricultural activities within rural zones**. Thompson Farms was open to **diversification** while Siri & Son Farms is firm in their production and future growth plans, which do not include anything other than growing and perhaps future commercial or industrial development of portions of their property. However, Siri supports the tool for use by others.

This tool applies to rural zones, which Damascus is currently designated by the Clackamas County Comprehensive Plan and zoning map and the City's adoption of it and the 2005 Clackamas County code. Once the City adopts its own Comprehensive Plan and zoning maps, the land becomes designated as "urban" and development codes will regulate the types of activities that can take place.

For rural areas, impacts from diversification can affect both farmers and neighboring residential or commercial properties. The increased income to farmers may help them continue farming, adding to their bottom line and increasing margins, which may lead to continued farming. Noise, traffic, odors, pesticide use or other negative impacts may be disruptive to neighbors, causing conflicts.

Updating state and local statutes and regulations to allow additional activities and to mitigate impacts needs to be done and this tool provides that guidance. The diversification tool calls for code enforcement and staff training; high quality road signs and working with the private sector to develop a vision and action plan for a regional food processing facilities network. These proposed actions are best carried out by cities, counties and the State (highway signage) and, in the case of a vision/action plan, the private sector.

Transferable Development Rights (TDR) did not seem desirable to Farmer Thompson in that they generate the need for a larger bureaucracy, are inflexible in the long run and only successful in a high-demand-for-development market in his opinion. He opined that the best way to preserve farmland is to make and keep farming profitable for the farmer. However, this may be impractical when faced with high values for farmland in urban areas and pressure to sell for development.

Farmer Siri said he could see using TDR in the future as development encroaches around his farmland and his options for continued farming narrow. With potential long term plans for future development, TDR do nothing to preserve farmland unless landowners choose to farm in perpetuity.

In practicality, TDR's have worked in other parts of the country, such as Virginia and other East Coast locales. Key to making them work is the identification of "sending" and "receiving" areas, which must be identified early in the planning process. The locations should not present the temptation to engage in leapfrog development and ensure that infrastructure exists prior to development.

The accounting function for these land exchanges is also important and a task not many jurisdictions are willing to take on. TDR, while enticing, may prove impractical in many jurisdictions, especially those that are already fully developed. That is not the case in Damascus because it is mostly undeveloped, so TDR could potentially work, given the market demand, availability of infrastructure and political will. The question that remains is: how many large acreage farmers/nursery growers would take advantage of the program?

The producers favorably reacted to both **energy efficiency and renewables**. The use of solar energy was especially well received; however financing was an issue for both producers. Thompson also addressed fuel use for distribution, citing the number of trips that must be made to serve farmers' markets. A food or distribution hub would serve as an energy efficiency tool for many of the farmers in the Damascus/Boring area.

This tool called for exploring a program to identify the needs of producers, workable models for diverse situations, the technical expertise available, and financing strategies, such as revolving

low interest loans, equity investment, and coordinated grants. As had been identified in the tool, multiple opportunities for on-farm use of energy efficiency and renewables exist. The tool is useful in calling out these opportunities and how to address them.

Rainwater harvesting proved to be less feasible for the commercial farmers. Both Thompson and Siri indicated that they would not use this tool. The reasons given include not being able to harvest enough water for use during the dry season and that on an organic farm, USDA regulations regarding water contamination would hinder the use of harvested rainwater. They did say that lower water rates would be beneficial. Currently, the local water district charges the same rates for residential, commercial and agricultural water use. This is extremely expensive for producers/farmers.

Even if not used on large commercial farms, rainwater harvesting may be feasible for smaller scale agriculture, such as community and urban gardens. The City has been exploring the use of ecosystem services as infrastructure. This tool fits in with the City's vision of using nature's services. Coordination with water purveyors and Soil and Water Districts could help with technical and financing strategies for these systems for small scale agriculture.

Both producers would use **farmworker housing** tools. Affordability of worker housing or housing development was of concern to both. If subsidies are necessary, where will they come from? State? Local government? Siri Farms indicated they would gladly contribute to a farmworker housing fund, but not necessarily build housing themselves. It would have to benefit both the workers and the farmers to be successful. Thompson indicated that acceptance of farm worker housing by the surrounding community might be a challenge. He believes that housing options for temporary as well as permanent, affordable housing should be a goal.

The **Farmers' Market** tool is related to location feasibility and increasing market attendance. Farmer Thompson sells exclusively through farmers' markets and farmstands. He advocates for permanent locations and structures for year-round markets. He also cites the need to increase local interest in farmers' markets and stands. His view substantiates the value of the tool.

Farmer Siri does not sell at farmers' markets, as the competitive nature of the markets does not fit his marketing plan. Since the tool focuses on equitable distribution of markets and strategies to ensure success, such as location and organizational capacity, Siri's comment does not negate the value of the tool.

In Damascus, many households commute to the Portland Metro area and conduct their shopping within Portland or urban Clackamas County, not the City. Efforts to encourage local purchasing would be beneficial. A community-driven effort to start a Damascus Fresh & Local Market (farmers' market) is currently under way and organizers are trying to recruit local farmers. The Damascus market has a definite locational advantage, being located close to the intersection of State Highway 212 and SE Foster Road, across the street from the community's only supermarket.

The farmers' market in Boring, a neighboring community, has been struggling to get vendors and traffic and has had to focus on crafts to attract visitors. Much of the Boring market's struggle appears related to location, accessibility and lack of parking, as has been cited as necessities for success in a study of Portland-area markets.³ Participating in a regional approach to farmers' market siting and marketing would certainly be beneficial to the success of both markets by establishing locational and operational criteria and identifying sites within un- or under-served areas of the communities.

Both producer interviewees agree that development of the **economic food cluster** would be beneficial to them and to the region as a whole. Such a cluster could attract wholesalers and larger processors to whom local farmers could sell, increasing their market share and potentially reducing travel and fuel costs, as well as encouraging and supporting food-related businesses. Clackamas County's May 2012 draft of an Agriculture and Foodshed Strategic Plan estimates that a 10 percent increase in local purchases could result in an output (direct and secondary) of \$57.75M with a GDP value added of \$21.8M.⁴ Thompson perceived the **Market Development and Regional Food Distribution** tool as useful and Siri found it somewhat redundant. Siri thought that the Oregon Fresh Market Growers Association (OFMGA) already does much of what is proposed in the tool. Both producers are members of that organization. Thompson opined that OFMGA did not have the financial resources to do much of the work identified. It must be noted that OFMGA is a statewide organization and the tool is specifically geared toward creating a regional identity and brand through cooperative organizational work.

This raises the question of duplication of services and if some form of funding to OFMGA might be beneficial to expand their efforts, for activities such as creating regional chapters. The tool may actually enhance the existing work of OFMGA and help recruit more members at the regional level.

Note: The interviewees did not directly address some of the tools, such as increasing exports and import substitution. These tools had high-level policy recommendations that need expertise beyond that available for this case study. The Oregon Department of Agriculture's purview is specifically geared toward managing the state's agricultural exports. The goal of all of the tools is to support increasing exports and toward increasing local consumption, which in turn may lead to import substitution.

CONCLUSIONS

This original intent of the analysis of the project toolkit was for a case study to assess how the application of the tools would impact local producers/farmers, planners and policy-makers. However, the City of Damascus political environment did not allow for adoption of the tools within the timeframe of the grant project, as had been originally proposed in the application. The resulting product attempts to get at some discussion of the issues and evaluation of the tools

³ Farmers' Markets America with Barney & Worth, Inc. (2008). *Characteristics of successful farmers markets*. (p. 11) Retrieved from City of Portland website: <http://www.portlandonline.com/bps/index.cfm?c=49940&a=236585>

⁴ Draft Clackamas County Agriculture and Foodshed Strategic Plan, Cogan Owens Cogan LLC with MARStewart Group, LLC and Crossroads Resource Center, May 2012.

from the local, regional and state perspective and serve to identify tools that have value in enhancing the Portland Metropolitan Foodshed.

It is important to have a regional foodshed/food system plan in place to create a sustainable system. The tools in the toolkit that have the broadest applicability for regional and statewide capacity-building through public, nonprofit and/or private partnerships are those that:

- increase access to healthy food,
- improve farmworker housing options,
- enhance market development and regional food distribution
- support farmers' markets ,
- encourage food cluster development
- increase agency and institutional procurement
- increase exports
- increase import substitution

Some of the tools require changes in state and/or local land use planning standards, such as

- agricultural permitting in urban zones, and
- diversification of agricultural activities in rural zones.

Changing state laws and updating state and local codes is a long-term prospect. Some work has been done at the legislative level to address the diversification issue through passage of HB 3280 and SB 960. The subsequent work to be done involves counties and cities updating their policies and codes to reflect the legislative changes. The diversification tool should be updated to reflect the legislative changes.

Market development and regional food distribution are already being done at some level, but increased coordinated efforts could provide the assistance that is needed through partnership with distributors and processors for additional value-added services that provide top-quality products to buyers and bring high value prices back to the grower, as stated by Farmer Thompson. While Oregon Fresh Market Grower's Association (OFMGA) does some of the work statewide, more regional level work is needed, as indicated in the tool.

Clackamas County is addressing the potential for implementation of many of the proposed tools in their Draft Agriculture and Foodshed Strategic Plan (May 2012). If this report is finalized and adopted, the implementation of many of these tools may be realized in the work that results from the Plan within Clackamas County. One other county in the Portland Metropolitan Foodshed, Multnomah, is similarly working on efforts to improve the foodshed. Efforts are needed in Washington and Columbia Counties.

As for the City of Damascus, it is at a crossroads of rural and urban existence, a perfect laboratory for use of these tools, if and when there is an opportunity to put them into play.

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Appendix 10

Clackamas County Agriculture and Foodshed Strategic Plan Implementation Matrix



Clackamas County Agriculture and Foodshed Strategic Plan: Implementation Matrix

Appendix A. Implementation Matrix

Prioritization: H (high importance), M (moderate importance), and L (low importance).
 Timeline: 1 (within 6 months), 2 (6 months to 1 years), 3 (1-2 years), 4 (2-3 years), 5 (more than 3 years).

	Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
A	Agricultural Economic Cluster Strategy:					
A-1	Regional Marketing/Branding	Develop a regional brand and explore how this would complement and bring value to existing brands within the region, Willamette Valley and Oregon.	Clackamas County BCS-Natural Resource & Ag Program Mgr Clackamas County Business & Economic Development	Clackamas County Tourism & Cultural Affairs Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Association of Nurseries	H	3
A-2	Economic Landscape Analysis	Continue to expand upon Clackamas County's <i>Economic Landscape Analysis</i> of the food system; possibly in cooperation with Multnomah County or Greater Portland, Inc.	Clackamas County Business & Economic Development	Multnomah County	M	3
A-3	Resources	Define key links necessary to expand markets for local foods through local regional processors, distributors and consumer outlets. Focus initially on institutional purchases, wholesaler–distributors and small and regional commercial markets.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Association of Nurseries	H	2
A-4	Research, Development and Innovation	Work closely with the Food Innovation Center and North Willamette Research and Extension Center to help develop value-added food products.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
A-5	Business Retention, Recruitment, Expansion of Food Processing Industry	Develop a strategy to attract and grow more food processing companies.	Clackamas County Business & Economic Development	Clackamas County BCS-Natural Resources & Ag Program Manager	H	1
A-6	Engagement	Consider how the diverse food and agricultural interests can be engaged and assisted regionally in the future.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Association of Nurseries		
A-7	Funding	Conduct a feasibility analysis of reforming property tax farm deferrals to provide a funding stream for the County's Agricultural Investment Plan.	Clackamas County BCS-Natural Resource & Ag Program Mgr	No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture		
B	Import Substitution and Exports:					
B-1	Import Substitution Strategy	Identify opportunities for local producers to increase production and sales of local food products within the region. Identify opportunities to expand local food consumption. An import substitution strategy can be developed in cooperation with Multnomah County.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Association of Nurseries	H	2
B-2	Demand and Production Capacity	Increase local grower incomes by providing information on potential target markets such as regional distributors (e.g. Organically Grown Company) and products (e.g. carrots) where there are clear opportunities to substitute locally grown products for those currently imported into the region.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Association of Nurseries	H	2



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	Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
C	By-Product Resources Business Models:					
C-1	Biomass Opportunities	Conduct outreach on biomass opportunities.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Business & Economic Development Clackamas County Office of Sustainability	M	2
C-2	Model Farms	Prepare case studies of model farms, such as Stahlbush Island Farms in Corvallis, Oregon (http://www.stahlbush.com), to identify successful models of bi-fuel and bio-product production.	OSU/Clackamas County Extension Office	Clackamas County BCS-Natural Resource & Ag Program Mgr Clackamas County Soil & Water Conservation No. Willamette Research & Extension Center Oregon Department of Agriculture	M	3
C-3	Bio-Generation Projects	Provide information to farmers on potential bio-generation opportunities, including wood pellets for heating, manure for methane, bio-based fertilizers, soil amendments and other bi-products.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Clackamas County Business & Economic Development	M	3
D	Specialty and Organic Agriculture:					
D-1	Productive Capacity/Alternative Crops and Farm Suitability	Expand Ecotrust work to develop a database on crop suitability in the County and regional crop demand. This database would allow growers to understand the size of regional markets and select crops that would be suitable for their farm's location.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability Clackamas County Soil & Water Conservation Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture USDA Natural Resources Conservation Services	H	2
D-2	Organic and Sustainable Certification	Work with partnering agencies to provide information on a variety of organic certification systems and processes.	OSU/Clackamas County Extension Office	Clackamas County Office of Sustainability No. Willamette Research & Extension Center Oregon Department of Agriculture	H	1
D-3	Incubation	Recruit and support incubation of industrial food production businesses in aquaculture, hydroponics, aquaponics, Spanish Tunnels and large-scale greenhouses.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
D-4	National/global demand trends	Identify major national and global demand trends, such as flax production that can stimulate new specialty crop production.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
E	Aggregation:					
E-1	Producers' Cooperative	Explore cooperative or Limited Liability Company to support small growers produce, improve business and food handling practices, process and distribute food in the region.	OSU/Clackamas County Extension Office	Clackamas County Office of Sustainability Multnomah County No. Willamette Research & Extension Center Oregon Department of Agriculture Private Industry	M	3
E-2	CSA Cooperative	Explore formation of a CSA cooperative. CSAs currently have an informal organization for mutual support and sharing information in the region. This organization can be formalized to support the needs of the CSAs in the region.	OSU/Clackamas County Extension Office	Clackamas County Office of Sustainability Multnomah County No. Willamette Research & Extension Center Oregon Department of Agriculture Private Industry	M	2
E-3	Farmers' Markets Expansion	Strengthen and/or expand farmers markets throughout Clackamas County. Explore the value of a supporting organization.	Clackamas County Office of Sustainability	Clackamas County Soil & Water Conservation Farmers Market Association Friends of Family Farmers No. Willamette Research & Extension Center Oregon Department of Agriculture	M	3



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	Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
E-4	Marketing	Work with groups that promote <i>farm-to-fork</i> dining and buy local opportunities (e.g. Farm to Table-Portland) to expand direct sales to restaurants, bars, chain markets and cafes.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability Farmers Market Association Multnomah County OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
F	New Markets:					
F-1	Growers' Website	Develop a growers' website for farmers to contact customers. This website can facilitate the sharing/ exchange of services and equipment among growers in the region.	OSU/Clackamas County Extension Office	Clackamas County Soil & Water Conservation Friends of Family Farmers Oregon Department of Agriculture	M	3
F-2	Target Markets	Work with Multnomah County to identify target markets with health care, social services and educational institutions to expand demand for local healthy and nutritious food and address obesity and hunger.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Business & Economic Development Clackamas County Community Health Multnomah County Oregon Department of Agriculture	M	2
F-3	Link Institutional Purchasers and Farmers	Develop a program or organization to link large employers and institutions in the County to farmers and local product distributors in the County.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Business & Economic Development Clackamas County Community Health Multnomah County Oregon Department of Agriculture	M	2
F-4	Specialty Product Development	Work with Food Alliance, Burgerville, New Seasons, Bon Appétit, and others, to support development of new businesses in organically and humane raised pork, chickens and turkeys and four season vegetable crops, especially tomatoes and lettuce.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Food Innovation Center Multnomah County OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Restaurant Association	M	3
F-5	Expanding Markets (Exporting)	Pursue expanding markets (Asia, west coast, food chains, fast food). Develop targeted plans to expand markets for producers including institutional purchasers, regional markets, major west coast distributors and fast food companies.	Clackamas County BCS-Natural Resource & Ag Program Mgr Clackamas County Business & Economic Development	Oregon Department of Agriculture	M	3
G	Farm Ownership, Succession and New Farmers:					
G-1	Training	Develop online training program designed to address succession planning options and contacts for assistance.	OSU/Clackamas County Extension Office	American Farmland Trust Oregon Department of Agriculture	M	3
G-2	Educational Materials	Develop a set of educational materials for distribution to producers in need of assistance in planning farm ownership succession.	OSU/Clackamas County Extension Office	American Farmland Trust Oregon Department of Agriculture	H	1
G-3	Capital Sources / Models	Identify capital sources/models for farm transfers (e.g. transfer farm assets over time through an exchange of equity for labor and payments).	OSU/Clackamas County Extension Office	American Farmland Trust Oregon Department of Agriculture	H	2
G-4	Succession Planning Capacity Building	Build capacity of family counselors to assist farmers in succession and/or transition planning.	OSU/Clackamas County Extension Office	American Farmland Trust Oregon Department of Agriculture	M	4
H	Small Business Assistance and Training:					
H-1	Capital Sources	Develop a contact database of funding sources for growers.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Business & Economic Development Oregon Department of Agriculture USDA Food Hub	H	2
H-2	Assistance and Information	Develop and maintain an online list of agencies providing assistance to agricultural businesses, including financial resources.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Business & Economic Development Oregon Department of Agriculture Small Business Development Center USDA Food Hub	H	1



Clackamas County Agriculture and Foodshed Strategic Plan: Implementation Matrix

Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
H-3 Business Practices Training	Provide farmers' access to education and training resources for business practices, including business expansion.	OSU/Clackamas County Extension Office	Clackamas County Business & Economic Development Clackamas County Office of Sustainability Oregon Department of Agriculture Small Business Development Center	H	2
H-4 Industry Incubator	Determine the feasibility of attracting and incubating local processing and other industry needs to support regional cluster sales and exports.	Clackamas County Business & Economic Development	Business Oregon Clackamas County BCS - Natural Resource & Ag Program Manager No. Willamette Research & Extension Center OSU/Clackamas County Extension Office	M	3
H-5 Marketing / Customer Relations	Develop a specific training package for growers on customer relations. This training package can define various customer targets (e.g., personal, CSA, institutional, processor, distributor, major market, restaurants, and fast food) and tailored customer relations strategies for these targets.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Clackamas County Office of Sustainability No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture Oregon Restaurant Association Small Business Development Center	H	2
I Labor:					
I-1 Agricultural Workforce Training	Develop programs tailored to address the specific workforce needs of agricultural producers.	Workforce Investment Council of Clackamas County (WICCO)	Clackamas County BCS - Natural Resource & Ag Program Manager OSU/Clackamas County Extension Office	H	2
I-2 Shared Labor Opportunities	Work with a small group of growers to determine the feasibility of sharing farm workers given seasonal needs.	Workforce Investment Council of Clackamas County (WICCO)	Clackamas County BCS - Natural Resource & Ag Program Manager OSU/Clackamas County Extension Office	H	2
I-3 Food Safety and Handling	Develop a food safety and handling education package for growers recognizing new state and federal legislation.	Clackamas County Community Health	OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	1
I-4 Farmworker Housing	Support the development of farmworker housing in communities (e.g., Farm Worker Housing Development Corporation in Woodburn) with support services focused on early childhood development, education and incubation of new agricultural and other businesses.	Clackamas County Housing & Community Services	OSU/Clackamas County Extension Office	M	3
J Diversification/Agri-Tourism:					
J-1 Clackamas County Agri-Tourism	Develop programs, materials and packages to support agri-tourism activities, such as wine-tasting, farm stays, farm dinners, farmers markets and equine activities.	Clackamas County Tourism & Cultural Affairs	Clackamas County Planning Department Clackamas County Office of Sustainability Clackamas County Soil & Water Conservation Multnomah County	H	2
J-2 Land-Use Policies	Review and make recommendations for change in the County's land use, zoning and development codes to allow more farm-focused economic development in rural zones.	Clackamas County Tourism & Cultural Affairs	Clackamas County Planning Department Clackamas County Office of Sustainability Multnomah County	H	2
J-3 Agri-Tourism Resource Materials/Farm Models	Develop pre-approval packages for on-farm economic development permitted uses (e.g. Portland has a similar program for "skinny" houses).	Clackamas County Tourism & Cultural Affairs	Clackamas County Planning Department Multnomah County	M	2
K Regulatory:					
K-1 Review Land Use Policies	Review and update land use regulations to remove barriers to agricultural production. Advocate for changes to state regulations as needed.	Clackamas County BCS-Natural Resource & Ag Program Mgr	Soil & Water Conservation Multnomah County No. Willamette Research & Extension Center OSU/Clackamas County Extension Office Oregon Department of Agriculture USDA Natural Resources Conservation Services	H	2



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Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
K-2 Spraying Mitigation Plan	Identify/develop spraying mitigation plan or strategy (e.g. no spray area utilizing GIS, signage, and other techniques).	No. Willamette Research & Extension Center	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Soil & Water Conservation-WeedWise OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
K-3 Safe Spraying Support Program	Develop safe spraying support program similar to the WeedWise program to help growers with safe spraying practices.	No. Willamette Research & Extension Center	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Soil & Water Conservation-WeedWise OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	3
K-4 Organic Fertilizers	Develop a proposal to guide best practices and streamline the use of organic fertilizers in the County. In some cases organic fertilizers (e.g. food waste and manure) are more highly regulated than synthetic bio-accumulating pesticides and herbicides.	No. Willamette Research & Extension Center	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Soil & Water Conservation OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	2
L Conservation:					
L-1 Water System Strategy	Develop a model plan for comprehensive water cycle planning and use including rainwater harvesting, storage, irrigation, reuse, in-stream, and well water management.	Clackamas County Soil & Water Conservation	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Office of Sustainability OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	3
L-2 Rainwater Harvest Innovation	Foster rainwater harvesting, efficiency, and reuse on small farms.	Clackamas County Soil & Water Conservation	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Office of Sustainability OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	3
L-3 Agricultural Energy Efficiency	Expand outreach and education on energy efficiency and water conservation assistance to better connect farmers with existing resources and build momentum for implementation.	Clackamas County Office of Sustainability	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Soil & Water Conservation OSU/Clackamas County Extension Office Oregon Department of Agriculture Energy Trust of Oregon USDA Natural Resource Conservation Services	M	3
L-4 Carbon Credits and Ecosystem Services	Explore the potential for producers to gain income from various forms of carbon sequestration and offsets and ecosystem services (e.g. stormwater management, soil management, stream protection, groundwater protection).	Clackamas County Office of Sustainability	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Soil & Water Conservation OSU/Clackamas County Extension Office Oregon Department of Agriculture USDA Natural Resource Conservation Services	M	4
M Food Safety:					
M-1 Food Safety	Provide accurate and timely food safety information to producers and processors in the County.	Clackamas County Community Health	Clackamas County BCS - Natural Resource & Ag Program Manager Multnomah County OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	2



Clackamas County Agriculture and Foodshed Strategic Plan: Implementation Matrix

	Implementation Strategy	Recommended Action	Lead Agency	Partnering Agencies	Priority	Timeline
M-2	Food to Farm Outreach and Training	Include information on obtaining permits and restaurant licenses and about best practices for safe food service on farms.	Clackamas County Community Health	Clackamas County BCS - Natural Resource & Ag Program Manager Multnomah County OSU/Clackamas County Extension Office Oregon Department of Agriculture	M	2
M-3	Partnership for Food Protection Conference	Send a representative to the next "Partnership for Food Protection" conference, and be part of the dialogue about new food safety laws and regulations.	TBD	Clackamas County Office of Sustainability OSU/Clackamas County Extension Office Oregon Department of Agriculture	H	1
M-4	Policy Implementation Trials	Establish a pilot location for policy implementation trials. With the large population of farmers and processors in the county, this would be a proactive way to ensure that the establishing, monitoring and modification of food safety responsibilities were as suitable as possible to the Clackamas County agriculture community.	No. Willamette Research & Extension Center	Clackamas County Office of Sustainability OSU/Clackamas County Extension Office Oregon Department of Agriculture Clackamas County BCS - Natural Resource & Ag Program Manager	M	3
M-5	ODA Best Practices	Disseminate ODA-developed best practices information as it becomes available.	Oregon Department of Agriculture	Clackamas County BCS - Natural Resource & Ag Program Manager Clackamas County Office of Sustainability OSU/Clackamas County Extension Office	H	2
M-6	Clackamas County Department of Community Health	Work with the County Department of Community Health to consider if further County action is required.	Clackamas County Office of Sustainability	Clackamas County BCS - Natural Resource & Ag Program Manager OSU/Clackamas County Extension Office	H	1