growing minds
farm to school program

WHAT IS FARM TO SCHOOL?

Farm to School is a dynamic nationwide movement that produces multiple benefits, including improving student eating habits and farmer income. As a result, media attention and the number of programs across the country have increased drastically in recent years. In 2001, there were six pilot Farm to School programs in the United States (National Farm to School Network, 2009). Today, there are an estimated 2,257 Farm to School programs in 47 states that serve more than 9,629 schools (National Farm to School Network, 2011).

Farm to School is sometimes narrowly defined as: "Local food served in school cafeterias." But the broader holistic definition also includes hands-on experiential education components, including school gardens, farm field trips, and local food cooking classes. The impact of these programs has become a popular research topic, with noted benefits ranging from increased fruit and vegetable consumption to quantifiable economic impact. Farm to School is place-based strategy to benefit children's health and education, while simultaneously providing market opportunities for local farms and economic benefits for communities.

IMPACTS OF FARM TO SCHOOL PROGRAMS

Health U.S. childhood obesity has tripled since 1980, with 9.5% of infants and toddlers and 16.9% of children ages 2 to 19 considered obese (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). With childhood obesity a growing national issue, Farm to School is being looked to as a potential prevention strategy. In examining development of food preferences in children, Birch (1999) determined that multi-component school-based interventions that combined classroom curriculum, parent and food service components showed the greatest promise for fruit and vegetable promotion among children. Farm to School programs can offer this multi-component approach, integrating positive food and farm experiences into curriculum, engaging parents and community partners, and connecting classroom and cafeteria activities to create positive food environments. Of the Farm to School programs that have been evaluated, most have demonstrated increased selection or intake of fruits and vegetables following the incorporation of farm produce into school salad bars, meal selections, or class-based education (Joshi & Azuma, 2009). Increase in fruit and vegetable consumption reported by Farm to School studies ranged from 0.99 to 1.3 servings per student per day, compared to other non-Farm to School studies focused on school-based nutrition education interventions ranging from 0.2 to 0.99 more servings of fruits and vegetables per student per day (Joshi & Azuma, 2009).

Educational components, such as school gardens, of these programs are key to creating positive experiences and associations with fresh local food and influencing attitudes and behavior. Multiple studies support the claim that children who grow their own food are more likely to eat fresh fruits and vegetables (Canaris, 1995; Hermann et al., 2006; Libman, 2007; McAleese & Rankin, 2007;Pothukuchi, 2004) or express a preference for these foods (Lineberger & Zajicek, 2000; Morris & Zidenberg-Cherr, 2002). Farm to School programs are built upon the concept that personal connections with food and where it comes from increases consumption. Healthy food alone has been a difficult sell to children. Rather than trying to promote the healthy aspects of fruits and vegetables, Farm to School focuses on tangible, hands-on, positive experiences with real food. Children will eat vegetables, but multiple introductions and associations need to be offered, as well as good modeling and access. If children grow vegetables in a garden, cook them, and meet the farmer who grew them, they are more likely to eat them. Featuring local food not only offers fresh, great-tasting products, but also provides a "story" with which children can connect. Children, like adults, appreciate food that is fresh, well prepared, and presented in a pleasant manner. If food also comes with a relationship (child grew it, saw it growing on a farm, etc.), then the likelihood that the child will eat it, and also enjoy it, is increased.

In addition to quantitative research, the Center for Disease Control (CDC) has identified Farm to School programs as effective community mechanisms to improve the quality of school meals, enhance effectiveness of nutrition education, and provide opportunities for eco-literacy training of students through hands-on experiences in the outdoors. The Robert Wood Johnson Foundation has included Farm to School as part of their comprehensive action plan strategies to improve children's health and prevent childhood obesity. What students eat at school influences their attainment of and success in schooling (e.g., Taras, 2005), perhaps even more than it influences health (Hinrichs, 2010).

Education Farm to School programs are based on the premise that students will choose to eat more healthy foods, such as fruits and vegetables, if they have positive experiences and relationships with the source of their food. These experiences (including school gardens, farm field trips, and cooking with local food) are not only critical components of obesity prevention strategies, but also important teaching tools that meaningfully engage students while building connections to agricultural heritage and rural communities. While experiential hands-on positive food experiences are known to engage students in their own learning, time and standardized testing requirements are often identified as barriers. While it does take a deliberate effort, activities such as gardening can be integrated into all areas of the school curriculum, making learning a

meaningful experience (Canaris, 1995). A study conducted by Klemmer, Waliczek, & Zajicek (2005) found that third, fourth, and fifth grade students that participated in school gardening activities scored significantly higher on science achievement tests compared to students that did not experience any garden-based learning activities.

Farm to School programs benefit children's health and educational experience because they build a strong sense of place and connection to community and to the food we eat. It is this more holistic, multifaceted experience that supports long-term attitude and behavior change.

Economic Impacts In addition to improving children's health and education, Farm to School is also a market opportunity for local farmers. Economic impacts and the potential of Farm to School programs for farmers are important points of discussion and research. The University of Minnesota Extension Center for Community Vitality and the University of Minnesota's Department of Applied Economics recently collaborated to examine the economic impact of Farm to School in central Minnesota. Their report, released in June 2010, quantified the potential annual economic impact of Farm to School programs as ranging from $20,000 for a monthly special meal to $427,000 for sourcing a large amount of products.

In 2009, the nonprofit Ecotrust used input-output analysis to estimate the economic benefits Farm to School purchasing had on the Oregon economy. Preliminary analysis of this study showed that for every food dollar spent locally by the two school districts examined, an additional 87 cents was spent in Oregon, generating a multiplier of 1.87 for Farm to School spending.

A survey of Child Nutrition Directors in Western North Carolina, conducted by Appalachian Sustainable Agriculture Project (ASAP), showed that more than 70% of those responding demonstrated a high interest in purchasing from local farmers. Even if these Child Nutrition Directors began local purchasing with one product, the impact would be significant with slow, steady growth expected over time (*Growing Local*, 2007). In addition to the direct market potential for local farmers, Farm to School programs offer local farm promotion and cross marketing potential.

Community Food has become an "abstraction" for most consumers (Belasco, 2008, p. 5)—at least in highly developed countries—given the far-distant growing or killing, processing, fortification, packaging, and marketing of modern industrial food (Weaver-Hightower, 2011). Connecting children to where their food comes from not only improves eating habits and offers educational opportunities, but also helps builds stronger community. In rural

Appalachia, farming has long been associated with poverty. Highlighting the importance and hard work of the farmers in our communities adds value and pride to our agricultural heritage and strengths connections between generations. Farm to School is a concept that brings communities together. Regardless of the perspective, communities can come together around a positive program with multiple benefits.

SUMMARY

Farm to School, local food served in schools, school gardens, farm field trips, and cooking with local food, can be easily integrated across program areas. Whether you are interested in increasing children's fruit and vegetable consumption, instilling a love of learning, or expanding market opportunities for farmers, Farm to School is a win-win situation. Farm to School programs strive to build positive relationships with local food and farms, knowing the benefits will be long-lasting for children, families, farmers, and our community. Beginning with a classroom activity or one local food purchase may seem like an insignificant step, but the goals of these activities are far-reaching and part of a national effort to create healthier food systems.

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NATIONAL FARM TO SCHOOL NETWORK

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ABOUT US
NOURISHING KIDS AND COMMUNITIES

The National Farm to School Network sprouted from the desire to support community-based food systems, strengthen family farms, and improve student health by reducing childhood obesity. The Network is a collaborative of the Urban & Environmental Policy Institute, Occidental College and the Community Food Security Coalition (CFSC). Funded in part by the W.K. Kellogg Foundation, the Network coordinates, promotes and expands the farm to school movement at the state, regional and national levels.

While many programs center on child nutrition, Farm to School offers a solution to improve the health of kids and communities. The National Farm to School Network focuses on children's health and education as well as on the economic health of the local farmers.

What is Farm to School?

Farm to School is broadly defined as a program that connects schools (K-12) and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers. Farm to School at its core is about establishing relationships between local foods and school children by way of including, but not limited to: local products in school meals and local food related curriculum development and experiential learning opportunities through school gardens, farm tours, farmer in the classroom sessions, chefs in the classroom, culinary education, educational sessions for parents and community members, and visits to farmers' markets.

HEALTH: Kids Win

All kids deserve access to nutritious, high quality food. One-third of U.S. children are obese or overweight, and only 2% of children meet the Food Guide Pyramid daily serving recommendations. Schools operating a Farm to School program have shown increases in children's participation in the school meals program and consumption of fruits and vegetables.

AGRICULTURE: Farmers Win

Farm to School supports farming families by increasing market opportunities for farmers, fishers, ranchers, food processors and food manufacturers. Farm to School programs can open up the expansive school food market, estimated at more than $12 billion a year to local farmers.

ECONOMY: Communities Win

Farm to School strengthens the community. Farm to School programs create opportunities for developing meaningful community relationships between schools, parents, and local farmers. For every dollar spent on local foods in schools, one to three dollars circulate in the economy.

The National Farm to School Network aims to enable every child to have access to nutritious food while simultaneously benefiting communities and local farmers.

Join us!! www.farmtoschool.org

Nourishing Kids & Communities

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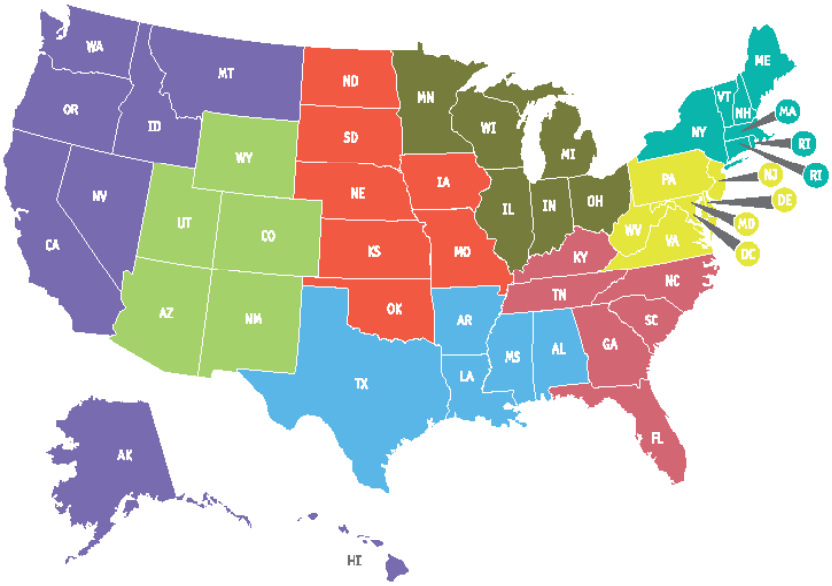

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State Leads

The National Farm to School Network has formed a partnership with Farm to School leaders in all 50 states. Each lead will serve as a point-person, advocating for the growing National Farm to School Network and providing expert advice, training and assistance to start new programs.

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Farm to School Chronology

1996-1997
Birth of farm to school through pilot projects in California (Santa Monica, Malibu USD and The Edible Schoolyard, Berkeley) and Florida (New North Florida Marketing Cooperative).

2000
USDA IFAFS supports the establishment of the National Farm to School Program enabling program development, research, and policy.

2001
USDA AMS began organizing farm to school workshops around the country as part of the Small Farms/School Meals Initiative. Groundbreaking meetings brought farmers and food service together for the first time to discuss how to implement farm to school programs in Kentucky, Iowa and Oregon.

Estimated 6 pilot programs operational.*

2002
1st regional Farm to Cafeteria conference organized at Cornell University (with support from University of New Hampshire).

1st National Farm to Cafeteria Conference, Seattle, WA with approximately 200 attendees.

2004
National Farm to School Program authorized in statute in the 2004 Child Nutrition Reauthorization.

National survey of farm to school projects with an estimated 400 programs in 22 states.*

Launch of www.farmtoschool.org.

Informal discussions about a National Farm to School Network begin.

2005
Planning grant received for National Farm to School Network from the W.K. Kellogg Foundation.

2nd National Farm to Cafeteria Conference, Gambier, OH with over 350 attendees.

2005-2006
Regional meetings held across the country to gather feedback on need for a national network and setting priorities; national survey estimates 1000+ programs.*

2007
3rd National Farm to Cafeteria Conference, Baltimore, MD with over 400 attendees.

2007, cont.
3-year grant support from Kellogg establishes the National Farm to School Network with 8 Regional Lead Agencies and national staff.

2008
Farm Bill legislation successfully passed allowing food service directors to preference local products.

National Network represented at all regional USDA briefings on the Child Nutrition Reauthorization. Developed priorities for the CNR.

2009
Congressional briefings held on farm to school in February in DC with over 100 attendees.

Estimated over 2000 programs in 40 states.*

4th National Farm to Cafeteria Conference, Portland, OR with over 550 attendees.

2010
Farm to School is in all 50 States! State Farm to School Leads established.

5th National Farm to Cafeteria Conference, Detroit, MI with over 700 participants.

2010, cont.
Healthy, Hunger Free Kids Act passes with $5 million / year funding allocation for a Farm to School Competitive Grant Program.

USDA ERS and NFSN start work on a National Farm to School Census Survey.

Phase 3 of NFSN begins with a Strategic Plan and secured funding for 2010-2012.

2011
White House Task Force Report on Childhood Obesity recognizes Farm to School as a strategy for obesity prevention (recommendation 3.6).

Farm to PreK and childcare identified as a priority area.

Estimated over 2500 programs in 50 states.*

**Estimated by the National Farm to School Network.*

The National Farm to School Network is supported in part by the W.K. Kellogg Foundation. The Network is co-led by the Urban & Environmental Policy Institute at Occidental College and the Community Food Security Coalition.

The National Farm to School Network drafted a list of barriers to starting and maintaining F2S programs:

- Perceived limitations in children's tastes (though we have seen that there is no limitation here – but perceived barriers are just as challenging as real barriers)
- Food Service concerns and interpretations (real and perceived) about health regulations regarding food they serve
- Limitations in what distributors carry and offer. Also distributors less interested in talking to farm to school advocate types and only really listen to their customers – food service directors
- Lack of respect for school food service profession – a group of people not empowered to make change
- The aggregation and distribution of products from small farms to schools ("the truck won't come down our dirt road" or "we don't have enough product for the distributor to come to our farm")
- Lots of small farms have fixed high end accounts and markets (restaurants/farmers markets/CSA's) and don't always see the opportunity with schools (schools make a great seconds market, and growing contacts)
- Upfront costs to purchase local foods that cost more – but can be balanced in a budget over the long-term. This is not saying that every year food service has to fundraise for $ to buy local food. It can be incorporated into the budget successfully without extra income. But to take the risk of new foods, there needs to be funds available to try things out.
- Community awareness and support to try new things and back up the school and food service has to be there to start and maintain f2s programsAmount for federal reimbursement for meals is very low
- Many school kitchens lack space, equipment, trained staff, refrigerators, freezers, and other needs to "cook" food and not just warm food
- School year is out of sync with growing season – which means that the school cafeteria budgets are also out of sync. It is hard to set up growing contracts that cross over budget years (ex: pay money in April for product delivered in Sept is challenging to justify)
- Though food and farm education is easy to integrate into curriculum, not all teachers willing or interested. "Teaching to the tests" and standardized curriculums limit teachers creativity and use of local community for place based lessons.

- Limited access to local processing and the regulations around processed foods is challenging
- Teacher, administrative, and food service staff turnover is always challenging in schools. So unless things are part of the accepted culture and not just the efforts of one superstar, then programs can disappear in a blink of an eye when staff leave.
- Enthusiasm and willingness to do "extra" wanes, programs need to be institutionalized and set as policy within schools, districts, counties, states, etc….

10 Reasons to Buy Local

ASAP
Appalachian Sustainable Agriculture Project

Eat local and you:

1. Eat fresher, better tasting, healthier foods.
When produce is shipped hundreds or thousands of miles, it loses crispness, flavor, and nutrients on the way. Foods grown to be shipped may be picked before they ripen and treated with more chemicals. Local foods haven't traveled so far and are fresher. If you're buying at a farmers market, the produce has often been picked that morning.

2. Enjoy seasonal produce and regional varieties.
As the seasons change, so do crops. If you eat locally, you'll be trying new things throughout the year. You're also likely to be eating what naturally grows in your area. While industrial, corporate farms grow varieties that ripen quickly and store well, family farmers often cultivate heirloom varieties that are unique to your home and a part of its heritage.

3. Support your farming neighbors.
Fewer and fewer farms are able to stay in business. Faced with increasing costs and competition from corporate farms, it's getting harder for farmers to make a profit. Use your food dollars to support a family you know, not a big business based elsewhere.

4. Sustain rural heritage and lifestyles.
Farming has long been a way of life in this area, and farms have been passed from generation to generation. Family farmers are a central part of our communities.

5. Protect natural beauty and open spaces by preserving farmland.
As land prices and property taxes increase, more and more farms are sold for development. Helping to make local farms profitable saves the rural landscape.

6. Encourage sustainable farming practices, benefiting human, animal, and environmental health.
Family farmers value their water and land because they must maintain these resources to continue farming. Family farms often use less fossil fuel and fewer chemicals than industrial farms. Family farmers are also more accountable. Unlike a company in another country or state, their customers can observe their practices.

7. Strengthen local economies and keep your food dollars close to home.
The uncertainty of the global economy makes clear the need for local economies. Use your purchasing power to create local jobs and pay taxes that benefit your own community. Sustainably-raised foods sometimes cost more at the cash register, but their long term costs to the environment and society are far less.

8. Maintain and build local food systems so we can feed ourselves in the future.
As fossil fuels become scarcer and costlier, shipping food long distances will no longer be an option. We are blessed with good farmland and must make best use of it, as well as developing the ability to process and distribute food within our region.

9. Keep farming skills alive, and farmland available.
The number of farmers is rapidly declining. We must ensure that farmers' essential knowledge is passed on, and make staying on the farm a good option for young people. We must also preserve farmland—developed land can be contaminated and loses its topsoil and fertility.

10. Get to know who grew your food and where, so you reconnect with it, and your community.
You can put a face and a farm with local food. You'll learn about the seasons and weather through their effect on crops, and you'll learn about the work of farming from your discussions with the grower. When you buy directly from the farmer more of your money goes back to the farm. And if you shop at a farmers market or subscribe to a CSA, you'll meet your neighbors and participate in a community event. When you visit restaurants and grocers that use local ingredients, you support business that share your commitments.

ASAP
Appalachian Sustainable Agriculture Project

growing minds
farm to school program

HOW TO MAKE CHANGE IN THE SCHOOL FOOD ENVIRONMENT

1. **Understand how school food works.**

   The money for school lunches comes from USDA reimbursements. For the 2010-11 school year, reimbursements for free lunch is $2.72, for a reduced fee lunch $2.32 and a full paid lunch is reimbursed $0.26. That all sounds well and good until you find out that from this pot of money comes the funding for cafeteria staff salaries, food, equipment and then to top it all off, they are also required to pay all indirect costs (electricity, custodial services, heating) and a percentage of their profits for the privilege of doing business on school property.

2. **Show that you are on the Child Nutrition Director's side.**

   Don't go in with an Us vs. Them attitude. Get to know your Child Nutrition Director. See how tough her/his job is. Understand that they want the best for our children too.

3. **Do something positive!**

   Fundraise for additional cooking tools and equipment for your school cafeteria. Buy a CSA share for the cafeteria staff. Host cooking demos in the cafeteria. Invite the cafeteria staff when you have a party. Ask if you can help decorate the cafeteria.

4. **Get the kids excited and motivated.**

   Plant a school garden. Take kids on a farm field trip. Ask chefs and parents and farmers to come cook with a classroom.

5. **Join the National Farm to School Network.**

   If you have a school garden, cook with kids using locally grown food, or take kids on a farm field trip, THAT's farm to school. Let everyone know. Register your school with the National Farm to School Network. Go to www.farmtoschool.org and join! You will also receive an e-newsletter with farm to school news from around the country. If you want to get information about what is happening in the southeast, contact Molly at ASAP to sign up for the SE farm to school e-newsletter.

306 West Haywood St.
Asheville, North Carolina 28801
828-236-1282 office
www.asapconnections.org

6. **Get the latest information on farm field trips.**

   Contact ASAP and get the new "Hayride – A Resource for Educational Farm Field Trips" publication that lists all the farm field trips in the region. It can also be downloaded at www.growing-minds.org

7. **Get Cooking! Get Growing!**

   Michelle Obama has made chefs cooking with children in the classroom very popular. Call ASAP if you would like to connect a chef with a teacher/school. ASAP also has cooking kits and gift cards for food available too. Training is provided to chefs that are interested in learning how to cook with children and connect the experience with the curriculum.

   Seeds are available in the spring and fall. This year *Sow True Seeds* is the official ASAP seed sponsor.

8. **Check out a book – ASAP's Lending library.**

   ASAP has an extensive library of children's books and curriculums on subjects relating to gardens, farms, and food – come check a book out! ASAP offices are located at 306 West Haywood St. and the office number is 828-236-1282.

9. Donate money to your local organization that is working hard to change food in the cafeteria, reconnect children (and adults!) to local agriculture while helping farmers stay in business and protecting the rural landscape that we all enjoy. **Donate to Appalachian Sustainable Agriculture Project!** http://www.asapconnections.org/donate.html

Defining Success

in the

Farm-to-School Arena

Prepared for the
Appalachian Sustainable Agriculture Project

by

Laura D. Kirby

January 2006

Farm-to-school programming is on the national agenda. In March of last year the House of Representatives passed a bill authorizing federal grants to help schools cover the initial costs of bringing locally-grown foods into school meals. School districts nationwide and right here in North Carolina are reporting success with this type of farm-to-school programming. But most of us don't know what success means in this context. Does it mean a school district buys all of their food from local farmers or producers? Not likely. So how much can a school district reasonably substitute locally-grown foods for foods grown in other regions? How do they deal with challenging issues such as coordinating purchase and delivery of fresh fruits and vegetables to individual schools? And how are the students, teachers and other members of the community experiencing success from farm-to-school programming?

To answer these questions, the Appalachian Sustainable Agriculture Project (ASAP) looked to regional farm-to-school success stories, the districts in Western North Carolina where locally-grown foods are being incorporated into school lunches and connections are being made in the classroom between food students eat and how it is grown. Child Nutrition Directors (CND) from the Asheville City Schools and the Madison, Mitchell, Yancey and Rutherford County School Districts were interviewed. They shared insights about working with local farmers and offered advice for overcoming obstacles. In addition, surveys were mailed to Child Nutrition Directors in nineteen other public school districts in Western North Carolina to find out what they think it would take to succeed with farm-to-school programming.

SUCCESS = SMALL STEPS

When it comes to using locally-grown foods in school meals, success is defined by small steps. The best approach, according to Yancey County Schools Nutrition Director Beth Palien, is to start small. "Pick one farmer and one product," she advises. The Yancey County farm-to-school program began several years ago when a local tobacco farmer transitioned to hydroponic lettuce production. The school purchased lettuce from that farmer and now purchases lettuce year-round and tomatoes, in season. In an average week, two to five cases of fresh produce are delivered to the nine schools in the district.

"Start small. Pick one farmer and one product."

---Beth Palien, Yancey County CND

For Mitchell County Schools, the one product was apples. According to Mitchell County CND Heather Calhoun, they began purchasing locally just this year. Beginning with a harvest celebration event in the fall launching their farm-to-school program, a total of 18 cases of apples were delivered to the eight schools in that district over the next few months. They are looking to expand by adding locally-grown potatoes or lettuce.

Rutherford County Schools, a much larger system with 20 schools and more than 10,000 students, also began buying local apples this year. The apples they purchased were grown and processed by a local farmer, arriving at the district's central warehouse in 3 pound bags sliced – more than 3000 bags of them over a four month period. Despite the

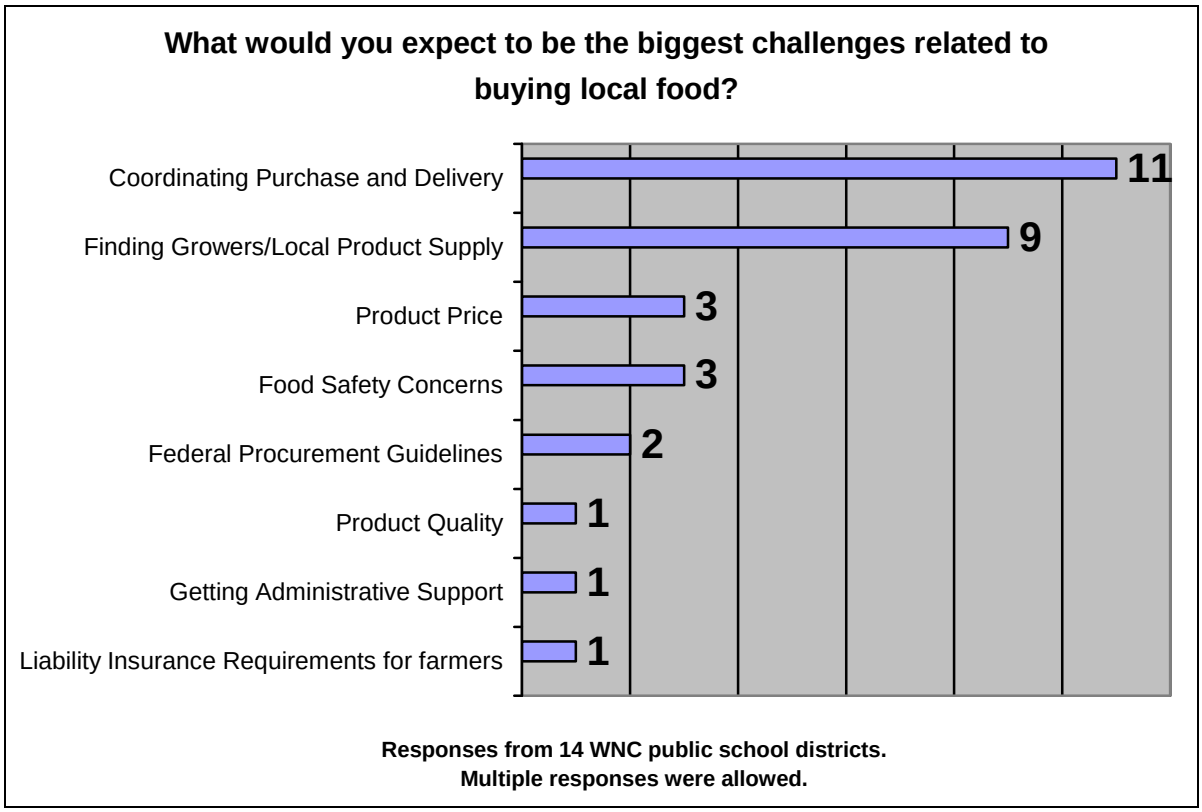
large quantity, Rutherford County CND Lori Moore explains that incorporating the local apples has been easy and well worth the one extra phone call it takes to order them.

Brenda Spence, CND for Madison County Schools, has worked with local growers on and off since 2000, buying such things as cantaloupe, watermelon, peppers, squash, collards, potatoes, lettuce and tomatoes. It all started when Brenda decided to substitute tomatoes grown by a farmer in Madison County for the ones delivered by the district's distributor. It was about taste and freshness, as anyone who has ever tasted a farm fresh tomato can understand.

The Asheville City Schools have been successfully incorporating locally-grown produce in school meals for about a year and a half. Child Nutrition Director Cindy Lawler explained that bibb lettuce and potatoes were delivered every other week to each of nine schools in the system initially. This year they have added a few other items such as cabbage, peppers, squash and tomatoes. Like the other CNDs interviewed, Cindy hopes to see steady growth in local produce purchasing, with growth occurring just as the programs started – in small steps.

SUCCESS = CREATIVITY AND FLEXIBILITY

School foodservice is a tight business. With federally-imposed guidelines for per meal cost and nutritional value, it sounds like the kind of environment where there is no room for creativity or flexibility. But creativity and flexibility abound in the experiences of the farm-to-school programs examined here. Their stories illustrate options for addressing some of the concerns voiced by districts that are not buying from local farmers (see chart).



The logistics of getting locally-grown food to individual schools is in fact a major obstacle that districts have overcome in different ways. In Yancey County, Beth Palien works with a farmer who is located along the route of the district's regular food service delivery driver. Incorporating local food in that situation simply means adding one extra stop to the regular driver's route.

Does Locally-grown Food Cost More?

Interestingly, higher prices associated with locally-grown produce tend to be related to delivery costs rather than the actual cost of produce. In fact, local produce is often priced lower than produce offered by a district's regular foodservice distributor. Nutrition Directors explained that the prevailing market price is generally what is paid to local farmers.

Madison County and Asheville City Schools pay extra to have the food delivered directly to each school. While this drives up the cost, they both explain that they are able to do this because of strong School Board and County Commissioner support. *(see sidebar about cost issues.)*

In Mitchell County, delivery occurs less often and is coordinated with other regularly scheduled deliveries to each school. This arrangement is possible because they have chosen products that don't have to be refrigerated right away, like apples and potatoes. These choices also offer a solution to the district's second major logistical challenge, the lack of refrigerated storage.

For a large district like Rutherford County Schools, existing infrastructure including a centralized warehouse and district-owned delivery trucks make delivery less problematic. The challenge for them becomes being able to fill large quantity orders. In fact, since menus must be the same across all schools in a system, quantity can be a problem for a district of any size. "Sometimes you get too much of something and other times what you need is not available," says Brenda Spence. "You have to be creative and work with what you've got. When the menu says 'veggies and dip,' for instance, you could use carrots or broccoli or squash or any number of things." And since most purchasing is still occurring through traditional foodservice providers, they can easily be used as a backup source.

SUCCESS = EDUCATIONAL LINKAGES

According to Emily Jackson, Growing Minds/Farm-to-School Director for the Appalachian Sustainable Agriculture Project, success is about pulling the cafeteria into the educational realm. In other words, it's about using the farm or garden setting as a backdrop for learning basic science, math, reading and writing skills. Kids are more motivated to learn when learning is tied to something interesting or relevant to their lives, and what's more relevant than what they eat? In North Carolina, farm-to-school programming also provides a way for kids to reconnect to the state's agricultural heritage, which is particularly relevant to children from farming families.

At its best, farm-to-school programming includes local food in salad bars and lunch menus as well as other educational components such as school gardens, farm field trips, healthy cooking classes and tastings of different kinds of apples, tomatoes and other foods. This type of success is happening in the Asheville City Schools where parents have embraced the concept of farm-to-school. At Isaac Dickson Elementary School, for example, parent volunteers have led cooking classes for students and local chefs have done school-wide healthy cooking demonstrations. Students are responding by trying – and enjoying – new foods like pumpkin soup and 'mac-n-cheese with trees' (broccoli).

In terms of nutrition education, exposure to farm fresh food helps kids learn how to make healthy food choices and appreciate the taste of fresh fruits and vegetables. This positions students to avoid food-related diseases such as obesity, diabetes and hypertension. Cindy Lawler notes that students are learning a lot about different types of fruits and vegetables. Some Asheville City Schools middle schoolers, for example, had never heard of red plums before they were served them in school lunches. And, Cindy explained, some elementary students who visited a farm where okra was growing were amazed that it didn't grow in little pieces with a brown, crispy crust.

SUCCESS = BUY-IN AT MULTIPLE LEVELS

According to ASAP's Emily Jackson, farm-to-school efforts cannot succeed without support from Child Nutrition Directors. Child Nutrition Directors say that administration and parental support is essential. And when kitchen managers and staff are on board, adds Cindy Lawler, problems like different food preparation needs or varied delivery schedules are minimized. Beth Palien explains that incorporating locally-grown food has actually been good for morale among kitchen staff because they appreciate that the district is trying to support local farmers. In fact, supporting local farmers was the top reason given by CNDs interviewed here for backing the farm-to-school concept.

Students cannot be left out of the buy-in equation. After all, they are the ones eating the food, locally-grown or not. For Lori Moore, the fact that students are eating the local apples so well is what makes the effort a success. Many children who don't typically eat whole apples are devouring the sliced apples, she says. It makes her and the kitchen staff happy to see less food going in the trash when lunch trays are returned.

SUCCESS = SEIZING OPPORTUNITIES

Interest is high among WNC Nutrition Directors who completed a written survey about farm-to-school programming. A few of the districts are already using components of farm-to-school programming, such as school gardens, farm field trips and cooking classes. Nearly two thirds expressed interest in initiating those types of activities. And more than half of WNC districts are currently buying from NC farmers through two statewide farm-to-school initiatives (*see sidebar*).

Statewide Farm-to-School Initiatives

In 1994, the Department of Defense began offering its produce buying services to institutions other than military bases. The ***Department of Defense Farm to School Program*** (also called ***DoD Fresh***) was a result of that initiative and schools were given the option of using commodity entitlement funds to purchase fresh fruits and vegetables grown within their state.

In North Carolina, there is also a state-sponsored farm-to-school program (***NC Farm to School***) which facilitates delivery of produce grown by North Carolina farmers to North Carolina public schools.

Most significantly, more than 70% of those responding to the survey scored their interest in buying from local farmers as 7 or higher on a scale of 1 to 10, with 1 being 'not at all interested' and 10 being 'very interested.' If each of those districts began buying from local farmers at a reasonable level – *one product from one farmer* – the impact to Western North Carolina farmers and schools would be significant, with slow, steady growth expected over time.

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Return to Current Issue

Educators or Facilitators? Clarifying Extension's Role in the Emerging Local Food Systems Movement

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Abstract: With the recent growth of the local food systems movement, OSU Extension formed a new statewide team. In the process, Extension program delivery systems were explored contrasting traditional program delivery (historically rooted in a teacher-clientele, information transfer, demonstration methodology) vs. a community capacity-building facilitation process. This seemingly marginal distinction raised questions with deeper implications for Extension's outreach and engagement process. In brief, how can Extension fill the gap between community-expressed needs and the traditional framework of delivery? Should Extension help communities fulfill their goals and objectives by acting as facilitators, co-conveners, and true partners, rather than simply as educators?

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Introduction

The interest in growing, purchasing, and consuming local foods has exploded in the past few years. Local and national news channels report on food safety, security, and the environmental impact of certain farm practices and food transportation. In addition, there is a noticeable increase in roadside farm stands and organized farm markets nationwide (USDA, 2009). The sustainable local food system has become increasingly important for individuals, families, businesses, and communities. Interest in increased availability of food from known sources is both common and growing across the rural to urban continuum.

Nationally, Extension is positioned to collectively influence the changes and growth of local food systems. Personnel in all four program areas (youth, agriculture, family consumer sciences, and community development) are actively involved in varying aspects of local food systems development. However, this somewhat disparate group of campus faculty, research outpost, and field staff naturally comes with a variety of program delivery options and methodologies. Additionally, there generally exists little coordinated effort or communication systems to bring these people and their ideas together.

In October 2009, the desire for better communication and information sharing led to a new statewide team for Ohio State's Department of Extension. The goal was to address local food systems initiatives that were growing across the state. During this process, two prevailing yet potentially conflicting notions of program

delivery became apparent. These were:

1. Traditional program delivery (historically rooted in an information transfer from teacher to client using demonstration methodologies);

2. Community capacity-building facilitation process (in which Extension brings people together and helps them identify capacity, expertise, and action groups from within).

This seemingly marginal distinction raised questions with deeper implications for Extension's outreach and engagement process. These are not limited to Ohio. In brief, how can Extension fill the gap between community-expressed needs and the traditional framework of delivery? Should Extension help communities fulfill their goals and objectives by acting as facilitators or co-conveners, rather than simply as educators who transfer knowledge? The latter question begs follow-up:

1. Should Extension facilitate, equip, or catalyze a group with an ideology that runs contrary to Extension's generally accepted teachings on agricultural practices?

2. Does Extension deliver expertise beyond what is easily obtainable on the Internet? How or how not?

3. Is there a role for Extension as both educator and facilitator?

Background

Extension educators serve as both an expert source of information (teacher) *and* as a facilitator who can bring together existing community resources and help a group build sustaining capacity. But the seemingly obvious, quick answer is not quite so straightforward. Let's briefly recall the history from which Extension emerged and developed. It was largely rooted in two historical schools of thought.

Liberty Hyde Bailey (1858-1954) approached Extension's mission from a community-building or development perspective. He believed that rural people had the ability to sustain community and social life. Herein, Extension needed to facilitate helping a community understand the role of agriculture (the basis of the nation's economy during that time) to sustain community life. Though he believed that rural Americans were generally uneducated, he held that education could lead to reform. His approach was to bring expert advice (from the university centers), to the people to increase their involvement. In short, his approach to teaching placed a strong emphasis on local capacity building that would occur as the new information and educational lessons took hold and moved people to action.

In contrast, Seaman Knapp (1831-1911) promoted the Extension "demonstration farm" model. He also viewed people as basically uneducated and developed the demonstration model that employed local farmers who showed new and successful practices to their neighboring farmers. This demonstrating technique prevailed due to the value equation of the day: adopting technologies to add value in their agrarian economy. It may be a subtle contrast, but Bailey's approach of community involvement/building seemed to be more holistic and sustainable for the community.

Fast-forward to today. Bailey ideals reemerge in Scott Peters' work at Cornell. He sees Extension work as "human work." Peters believes in coming along side, bringing expert advice from the Institution, but it should not be "we're the teacher; you're the student." If that's the case, there's no real need for Extension. If

information and purported expert knowledge is available everywhere, why should government fund our branch or diffusion process? (Peters, 2006).

Discussion

Obviously, the conversation must be carefully positioned. In the past, delivering programs was key to Extension's business. Information was not widely available. Expertise was not a keystroke away. Extension *was* the teacher, the expert. Today, there exists a greater need for more of a facilitation role, *interpreting* information and data, and helping communities discover what's already there. This is the sustainable approach of building capacity.

Hassel (2005) describes a worldview as "basic assumptions and beliefs that form the basis of a people's comprehension of the world. 'Ways of knowing' refers to epistemology--differences in the nature of knowledge and its construction, including what counts as knowledge and the degree to which knowledge is certain." Hassel continues, "Recognizing and involving community-based subject matter experts without relying upon academic credentials or scientific validation ... is dangerous."

This presents a credible argument with respect to how we approach educating or facilitating in communities. There exists an amazing depth and breadth of knowledge in many communitiesâ experiential and non-formal, passed down outside the classroom or research lab. However, Extension educators must conduct outreach and teaching based on scientific research, empirical data, and verifiable knowledge. A shift in the Extension approach to community engagement wherein we simply *facilitate* will not work. Again, academic rigor or empirical data have a great purpose.

In an address to the 2006 OSU Extension Community Development Conference, Scott Peters (Cornell) told the following story (herein retold from personal notes taken during the seminar):

> In the late 1950's, an OSU Extension Agent named J.P. Schmidt said, "Good schools, good churches and good neighbors are as important as good potatoes." Now what on earth does that mean, you ask? Perhaps he was sensing a sea change in America. Schmidt saw technology (then, a TV set) encroaching on face-to-face communication. So his statement emphasizes that our entire community (schools, churches, neighbors) are as important (i.e., are needed to reach, educate and help transform society), as good potatoes. "Good potatoes" symbolizes all the emphasis on crop technology that Extension was doing in the 1950's.
>
> In short, he was saying that we need the new technology (to produce the good potatoes), but we ALSO need the high touch (schools, churches, neighbors) to progress as a society. This is an astounding revelation when we consider it in context. It's just as valid today. We need to use technology (due to budget constraints, electronic communications, etc.), but we must NOT let go of the face-to-face teaching and interaction.

The community currency 100 years ago was in agriculture. Today, it's food, energy, service, and manufacturingâ those things that people are able to bring together to sustain a community. This requires a new technological component along with civic and community involvement. Change is not optional. The Extension delivery system must find the intersecting points of high tech and high touch. Essentially, this equates to bridging the divide between being educators (information delivery) and the role of facilitators (building local capacity).

Conclusions

The traditional delivery/engagement system of imparting expert research and knowledge to clientele no longer provides the value that it once did. In *Catalyzing Change* (2006), Monika Roth notes:

> Extension is a grassroots effort. It's more than just the process of, 'I have the information you need. I am the teacher and you are the student.' It's much more engaged. We involve people to make change.

As we work in local food systems initiatives, we must continue to function as educators, but we don't simply impart data from on high. Instead, we need to become better partners. We need to come along side and facilitateâ helping communities discover the knowledge and talent and expertise that exists within their group. Then, we need to help them develop it.

Extension should teach communities how to discover and use the resources that exist within the context of their current community. Thus, by facilitating, Extension assists people in building social capital. This creates a sustainable approach vs. an unsustainable program. Programs can and do initiate change, but a delivered program has less impact than an involved group of citizens who develop and implement their own plan for civic action.

When we help community members discover and build capacity within themselvesâ using data, expertise, and experience that we access from the universitiesâ they will develop into sustainable systems that last. Extension work is human work. It extends far beyond information conveyance.

Agricultural Extension Education is not deadâ yet. But if we do not sense this impending change, embrace the alternate methods our clientele have for accessing information, and then act to help them learn to use that information in conjunction with knowledge already available within their community, funding surely will not continue.

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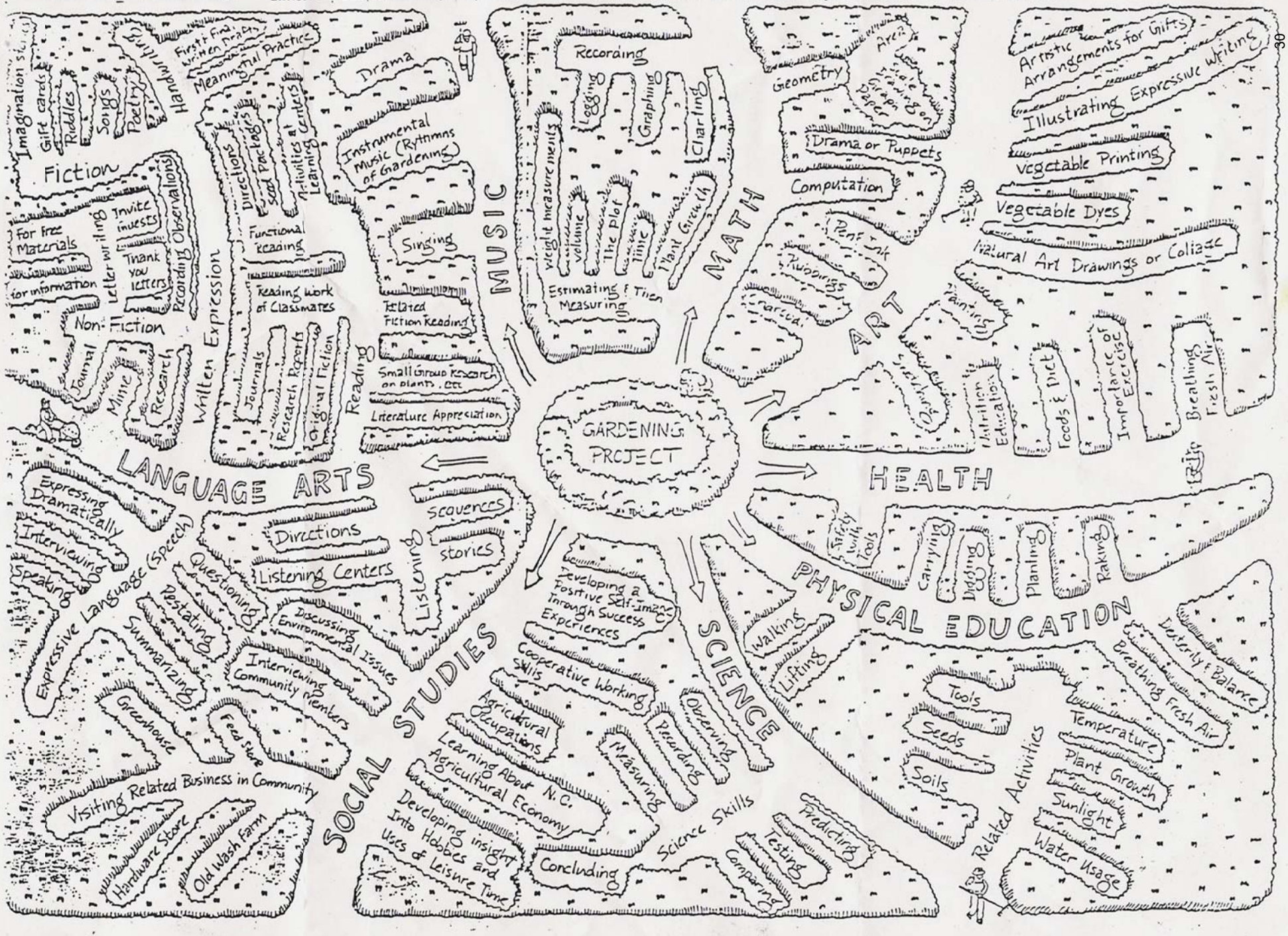
Gardening lessons continue all year long!

Here's one teacher's vision of how a garden project can send youngsters on the path toward almost any subject. Developed by teacher Vicki Greenhouse for her second and third grade students in Lincoln, Vermont.



Curriculum connections – Inquiry Science

The following is a brief collection of ideas illustrating how the garden can be integrated into NC science standards using an inquiry approach. For those of you who have not had much experience working with the standard course of study, the numbers refer to specific goals and skills. For more detailed information about NC standard course of study requirements visit http://www.ncpublicschools.org/curriculum/ncscos .

Kindergarten Inquiry science

Science Goals

1.01, 1.02, 1.03 1.04, 1.05

Students observe and study animals that live in the garden or soil, comparing and contrasting worms, turtles, rabbits, humans and any others that may present themselves in the garden environment.

2.01, 2.02, 2.03, 2.04, 2.05

Kindergarten students assist students in 2nd and/or 5th grade in setting up a weather station in the garden. Students make up and test their own ideas on how one might measure precipitation, wind, temperature, and cloud cover. Students post the daily weather information using both standard measurements (rainfall, wind direction, temperature and cloud cover) and their own measurements (shoes muddy or dry, hair blows or does not blow in the wind, how many shirts cold, inside or outside day and fluffy or stormy clouds).

3.01, 3.02, 3.03, 3.04, 3.05

Students participate in a garden scavenger hunt, sorting their discoveries by color, size, shape and texture, using their senses. The class discusses and or reads books about how different things in the garden are used as natural resources, or were made from other resources.

Students create garden art from natural materials, focusing in on crating a sensory experience – something that kids can see, touch, smell, taste and hear.

4.01, 4.02, 4.03, 4.04, 4.05

Students measure plants or other things in the garden using hands (how horses are measured) and feet (compare a child's foot to a ruler). These measurements are compared to measurements taken with other tools (pencils, crayons, etc.). These non-standard units are compared with standard units of measurement.

First Grade Inquiry science

Science Goals

1.01, 1.03, 1.05

Garden planning - What do students want to grow in the garden and what do we need to give those plants in order for them to grow?

Planting seeds- Students read the book What's This? by Caroline Mockford – in which a little girl finds an unknown seed that she plants and cares for (illustrating basic needs of the plant). Students then in tern plant a mystery seed that they care for to discover what it is. Students compare the basic needs of plants with those of humans.

1.02, 1.03, 1.05

Students study worms and observe a composting worm bin. Students learn the basic needs of worms are the same as other animals, including humans.

What lives in the garden - Students read or are read stories about common NC animals that may live in the garden. Students create a "garden house" that includes air, water, food, shelter for particular animals

2.01, 2.02, 2.03, 2.04,

Soil sort – students examine a cup of soil from the garden and sort out different components of soil, recording descriptive words in their garden journal to describe what they found.

Soil comparison –students each bring a sample of soil from their yard or garden and work with another student to compare and contrast the two soil samples.

3.01, 3.02, 3.03, 3.04, 3.05

Cooking – students learn about the different properties of solids, liquids and gases through cooking projects, sorting out ingredients, and discussing how they were changed by heat.

4.01, 4.02, 4.03, 4.04, 4.05

Students explore different ways to move mulch in the garden – is it easier to push a bucket, pull a bucket, or maneuver a wheel barrow? Are buckets or wheel barrows easier to balance? How are balance and movement effected by the amount of mulch in the wheel barrow? How is balance and movement effected by where the mulch is piled in the wheelbarrow?

Second Grade Inquiry Science

Science Goals

1.01

Students help maintain a worm bin, while researching the lifecycle of worms and comparing them to other animals.

Growing up in a garden – students explore what lives in a garden and how different animals use the garden from birth through death.

1.02, 1.03, 1.04
Raising and observing beneficial insects (praying mantis, butterflies and ladybugs).

Students help to create a butterfly/beneficial insect garden -building an understanding of what insects need throughout their life stages Students research and write questions, then play a game of Insect Jeopardy.

2.01, 2.02, 2.03, 2.04, 2.05
Students help design and construct a weather station, measuring, recording and graphing changes in temperature, wind, and precipitation over time.

3.01, 3.02, 3.03, 3.04, 3.05, 3.06
Students observe and explore changes in properties through cooking activities and building/using a solar dehydrator.

Third Grade Inquiry Science

Science Goals
1.01, 1.02, 1.04
Students design a plant growth experiment in which variables such as nutrients, light and water are altered. Changes in the plants are recorded over time.

1.02, 1.03
Garden planning - What do students want to grow in the garden and what do we need to give the plants for them to grow.

1.02, 1.03, 1.06, 2.03
Planting starts - Students plant seeds, making predictions about their growth and observing growth over time.

1.04, 1.05
Students spend time in the garden, observing how insects move through the garden. They then write a story about a bee's conversation with the flower.

Students participate in a pollination game in which they kinesthetically learn how and why bees pollinate flowers.

A bee keeper will come and talk with students about their work and the importance of pollinators.

2.01, 2.04
Soil Sort – This activity from the Grow Lab curriculum has students dissecting soil, sorting its components and discovering its properties.

2.02, 2.04
Water race – Students have the opportunity to tactilely feel the difference between sand, silt and clay. A percolation demonstration will be set up and soil particle size will be discussed. Students will try to predict which soil the water will race through the fastest and the slowest.

2.01, 2.03, 2.04, 2.05, 2.06
Soil Jeopardy – students work to create game show questions about soil, using resources from the internet, books and the area Soil and Water Conservation District. Students' questions are used as they play Soil Jeopardy.

2.05, 2.06
Students observe and maintain a composting worm bin and a compost pile.

4.01, 4.02, 4.03, 4.04, 4.05
Students help construct a scarecrow for the garden, learning about the human skeleton as they build it. Compare and contrast the skeleton, joints and muscles of a scarecrow with those of students.

Fourth Grade Inquiry Science
Science Goals
1.01
What lives in a garden – students observe and examine animals that live in the garden (worms, birds, turtles, etc.) and describe how their lives are influenced by other animals, plants, weather and climate. Students then write a creative fictional story about the life of the animal they observed, including the things they learned and observed in the garden.

1.02, 1.03, 1.04, 1.05
Students read or listen to the book How to Hide a Butterfly, by Ruth Heller, and discuss camouflage and other adaptations that may be an advantage or disadvantage for animals. Students then look for animals in the garden that use camouflage, and write a creation story about how that adaptation came to be.

4.01, 4.03, 4.04, 4.05, 4.07
Student help to prepare two different recipes using things grown in the garden, categorizing all ingredients as carbohydrates, fats, proteins, water, vitamins and minerals.

Fifth Grade Inquiry Science
Science Goals
1.01, 1.02, 1.03, 1.04, 1.05
Students help to plan and plant a butterfly/habitat garden.

1.02, 1.07
Students study decomposition through the maintenance of a compost pile.

1.01, 1.04, 1.06
Students plan and plant an experimental garden, altering variables such as light, water, and nutrients.

2.01, 2.02, 2.03, 2.04, 2.05, 2.06, 2.07
Students build several different types of landforms with soil in or near the garden. Watching how water moves over their creations, students note what type of canyons, valleys, meanders and tributaries are created. Erosion is discussed as a soil forming factor and students write about where the soil started and where it ended, comparing their created land forms with real life situations.

2.05, 2.07
Students plant trees and plants along the riparian zone of the school creek, discussing how vegetation can influence erosion

3.02, 3.04, 3.05
Students design and create their own weather station, possibly acting as mentors for 2nd or kindergarten students that are also studying weather. Students graph changes in temperature, wind, precipitation, cloud cover and air pressure over time. Students may participate in the GLOBE program, reporting their data to a nationwide database of information.

3.01, 3.03, 3.06
Thirsty plants, a project WET activity will be used to illustrate the role of the garden and plants in the water cycle.

School Gardens/Outdoor Classrooms
Learning Integration

Most folks think "science" when they think about school gardens and children. But there are so many wonderful ways to integrate the wonder and enthusiasm captured by the garden and the outside environment. Here are just a few samples of activities in the different subject areas:

Reading/Language Arts
- Write, compile and illustrate a collection of garden poems and stories.
- Keep a garden journal with observations, ideas, feelings, experiments, drawings, etc.
- Study agricultural terms and use them for spelling words
- Put together a class newspaper or newsletter about the garden
- Study and learn to use seed catalogs
- Learn to use field guides to identify plants, birds, insects, etc.
- Design and illustrate a garden calendar
- Write and compile a class gardening book with gardening skills and advice
- Contact and write to a pen pal in another school garden program
- Write a report on a gardening topic and present to the class
- Compile a log of daily weather patterns and put together a garden weather log for a reference tool
- Write articles about the school garden project and submit to local newspapers
- Read the daily newspaper and bring in any articles relating to gardening, food, farming, nutrition, hunger, etc.
- Write to an environmental or agricultural organization for information about their work and how you can help
- Design and print a flyer to advertise your garden program
- Write letters to businesses to ask them for tools/other donations

Math
- Measure and draw up garden site plans
- Design a sun dial
- Keep growth charts of plants, records of size comparisons, and design bar graphs to illustrate your findings
- Tally cricket chirps to estimate temperature
- Keep charts and records of seed germination data
- Measure ingredients for recipes
- Measure and keep charts and graphs of wind speed, rainfall and humidity
- Keep records of the weights of garden harvest
- Chart temperatures in Fahrenheit and centigrade
- Plot a compass course through the garden
- Determine weight and volume of wet and dry soil samples
- Interpret and graph charts of planting requirements, harvest estimates
- Make "seed tapes" using paper towels, glue made from corn starch and seeds – use rulers to measure space between seeds and then plant the whole thing!

Social Studies
- Study your state's agriculture
- Invite a farmer to the classroom and interview him/her about their lives, training and experiences
- Establish a recycling center at the school for paper, glass and cans
- Contact, report on or volunteer services at a local food bank, gleaning project and food cooperatives

- Study and report on planting and harvesting rituals and folklore
- Interview seniors about their gardening/farming experiences
- Plan a field trip to a farm or orchard
- Report on the background of specific ethnic foods – where they come from, how they are grown, and how they are used
- Trace the histories of familiar plants – where they originated, who brought them to this country, the impact they have had on our diets and how the original plants have been altered
- Study the contributions of Native American foods to American history and diet
- Research and report on how other cultures use and control insects

Music/Drama
- Put together a garden puppet show illustrating gardening techniques or a story about a garden
- Take a garden-themed piece of children's literature and do reader's theater with it
- Write parodies of well known songs, turning them into gardening songs
- Write a class garden theme song
- Write garden poems and set them to music
- Hold a harvest festival square dance
- Listen to the music of composers inspired by nature

Science/Nutrition/Health
- Set up and study a hydroponic garden or terrarium
- Experiment with "planting by the moon" to observe its effects on plant germination and growth
- Study local geology and put together a display of the soil and rock types found in your area
- Raise and then release beneficial insects into the garden
- Study an undeveloped section of the school yard and make notes of seasonal changes, inventory the plants, animals and insects that live there
- Choose an item of food, research and report on its path from production through processing to consumption
- Grow herbs and research their historical and culinary uses
- Study local agricultural problems (loss of farmland, development pressures, etc.) and find out what id being done about them
- Research what is grown locally today and what used to be grown
- Figure out how far your food travels by examining a school lunch meal
- Find out if any of the food served in the cafeteria is locally grown and if not, why
- Ask a local chef to come in for a cooking class
- Start a cooking club

Crafts
- Make drawings, sketches and paintings of garden flowers, vegetables or fruits
- Design labels for plants and to mark plantings
- Design t-shirts for your garden program
- Design a logo for your garden
- Paint rocks to use as borders
- Do leaf "poundings" – gather leaves and pound their color and shapes onto fabric
- Mount a seed collection or make a seed mosaic
- Design and create a permanent sign for your garden
- Make leaf, vegetable and fruit prints
- Design and create a scarecrow
- Make rubbings using plant leaves and bark
- Use your native clay for modeling sculptures
- Paint a garden mural or farm life mural

- Make a color wheel with objects from the garden
- Put together a photo essay of the garden
- Create and use natural dyes made from garden plants
- Design and build a garden project: birdhouse, birdbath, birdfeeder, solar oven, garden sculpture, cold frame, weather station, trellis, etc.
- Shellac gourds to make decorations or to use for birdhouses

Connecting with Curriculum

It is not difficult to connect cooking project to standard course of study curriculum. It just takes a little creativity. Here are some for the concepts, skills and goals children are working on.

Kindergarten

- Exploring a variety of foods and beverages for good health, including those that are unfamiliar and culturally diverse
- Associate common foods with their origins
- Sharing something equally between two people, then explaining
- Working in small groups
- Compare attributes of two objects using appropriate vocabulary (color, weight, height, width, length, texture)
- Count objects in a set.
- Estimate quantities fewer than or equal to 10.
- Identify, build, draw, and name triangles, rectangles, and circles; identify, build, and name spheres and cubes.
- Compare geometric shapes (identify likenesses and differences).
- Sort and classify objects by one attribute
- Create and extend patterns with actions, words, and objects.
- Develop and use a vocabulary associated with the properties of materials: Color, Size, Shape, and Texture.
- Describe how objects look, feel, smell, taste, and sound using their own senses.
- Observe that objects can be described and sorted by their properties.
- Use new vocabulary in own speech and writing.
- Maintain conversation and discussions when attending to oral presentations.
- Taking turns expressing ideas and asking questions.
- Recognize that families and groups have similarities and differences.
- Compare and contrast customs of families in communities around the world.
- Describe the importance of rules and laws.
- Analyze classroom problems and suggest fair solutions.
- Evaluate how the lives of individuals and families of the past are different from what they are today.
- Explore how families express their cultures through celebrations, rituals, and traditions

1st grade

- Investigate the needs of a variety of different animals: Air, Water, Food, Shelter, and Space.
- Observe the ways in which humans are similar to other organisms.
- Identify local environments that support the needs of common North Carolina plants and animals.
- Discuss the wide variety of living things on Earth.
- Classify solids according to their properties: Color, Texture, Shape (ability to roll or stack), and Ability to float or sink in water.
- Determine the properties of liquids: Color, Ability to float or sink in water, Tendency to flow.
- Observe mixtures including: Solids with solids, Liquids with liquids, Solids with liquids.
- Summarizing the benefits of eating a variety of whole grains, vegetables, fruits, and low-fat dairy products

- Counting and comparing numbers
- Estimating quantities
- Developing single-digit addition and subtraction skills
- Telling time at the hour and half hour
- Sort and classify objects by two attributes.
- Basic geometric shapes
- Count syllables in a word.
- Change the beginning, middle, and ending sounds to produce new words.
- Create and state a series of rhyming words that may include consonant blends (e.g., flag, brag).
- Compare and contrast similarities and differences among individuals and families.
- Explore the benefits of diversity in the United States.
- Participate in democratic decision-making.
- Recognize the need for rules in different settings.
- Identify the need for fairness in rules by individuals and by people in authority.
- Predict consequences that may result from responsible and irresponsible actions.

2nd grade

- Identify three states of matter: Solid, Liquid, and Gas.
- Observe changes in state due to heating and cooling of common materials.
- Explain how heat is produced and can move from one material or object to another.
- Show that solids, liquids and gases can be characterized by their properties.
- Investigate and observe how mixtures can be made by combining solids, liquids or gases and how they can be separated again.
- Observe that a new material is made by combining two or more materials with properties different from the original material.
- Learning about the benefits of healthy eating
- Comparing fractions (halves, thirds, fourths) using models.
- Estimating and measure using appropriate units.
- Observing changes in state due to heating and cooling of common materials.
- Addition and subtraction of multi-digit numbers
- Patterns
- Line plots, tallies
- Define and recognize odd and even numbers.

3rd grade

- Analyzing what it means to be healthy
- Learning how to plan meals and snacks using appropriate portion sizes
- Representing fractions concretely and symbolically (halves, fourths, thirds, sixths, eighths).
- Multiplication and division
- Estimate and measure using appropriate units: Capacity (cups, pints, quarts, gallons, liters), Length (miles, kilometers), Mass (ounces, pounds, grams, kilograms), Temperature (Fahrenheit, Celsius).
- Listen actively by: facing the speaker, making eye contact, asking questions to clarify the message, asking questions to gain additional information and ideas.
- Read aloud grade-appropriate text with fluency, comprehension, and expression.

- Use oral and written language to: present information in a sequenced, logical manner, discuss, sustain conversation on a topic, share information and ideas, recount or narrate, answer open-ended questions, report information on a topic, explain own learning.

4th grade

- Distinguishing between healthy and unhealthy eating patterns
- Problem solving by estimation
- Explaining why organisms (people) require energy to live and grow.
- Showing how calories can be used to compare the chemical energy of different foods.
- Discussing how foods provide both energy and nutrients for living organisms.
- Identifying starches and sugars as carbohydrates.
- Determining that foods are made up of a variety of components
- Multiplication and division of multi-digit numbers
- Perimeter and area
- Line graphs
- Interact with the text before, during, and after reading, listening, and viewing by: setting a purpose using prior knowledge and text information, making predictions, formulating questions, locating relevant information, making connections with previous experiences, information, and ideas.
- Listen actively by: asking questions, paraphrasing what was said, interpreting speaker's verbal and non-verbal messages, interpreting speaker's purposes and/or intent.
- Describe the similarities and differences among people of North Carolina, past and present.

5th grade

- Recognize the social significance of food in families and cultures
- Problem solving by estimation
- Bar graphs and stem-and-leaf plots
- Perimeter and area
- Develop fluency in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers).
- Investigate the water cycle including the processes of: Evaporation, Condensation, Precipitation, and Run-off.
- Interact with the text before, during, and after reading, listening, and viewing by: making predictions, formulating questions, supporting answers from textual information, previous experience, and/or other sources, drawing on personal, literary, and cultural understandings, seeking additional information, and making connections with previous experiences, information, and ideas.
- Listen actively and critically by: asking questions, delving deeper into the topic, elaborating on the information and ideas presented, evaluating information and ideas, making inferences and drawing conclusions and making judgments.
- Make informed judgments about: bias, propaganda, stereotyping, media techniques.
- Use oral and written language to: formulate hypotheses, evaluate information and ideas, present and support arguments, influence the thinking of others.

FEED MY SCHOOL FOR A WEEK

PARTNERSHIPS WITH EXTENSION

Georgia Department of Agriculture
Melanie Hollingsworth, Nutritional Specialist
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What is Feed My School for a Week?

A pilot program proposed by Georgia's Commissioner of Agriculture, Gary W. Black. The goal is to feed a selected set of schools in Georgia school lunch for an entire week from locally grown products.

Teacher, do I have to?

Purpose of Program

- To gain better understanding of the challenges faced when implementing the purchasing and preparation of local products in Georgia's School Nutrition Program.
- Resulting in moving Farm to School movements forward in Georgia.

Draw the chart

Why "Feed My School for a Week?"

Pros	Challenges
Economic Booster	Food Purchasing
Childhood Obesity	Food Preparation
Agriculture Education	Food Safety
Food Safety Awareness	Menu Planning
Morale	Staffing/Equipment Shortage
Community Collaboration	Food Availability
	Shelf Life
	Education

How to get an A+

Logistics of the program

- School Selection
- Fall semester community meetings with schools chosen
- Follow up interaction with school nutrition director, farmers, and other parties involved
- Spring semester "Feed My School for a Week"

Report Card

Measuring the Results

- End of week mini-summit with school food nutrition director, farmers, and all parties involved to discuss challenges faced
- Follow up survey after purchasing/menu planning occurs for following year

THE UNIVERSITY OF GEORGIA COOPERATIVE EXTENSION

Help outside of school

Partnerships with Extension

Partnership Agriculture Agents

"…develops programs and innovations to improve people's lives and focuses on getting results."

-The University of Georgia

- Liaison to the Farmers
- Agriculture Education
- Growing Seasons
- Community Relationships

Partnership Family and Consumer Science Agents

"Agents and specialists at centers and facilities throughout the state are ready to help you solve problems in your every day life."

-The University of Georgia

- Food Safety
- Food Preparation
- Menu Planning
- Hands on Interaction

Partnership 4-H Agents

"…assist youth in acquiring knowledge, developing life skills and forming attitudes that will enable them to become self-directing, productive and contributing citizens."

-Georgia 4-H

- School Gardening
- Food Safety
- Community/District/State Partnerships
- Education

"FEED MY SCHOOL FOR A WEEK" NEEDS YOU

Georgia Department of Agriculture

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FARM TO SCHOOL EVALUATION INFORMATION SHEET

John M. O'Sullivan
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July 26, 2011

Materials to support the Session on Program Evaluation: Planning and Implementing the Evaluation Capacity for a successful Farm to School Program

Southern SARE PDP Project for Building Capacity:
Farm to School
Extension Training for the Southern Region

Building Capacity: Farm to School is a two year SARE PDP project designed to build the capabilities of Extension, agricultural professionals, and communities in the development of Farm to School initiatives. These initiatives can range from educational components such as school gardens, farm field trips and experiential nutrition education, to connecting farmers with schools as a market opportunity. In this project, Appalachian Sustainable Agriculture Project (ASAP), brings its leadership in Farm to School in the southeast and in the National Farm to School Network (NFTSN) to collaboration with Cooperative Extension in Georgia, North Carolina and South Carolina. Its leadership in the Southeast and to the national scene is a key resource for all Cooperative Extension across the South.

Cooperative Extension's work with agricultural producers, youth and community education puts them in the unique position to offer an integrated approach to Farm to School across program areas and become leaders in the movement. The goal of the SARE PDP endeavor is to build a partnership of ASAP with Extension professionals to assist farms and communities with Farm to School initiatives in all the diverse and creative ways that a Farm to School initiative might develop in any location.

Our Evaluation Session has as its objective:

Because of this session; participants will know how to plan and implement an evaluation model so as to be able to report impacts and success stories in their Extension Reporting System or any other system to report inputs, outputs and outcomes including success stories and to collect data about program impacts and to report successes to stakeholders.

Steps to a successful evaluation

Needs assessment

A needs assessment is an essential starting point for any educational program. In order to design trainings that are participatory and that reflect the needs of Extension and their respective communities, project team members, ASAP, the Southern Sustainable Agriculture Working Group (SSAWG), and the National Farm to School Network (NFTSN) worked together to devise a simple needs assessment tool. This web based needs assessment will inform the conference by presenting a summary of *Farm to School* activities already existing in these states and what training and technical assistance is needed. By these means, the Extension professionals will not only be able to plan and implement effective programs but also to document and report successes through their agency evaluation system **[See Boone in reference list]**

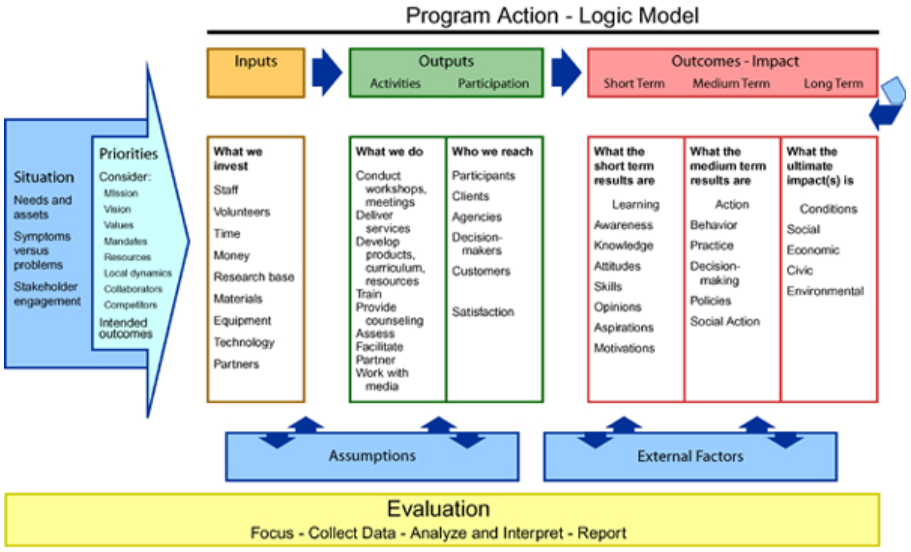
Program selection focus for planning, implementation and evaluation

Below in the table are listed the topics covered in our Farm to School workshop. Though, there are other program activities and planned events which could implement Farm to School programs too. These are called "*programs*" because they are planned educational events which take inputs of time and other resources to develop planned outputs such as activities, curricula, handouts, with expected learning outcomes. All these are part of the Evaluation language tied into educational programs. **[See the website reference for Dr Jay Jayratne]**

Farm to School Field Trips	
Connecting With Curriculum	
Cross-Program Collaboration	

Farm-to-School Cooking
How School Food Works
Models for Procurement
School Gardens

Understanding and planning the sequence of your program: A Program Logic Model as a program map.



A *program logic model* lays out the map from start to finish for a program. The map follows the steps of a program starting with *inputs*. Those are the resources you bring to achieve the results you want. It next indicates what you are going to do with those resources. These are the *outputs* and materials you develop or bring to the effort. Finally it spells out what are the results you want to have happen because of your work. These are the *outcomes or impacts*. Each is an important part of the process. From an evaluation point of view the prime interest is what it is you want to see as a result or impact of the program. **[See Taylor Powell in the reference list]**

Planning a successful evaluation: A collaborative approach is a way to collect good data and come up with impacts that are valued by stakeholders

There is a fundamental question that evaluators have to always confront. How will they know that a program has achieved the results desired? The best way to get at this question is to bring together people for whom the results matter and work with them to decide on how to know when and if those results are achieved. Then they can help to collect the data to show that the results do in fact happen. Many times those results are not directly measureable and have to be approximated with indicators of success. **[See power point presentation materials of O'Sullivan and O'Sullivan]**

References;

Boone, Edgar (1985). *Developing Programs in Adult Education*. Waveland Press; Prospect Heights, IL.
Jayratne, K.S.U. North Carolina Cooperative Extension (at NCSU) Extension Evaluation tools http://www.cals.ncsu.edu/agexed/exeval/Home_Page.html.
O'Sullivan R. and O'Sullivan J.M. "Collaborative Evaluation" power point presentation.
Taylor Powell; Ellen. University of Wisconsin Cooperative Extension Program Logic Models. This is the source for the jpg image of the program logic model above: http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html

School Gardening in Extension

Why Start a School Garden

From growing purple carrots to creating a pollinator habitat, school gardens can provide an engaging space for limitless learning opportunities. With youth becoming increasingly disconnected from the natural and cultivated world, the garden is an outdoor laboratory, connecting students to plants, soils, ecology and a multitude of other concepts in a hands-on, experiential way. School gardens offer the means of helping children discover where their food comes from and form the foundation for making healthier food choices.

School gardening has been shown to increase science achievement scores in standardized tests. Science concepts that can be covered are many, including:

- Organisms
- Cycles
- Plant anatomy
- Adaptations
- Food webs
- Decomposition
- Diversity
- Ecological principles

Children can be actively engaged: - should we include life skills from 4-H life skill wheel?

- Observing
- Classifying
- Inferring
- Measuring
- Predicting
- Organizing

And the scientific method can be introduced as children:

- Asking Questions
- Forming hypotheses
- Identifying variables
- Interpreting data
- Drawing conclusions

The garden engages students by providing a dynamic environment in which to observe, discover, experiment, nurture and learn. The garden is a living laboratory where lessons are drawn from real- life experiences rather than textbook examples, allowing students to become active participants in the learning process. Educators will find that a multitude of age-appropriate subject matter that can be introduced and enhanced in a

school garden. Science, math, health and many other subjects can be introduced through hands-on experiential activities. Educational curricula addressing subjects that are related to the standard course of study for various elementary grades is widely available. The garden becomes a vehicle for higher order thinking (Klemmer, et al, 2005), and encourages students to construct their own knowledge and furthers their synthesis skills (Drake, S.M., 1998). In the age of standardized testing, gardening can be justified as youth participating in gardening activities show increased understanding in life science, science inquiry skills and scored significantly higher on science achievement tests (Klemmer, et al, 2005; Smith and Motzenbocker, 2005). Garden field trip experiences documented an increase in curiosity and wonder in youth (Driscoll and Lownds, 2007). Horticulture is a profession deeply rooted in community involvement and activity-based learning, both of which are key elements to the development of children. McCormick reports that students tend to learn more and better when they are actively involved in the learning process. (McCormick, Cox, and Miller, 1989).

School gardens provide a pathway for engaging youth into understanding the world around them, fostering stewardship sensibilities, and spurring protective action to care for the earth's resources. The experiential opportunities enrich observational and thinking skills, allowing students to experience a deeper understanding of natural systems. Elementary school and junior high school students gained more positive attitudes about environmental issues after participating in a school garden program (Waliczek, and Zajicek, 1999). Capra (2001) found that developing and using a school garden is an ideal way to help children understand the natural world and the principles of ecology in action. It leads children to become eco-literate, which Capra proposes is fundamental to learning as it teaches children to know about the consequences of their action or inaction. Both passive and active interactions with plants during childhood are associated with positive adult values about trees. However, the strongest influence came from active gardening, such as picking flowers or planting trees as a child. (Lohr and Pearson-Mims, 2005). Gardening has been shown to increase scores on environmental attitude surveys of elementary school children. (Skelly and Zajicek, 1998). Youth also begin to develop a nurturing and caring attitude with respect for living things (Basile and White, 2000). Hart, 1994; Chawla, 1994). Children become better "earth stewards" by experientially designing, cultivating and harvesting school gardens.

Engaging children in garden activities has social value as well. Growing and harvesting produce improves self-esteem and promotes positive attitudes. Growing plants teaches patience, persistence and a positive attitude toward science (Lineberger and Zajicek, 2000). Children physically working alongside one another in the garden learn positive social skills and behaviors and build interpersonal relationships. Learning in the garden expands life skill development, specifically "working with groups" and "self-understanding." (Dirks and Orvis, 2005; Robinson and Zajicek, 2005). Other life skills impacted through gardening programs include encouraging critical thinking and

creativity, decision-making skills, cooperative teamwork, building self-confidence and interpersonal skills (Waliczek and Zajicek, 1998).

There is a significant health care crisis occurring in America that is related to diet and nutrition. Childhood obesity rates are on the rise, and children are increasingly overweight. Overweight children have an increased risk of diabetes. Improving children's attitudes about fruits and vegetables, promoting their increased inclusion in diets and the associated activity related to "working" in the garden, all address this issue of obesity. Gardening has been found to positively influence people's behavior, attitudes and preferences for vegetables (Blair, Gisecke & Sherman, 1991). Children who plant and harvest their own vegetables are more willing to taste and like them (Morris, et al, 2000). Foerster et al. (1998) found when youth have more choices or have been exposed to a variety of fruits and vegetables they are more likely to consume them. Children are more likely to choose fruits or vegetables as snacks after participating in a garden program. (Lineberger and Zajicek, 2000). An urban youth farm market program found that participating youth could name more fruits and vegetables (than those that didn't participate in the program) and gave richer descriptions of what constituted a healthy diet. They also found youth were more willing to eat nutritious food and try ethnic and unfamiliar food than those youth not attending the gardening program. (Lautenschlager and Smith, 2007). Incorporating gardening along with food preparation, nutrition and physical activity education was an effective way to improve children's reported vegetable intake and physical activity in an after-school setting (Hermann, et al., 2006). Gardens that use nutrition education programs with school age children positively improve children's dietary behavior through skill enhancement and behavioral change (Morris, et al.,2002; Twiss et al., 2003). Youth growing vegetables and fruit in a garden program raises their food consciousness (Libman, 2007). Pothukuchi (2004) found that low-income youth participating in a neighborhood community youth garden were more physically active and took tremendous pride in contributing vegetables to their own family. By encouraging youth to grow their own food, they form a connectedness to the land providing an opportunity to teach and model practices that steward the environment.

The Seeds of a Garden Project

The idea for a school garden can sprout from anywhere, but commonly a teacher or group of teachers with an interest in gardening starts the process moving. What motivates the teacher most commonly is a love of gardening, but the rationale described above is often part of his or her thinking. Sometimes the idea comes from a parent volunteer, from the principal or even from the Parent Teacher Student Association (PTSA) landscaping committee. Wherever it comes from, all of those described above should be included in the discussion of a potential garden from the beginning and can form the basis of the garden team. Garden team members could include:

- Teachers

- Students
- School Administration
- Parents
- Community Members
- Cooperative Extension
- Farmers
- Nature Centers

Initial questions for your garden team should include:

Who will provide leadership?
- Do you have administration support? What do you need to do to obtain this?
- Who will serve on the steering committee?
- What are the different functions of the committee?

Establish clear roles for the members of your garden team early on. Potential roles of Garden team members include:

- Garden building and maintenance
- Fundraising and grant writing
- Publicity and outreach
- Education / curriculum connections
- Volunteer recruitment and coordinating

The garden team should solicit approval from the school principal from the start. In some school districts, the county school administration will have to approve the project. The point of contact for a school garden project in many cases is the science curriculum consultant. If the consultant sees that activities in the garden support and reinforce the standard course of study for science, approval is likely. When meeting with county education administration, it is advisable to bring along examples of gardening curricula that can be used by teachers in the "outdoor learning laboratory."

While it is tempting to take a shovel and start digging in immediately, school gardens that have been solidly planned will last long into the future. Visit other school gardens in the area and talk to the leaders and find out what worked for them, mistakes they made and suggestions they might have. Take the time to figure out how the school community, including teachers, students, parents, the neighborhood would like to utilize the garden resources.

Building community support is essential to garden sustainability over the long term. Local Cooperative Extension faculty and staff can play a major role in making a school garden successful. They can be members of the initial planning team and have the skills and expertise to offer valuable suggestions. In their role as educators, Extension faculty

and staff will be familiar with or able to locate educational resources and curricula that can be used by teachers, parents and volunteers with children in the garden setting. Their familiarity with the local community may make physical resources necessary for gardening more affordable or accessible.

Planning the Garden

The school garden should reflect a thoughtful planning process where the garden team has developed a set of goals and objectives that guide the design decisions. The design process is the perfect opportunity to engage the wider school community stakeholders to address ideas or hesitations around the project. The garden team should think about why the school wants to start a garden, how it will be utilized and by whom and ways that garden connects with curriculum and meets community needs.

To create garden ownership, meaning and relevance with the students, they should be included in the planning process. Think about ways to gather their ideas of what the garden could be. Open-ended visioning processes with student drawings, using magazine pictures, looking through books are all ways to empower them in the design process.

From a courtyard bursting with blooms to a bounty of spring salad greens, there are many forms a school garden can take. Determine what kind of garden will be developed at the school.

Sidebar of possible garden themes:

- Edible Garden with vegetables and fruits
- Native plantings
- Butterfly/pollinator garden
- Feathered friends garden (bird habitat)
- Storybook Garden
- Pond Garden
- Alphabet garden
- Literature garden,
- Herb garden

Additional features to include in the garden might be: Gathering spaces (council rings), work/study areas, washing areas/food prep areas, walkways & circulation, garden bed size, indoor outdoor transition, wild spaces/cultivated spaces, spaces for play, specific curriculum connection spaces (i.e. weather station, ecological wetland study area, etc)

Most commonly, raised beds are constructed and filled with compost, topsoil or some combination of the two. Raised beds can be built from timbers, lumber, plastic lumber, etc.; the choice is often based on what is available for free or at low cost. Raised beds should be no more than four feet wide so that children can reach into the middle of the

bed without stepping in it. They can be any length, but at most schools where space is limited, they are generally eight to ten feet long.

Gardens needn't be boxy. They can come in any shape or size depending on the space available. A popular type of garden is the "pizza garden." In this type of garden, the perimeter is a circle. The circle is sectioned into "slices", and in each slice ingredients for a pizza are grown. For example, one slice may be planted in wheat, representing the pizza dough. Other slices could be planted with peppers, garlic, onions, tomatoes, etc.

Garden Location

Finding the best site for the garden can be problematic. On many school campuses, topsoil is a scarce resource. Most of the open, sunny ground is often occupied by playfields. Courtyards and open sections between buildings are often the only sites to construct raised beds. They may only receive sunlight for only a portion of the day. If any grading took place to level the ground when school construction began, the soil is likely to be poor in these spaces. Sometimes, the only choice is to dig up perennial plantings or spaces that have been "landscaped" with perennial plants. This option is almost sure to upset someone. Choosing the site is often a matter of choosing the least bad alternative.

Raised beds filled with a good growing medium will make up for some of the limitations described above, if they occur. Before constructing the beds, till the soil to minimize the compaction that is likely to be present. Finding a volunteer with a tractor or rototiller is advisable, because spading hard ground is likely to be a real chore. Add lime to the soil before you turn it. In a 4' X 12' space, two pounds of lime is appropriate. Soil can be tested for free through the NC Department of Agriculture. Soil testing boxes can be obtained through the local Cooperative Extension Service and agriculture agents can help interpret the results for nutrient application. If your school was built on a site that previously was an industrial business, it would be worthwhile to consider testing for heavy metals through a private soil testing lab.

Though growing vegetables will facilitate diet and nutrition education, any kind of plant can be grown. Cut flowers are should be included. Choose vegetables that are easy to grow, mature quickly and can be eaten raw. Snacking on vegetables that the children grew themselves makes the experience, especially the nutritional experience, meaningful and real. Link to NC School Garden Planting Guide

Garden Infrastructure

There are supplies, tools and equipment that will be needed to grow a garden. And there must be some means available to water the plants. Ensure that there is a potable water supply that is easily accessible. A school might consider installing a cistern to harvest rainwater for use on ornamental plantings. Hoses and sprinklers are necessary to bring water to the garden space. Large buckets are a great tool to engage young gardeners. Students can fill them with water, fill watering cans from them and then

irrigate the "crops." Shovels, hoes, rakes and hand trowels will come in handy. Seeds and plants are necessary to grow a crop. The Parent-Teacher-Student Association may provide some monetary resources or parents can be asked for donations. A garden team member can be nominated to lead fundraising efforts to ask for in-kind donations of supplies from local businesses or apply for grants.

Sidebar:
Hoes

- Rakes
- Trowels
- Shovels
- Watering Cans
- Hand cultivators
- Buckets
- Hose
- Wheelbarrow
- Row Markers
- Twine/string
- Pruners / Scissors
- Seeds / seedlings / plants
- Compost

Educational Supplies

The educational activities that take place in the school garden will require supplies, too. With classroom budgets pinched because of financial constraints, donations, again, become the normal means of their acquisition. The network, including 4-H Extension programs may be fertile ground for gathering what is needed to make a gardening educational activity succeed.

Activities and Curriculum Integration

Growing edible produce from seeds and plants make take as little as 30 to as many as 120 days. Planning for educational activities and care of plants will vary according to what is being grown. A plan before planting will help bring continuity to the process, allow for preparation for educational activities and anticipate garden chores during the time. Soil preparation, planting, watering, weeding and pest management can all be "lessons' in and of themselves, but many curricula available and garden lesson planning resources can make those lessons even more meaningful. And these same resources provide an abundance of other educational activities that can take place to reinforce science, math, health and other subject matter that is the standard course of study for the grade levels involved in the project. We can list resources at the end of the document, JMG, Down to Earth, Soil Solutions, other books, etc

Outdoor Classroom Management

School class sizes vary, depending on the school district. Actively engaging and involving 30 children all at once in a 4' X 12' garden space is a challenge. It can be done, but it's not the ideal. It is hard enough to keep this many children focused in the classroom, and it doesn't get any easier outside. It's not that kids don't engage in garden activities and learning. It's just that there's too many of them at once. Working with garden tools, too many children in a small space can be dangerous.

For this reason, it is best to work with smaller groups of kids and rotate them through a gardening activity. The issue becomes, who will work in the garden with a subset from the class while the teacher remains with the other children in the garden? Volunteers can make the learning process a better one. Properly trained in the planned curricula or in appropriate educational activities, volunteers can engage three or four sets of children from the classroom sequentially in a valuable educational experience. The volunteer may be Extension staff, a parent volunteer, a science lead teacher, a Master Gardener volunteer or someone else who likes to garden and enjoys teaching children.

Volunteers will need training, and Extension can provide the lead in this process. Through train-the-trainer sessions, both teachers and volunteers can be exposed to school gardening curricula that addresses a range of subject matter and have the opportunity to try any educational activities themselves before engaging children in them.

Maintenance

Consistent gardening maintenance of weeding, watering, harvesting, mulching, planting can be a tremendous challenge. With students in school for 180 days each year, there is considerable time when the school is on vacation with limited staff and student resources to provide continual cultivation. Traditional school calendars have summer vacation during the prime summer gardening season. This not only makes it difficult to grow and harvest some of the most popular summer vegetables such as watermelons and sweet corn, but it creates the issue of who is going to maintain the vegetable gardens during that time. Summer vegetables planted just before the school year ends in May are likely to die or become overgrown with weeds before children return in the fall. Certainly, school administration and most importantly the custodial staff will not be pleased with the eyesore resulting from a raised bed with weeds grown five feet tall. Year-round schools maybe more flexible in what they may be able to grow and harvest, but still have breaks that might be as long as six weeks.

Volunteers may be needed to tend the garden during school breaks. In return for maintaining the garden, the volunteers can be rewarded with the produce and still leave enough for harvest when students return. Volunteers may consist of teachers, community members, students and their families or 4-H clubs.

An alternative is to grow early spring and late fall gardens. Planted in early spring, cool-season vegetables will mature before school ends for summer break. These same

vegetables can be planted in late August/early September as school begins and will be ready to eat before Thanksgiving. Vegetables like lettuce, spinach, chard, kale, turnips, radishes, collards, broccoli, onions, parsley, dill, grow wonderfully in cool weather. Additionally fruit like strawberries, figs and blueberries can be planted and easily maintained. Harvesting vegetables that students have raised themselves, even some they've never tried before, and eating them in a fresh salad is a nutritional experience the children will not forget.

Vandalism

Find a space that is highly visible to showcase the garden. Increased visibility and traffic can minimize vandalism. Engaging as many children as possible in the project and giving the entire school "ownership" of the garden helps to limit chance vandalism.

Pests

Many school gardens are organic gardens. This limits the children's exposure to any harmful materials that might otherwise be utilized in a vegetable garden. Including flowers in and around the garden will encourage beneficial insects, which will predate upon and parasitize garden pests. There are obvious ecological lesson that can accompany the encouragement and/or use of beneficial insects. Ecological relationships of plants to plant pathogens can also be a part of the discussion of pest management. The issue of pest management introduces the concept of environmental sustainability to students.

Sustaining the Garden

Keeping the garden going over time requires a commitment on the part of all partners in the project. Without outside volunteerism during both the school year and the summer, teachers can run out of the energy needed to sustain the project. Providing ongoing training for teachers and volunteers and provision of resources such as seeds and plants should be a priority for ensuring the garden continues to serve its educational function. Developing a strategy to fund your plan and maintain it for years to come will require finding financial and in-kind resources. How will the garden be funded? How much will it cost? Schools can pursue youth garden grants given by local foundations, national not-for- and for- profit organizations as well as from government agencies. Local businesses may provide sponsorship in return for visibility of their businesses. Parent-Teacher organizations may include an annual allocation for the school garden. It is handy to have a list of "garden needs" (materials, staffing, program supplies) to pass out to potential donors when the opportunity arises. The list can be distributed during school fundraisers; for example, "Giving Tree," where receive cards listing school needs and make purchases to fulfill them. Plant sales, silent auctions can be additional ways to raise funds to sustain the garden over the long term.

Documenting Successes

The use of resources, both time and money, to develop content, coordinate the work of many other people and deliver educational programming has a "cost" associated with it.

Being able to document the "benefits" associated with these costs and to demonstrate that benefits "exceed" costs provides accountability to the individuals, organizations and public entities that provide resources. Demonstrating positive changes in knowledge, attitudes, skills and aspirations in children is a means of measuring positive outcomes from the project. Other "outcome" measures that can be measured are things that happen because of the project. For example, because a child was involved in the project, the family started a vegetable garden at home, and they now enjoy the benefits of a healthier diet. If this sort of outcome is observed, it can be reported as a success story. Success stories have powerful effects on attitudes of administrators, funding agencies and others in a position to influence whether the project goes forward.

Working with Volunteers

Volunteers are an amazing way to enrich a school garden program. They can provide expertise, labor, and materials and ensure success. Having volunteers that will encourage children to take full advantage of their outdoor gardening experience will enrich your school gardening program. Children are naturally inquisitive, and volunteers who can encourage children to think for themselves are invaluable. There are many places to recruit volunteers: 4H clubs, Master Gardeners, local garden clubs, the PTSA, etc. Not all volunteers may want to work with children directly. Those that want to help gather resources or support the development of infrastructure have value, too. Have frequent orientation and training sessions for volunteers. They can feel very lost, very fast if released into the school setting without knowing school rules and policies, knowing teachers and other school personnel or knowing where to turn for help. Be available to answer their questions and help with problem-solving.

Certainly, those volunteers working with children will need some training related to the lessons you want the children to learn. The local Extension 4H agent will be a valuable resource in helping to train volunteers to work with children.

Communication with volunteers is essential if you want your project to succeed. Here are some tips for communicating with them:

- Keep a good record of volunteers with up-to-date contact information.
- Establish a standard method of communication that is delivered consistently; e.g. a listserve.
- Created a written schedule of events that is communicated to volunteers
- Hold regular volunteer meetings.
- Provide feedback (hopefully positive) to your volunteers.
- Recognize and award your volunteers

Summary

School gardening enriches the children it engages. Learning about food, science and the environment through hands-on activities and experiences contributes significantly to student success.

Resources

- California School Garden Network http://www.csgn.org
- How to Grow a School Garden by Arden Bucklin-Sporer and Rachel Kathleen Pringle
- Successful School Gardens by Lucy Bradley
- Digging Deeper by Joseph Kiefer
- Greening School Grounds Edited by Tim Grant and Gail Littlejohn

Curriculum Resources (for a full list visit: include clean link: http://www.ces.ncsu.edu/4hplantandsoils/Plant%20and%20Soil%20Curriculum%20Books.pdf)

Down to Earth – Gardening in the Classroom
Down-to-Earth assists the helper in using gardening as a means to explore plant growth and development. Through this hands-on, minds-on program, youth learn the basics of botany, the gist of gardening, the essentials of ecology and much more. Through gardening, youth stimulate their senses and cultivate science process and life skills. By gathering data via the scientific method, youth feel a sense of pride and responsibility. This award-winning 88-page activity guide is an excellent resource for school enrichment programs, organized 4-H clubs, school-age child care educators, after-school programs, nature centers, summer youth camps, scouts and traditional school settings. Developed by North Carolina A & T University. (144 pages)

Soil Solutions
The 4-H Soil Solutions enrichment curriculum is developed for a third grade audience interested in learning about plants and soils in a fun, interactive way. Aligned to meet the NC science standards in plant and soils, the lessons draw from current research and knowledge from NC State's crops, horticulture and soil sciences department. Includes eight lessons covering the following topics: soil properties, soil and water relationships, soil and plant growth, composting, seed germination, pollination and flowers, and plant growth and development. Available for free through your local cooperative extension office. Contact your 4-H or your Agriculture/Horticulture agent for more information. Also visit: http://www.ces.ncsu.edu/4hplantandsoils/soilsolutions.html

Junior Master Gardener (available through Texas A&M Cooperative Extension at http://www.jmgkids.us/)
Provides teachers with the resources to teach students about the wonderful world of gardening. There are eight chapters with hands-on, novel learning experiences for youth. The curriculum also includes activity pages, worksheets, JMG rhythms, reading passages formatted for standardized tests, and much more. After studying life skills and careers, students may culminate their learning experience with service activities. This JMG curriculum is designed for students in grades 3-5 and is complimented by the

Growing Classroom by Lifelab

Developed by the Life Lab Science Program, this award-winning second edition has been revised to meet current science standards. A wonderful collection of classic garden activities, The Growing Classroom is a teacher's manual featuring step-by-step instructions and strategies for setting up a garden-based science program and outdoor classroom activities. Topics include planning a garden laboratory, facilitating investigative lessons on ecology and nutrition, and involving the community. Includes an expanded gardening resource section.

Resource Material

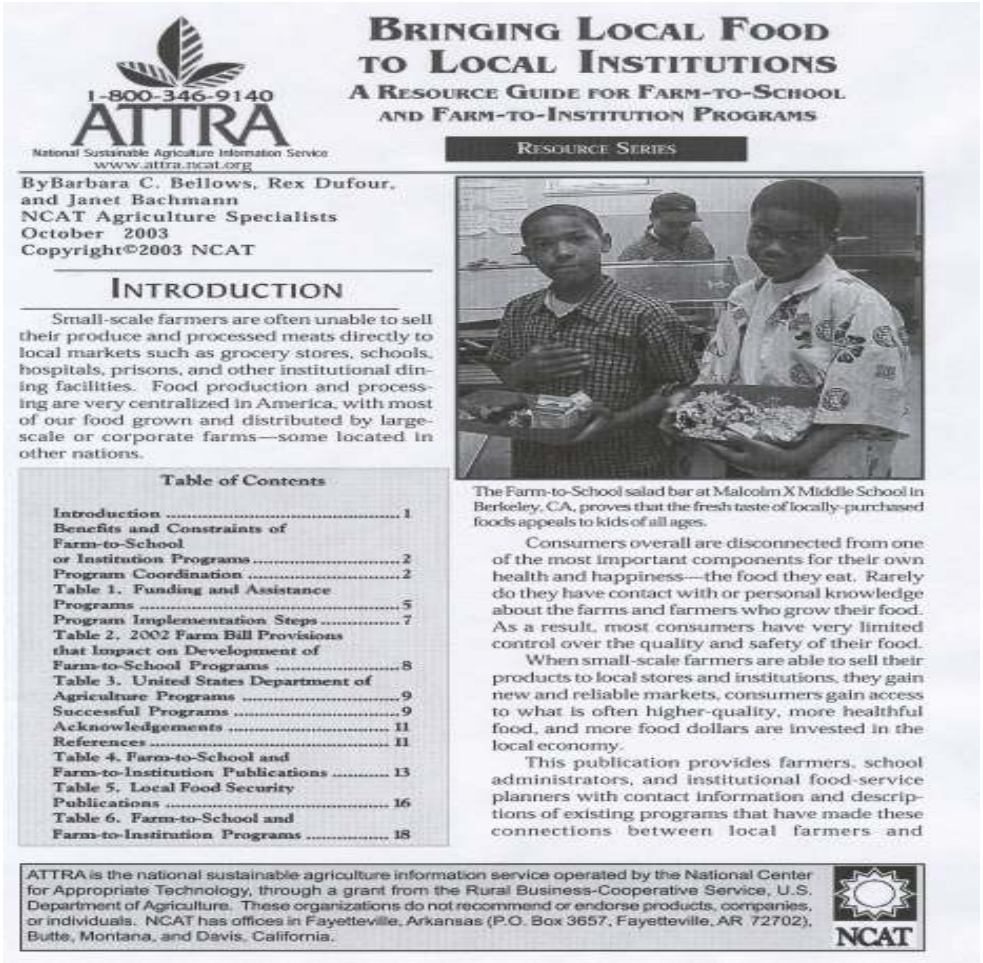
2011
Farm To School
Extension Conference

CASE STUDY

Stefan L. Price
Ft. Valley State University
Cooperative Extension Program

Coastal Georgia Small Farmers Cooperative
Glennville, Georgia

Resource Material



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ATTRA
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BRINGING LOCAL FOOD TO LOCAL INSTITUTIONS

A RESOURCE GUIDE FOR FARM-TO-SCHOOL AND FARM-TO-INSTITUTION PROGRAMS

RESOURCE SERIES

By Barbara C. Bellows, Rex Dufour, and Janet Bachmann
NCAT Agriculture Specialists
October 2003

INTRODUCTION

Small-scale farmers are often unable to sell their produce and processed meats directly to local markets such as grocery stores, schools, hospitals, prisons, and other institutional dining facilities. Food production and processing are very centralized in America, with most of our food grown and distributed by large-scale or corporate farms—some located in other nations.

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The Farm-to-School salad bar at Malcolm X Middle School in Berkeley, CA, proves that the fresh taste of locally-purchased foods appeals to kids of all ages.

Consumers overall are disconnected from one of the most important components for their own health and happiness—the food they eat. Rarely do they have contact with or personal knowledge about the farms and farmers who grow their food. As a result, most consumers have very limited control over the quality and safety of their food.

When small-scale farmers are able to sell their products to local stores and institutions, they gain new and reliable markets, consumers gain access to what is often higher-quality, more healthful food, and more food dollars are invested in the local economy.

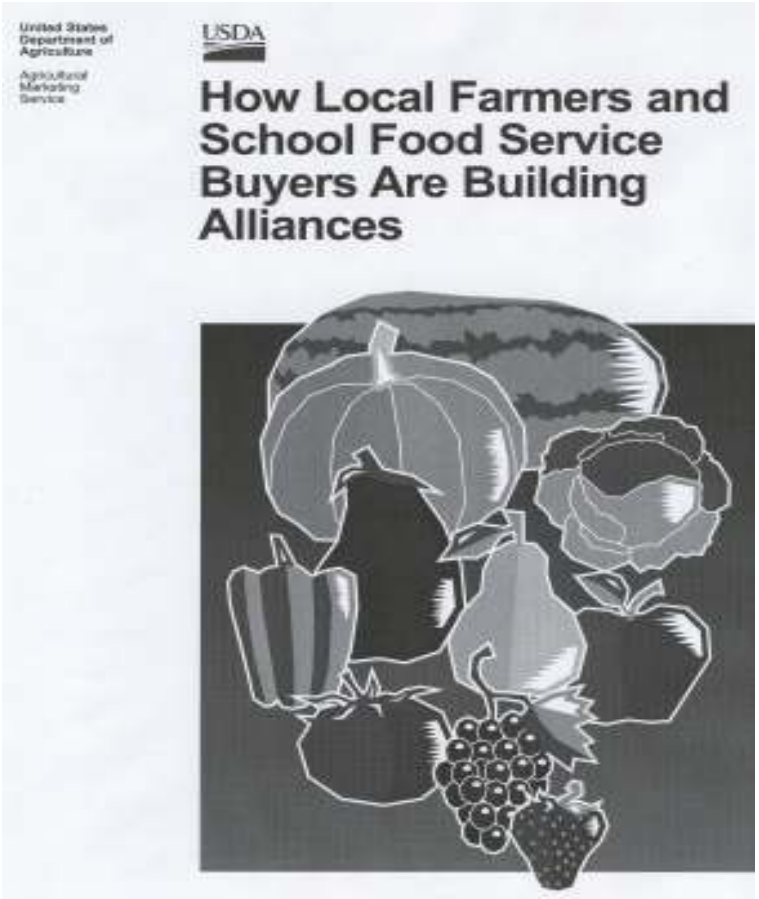
This publication provides farmers, school administrators, and institutional food-service planners with contact information and descriptions of existing programs that have made these connections between local farmers and

ATTRA is the national sustainable agriculture information service operated by the National Center for Appropriate Technology, through a grant from the Rural Business-Cooperative Service, U.S. Department of Agriculture. These organizations do not recommend or endorse products, companies, or individuals. NCAT has offices in Fayetteville, Arkansas (P.O. Box 3657, Fayetteville, AR 72702), Butte, Montana, and Davis, California.

NCAT

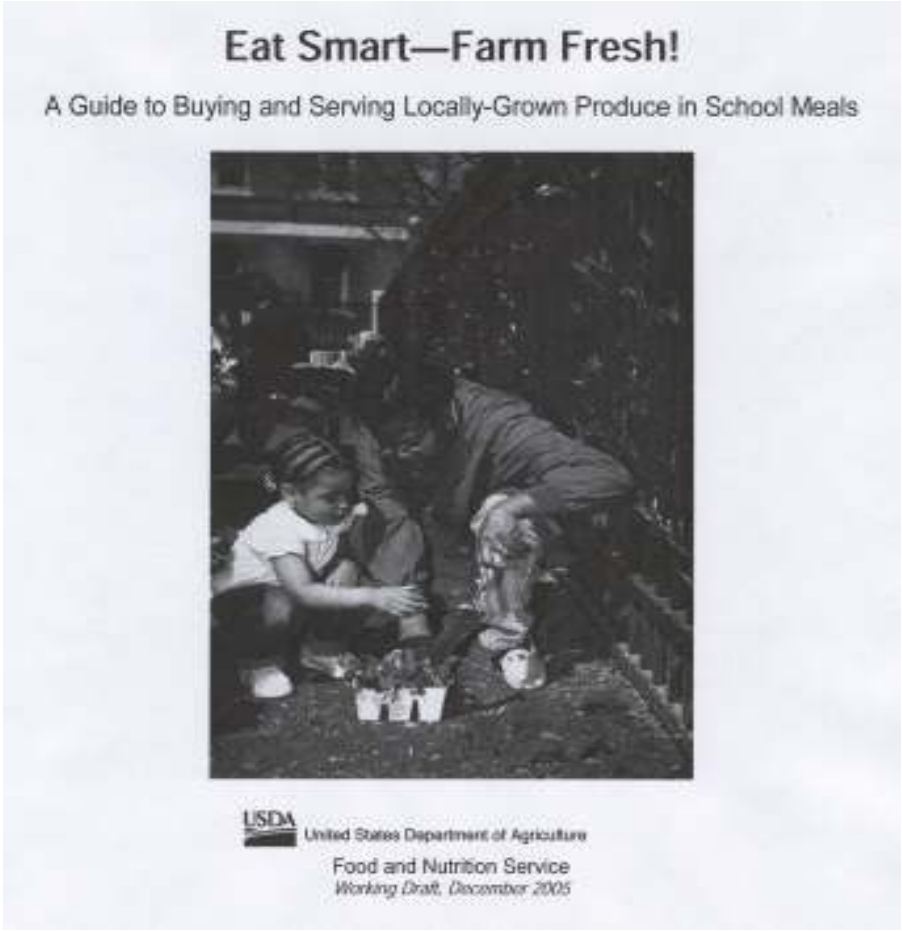
attra.ncat.org/attra-pub/farmtoschool.html

Resource Material



http://agmarketing.extension.psu.edu/Wholesale/PDFs/LclFrmrSchlFdSrvBuyer.pdf

Resource Material



http://www.fns.usda.gov/cnd/Guidance/Farm-to-School-Guidance_12-19-2005.pdf

Resource Material

Florida A&M University

Fact Sheet MKT–6

October 2005

Cooperative Extension Programs

Facilitating a School Market

Vonda Richardson, Extension Marketing Specialist

There exists a valuable opportunity in serving local school districts with fresh agricultural products. The challenge in tapping this potential market is to develop a plan to approach these local customers. One has to put himself in the position of the prospective customer – food service directors. It has been determined that the following attributes and business practices have to be conveyed:

- Professionalism
- Purpose and Seriousness
- Accountability and Commitment

Many school food service directors already have established suppliers, and have to be comfortable working with a newly developed idea for purchasing fresh fruit and vegetables.

STRATEGIES FOR FARMERS

1. Determine the area you desire to serve.
2. Research the school districts in this area.
   - Number of schools
   - District enrollment
   - Food service director
3. Call the Food service director and make an appointment.
4. LISTEN

http://www.famu.edu/cesta/main/assets/File/coop_extension/ALTERNATIVE_MARKET_DEVELOPMENT/Questions-FacilitatingaSchoolMarket.pdf

Leading Successful Farm to School Cooking Classes

Appalachian Sustainable Agriculture Project (ASAP) has partnered with chefs and teachers to identify key components of creating a successful local food cooking class for students. We share these tips with both teachers and chefs as part of our Farm to School program.

Make Curriculum Connections
As you begin planning your cooking class ask yourself what curriculum components you would like to cover. Cooking in the classroom is only sustainable when it directly connects to lessons already being taught. How can you introduce information about the cooking class or its ingredients ahead of time to make it more successful? Is there a children's book you can read about an ingredient and how it is grown? Refer to ASAP's recipe at the end of this document for ideas on journal assignments linked to cooking classes. If you are collaborating with a chef, establish good communication with him/her and share your ideas. Talk with him/her about your expectations and goals for the cooking experience and gather the information you need to introduce the recipe and its ingredients ahead of time.

Plan and Prepare
When planning your class, choose a recipe that includes fresh local ingredients you and the students can easily source. Break the recipe into clear steps and identify activities that the children can do themselves, hands-on, throughout the process. Determine what supplies will be needed for each step and gather and organize those tools. Depending on the age group you are instructing and how much time you will have with the children, you may need to ask a volunteer or parent to prep some ingredients ahead of time.

Recruit Extra Hands
Ask parents to come help with cooking classes. If parents cannot help, turn to community groups or colleges. Many community clubs and organizations, such as Kiwanis Clubs, church groups, Lions Clubs, focus on helping in schools and are eager to find volunteer opportunities. You can also connect with college students through the service learning offices at colleges. Consider ASAP a resource in WNC too. We're connected to lots of individuals who are eager to help in the classroom. Hands on activities are possible in the classroom when you have extra people to help with set up, supervision, and clean up.

Prepare a Back-Up Activity
Often in the cooking process, there are a few minutes when the students are waiting. One group may finish their designated activity before the others or the entire class may be waiting for the dish to cook. To fill this time, plan an activity connected to the recipe. For example, if you are preparing a salad, give the students worksheets with a big empty bowl and ask them to draw the vegetable and ingredients they would put in their salads. Bring children's books, ask the students to illustrate the steps of the recipe, give them journal topics, etc.

Practice at Home
Before you prepare a recipe with a group of children, we recommend testing the recipe or cooking the dish at home on your own or with your children or grandchildren. Cooking the recipe will help you to determine what aspects of the project students may need guidance with and what parts of the project they can do on their own. As you prepare the recipe, think specifically about how to adapt it to children, what their challenges might be, and how to best refine the instructions to fit the age level and abilities of the students.

Clear Communication

Break it Down into Steps

With any recipe clear and concise steps are key. As you plan and make a sample of your recipe, note the key steps and practice communicating those steps out loud. Being able to recognize and simplify the steps of a recipe is a vital component of a successful cooking class. Be sure to write your recipe on the board and send a copy of the recipe home with students.

Use Appropriate Vocabulary + Cooking Terms

This point has two parts: 1. Do your best to explain the steps of the recipe using language familiar to the children. 2. Assume that most students will not be familiar with cooking terms. As you are reviewing your recipe identify one or two cooking terms you can explain during the demonstration. You can print those terms and their definitions to present during the class.

Feature Local Food

This is the piece that defines a Farm to School cooking class. Choose a recipe that features ingredients you can source locally. Tell the students where you bought the ingredients and where they too can find locally grown ingredients in their community. This is also a great opportunity to tell the story of a farmer in their community. For cooking classes in ASAP's region, look for the Appalachian Grown logo at Ingles & other grocery stores, and use ASAP's local food guide as a resource. ASAP can also provide, *Get Local* promotions, farm profiles, tailgate market schedules, and other materials for Farm to Schoool cooking class in the southern Appalachian region..

One step ahead

When students are working on their steps of the recipe, stay tuned to their progress and needs through careful observation of their progress. This will help you to anticipate when the children might need a suggestion, change of direction, praise, or assistance. You may notice that there is a reoccurring question or teachable moment. This may be a good time to stop the whole class and explain or praise what a particular student is doing.

Answering "Why?" and Tell a Story

Being able to communicate enthusiastically the "Why" behind the recipe will peak students' interests and prompt them to participate. Talk with the students about ingredients you have chosen, farms you have bought ingredients from, and the importance of healthy eating. The more the kids hear the "story" of the recipe and can connect it to their experience cooking, the more they will want to try it in the classroom and make it again at home. Is this something you cooked with your mom or grandmother? Did a neighbor give you the recipe? Who grew the food? What might the farm have looked like? Always share your enthusiasm for the recipe you are offering and how it connects to local food and farms .

Recognizing Opportunities for Learning

Introduce new vocabulary, new skills, and new ideas throughout the project. Let the chidlren's interest guide the information you provide them.

Be Understanding and Encouraging

Children often need to be introduced to a new food a number of times before they accept it. Forcing children to try new foods may only make them more resistant to tasting anything new or unusual. If a child doesn't want to try the recipe, encourage him/her to smell it or ask another student to describe how it tastes. Never draw attention to a child who does not want to sample the recipe, but gently

encourage everyone to try just a taste. Praise students for tasting new foods, even If they don't like it, maybe they would like it prepared a different way.

Tips For Cooking With Students

- Choose a recipe that includes familiar ingredients the kids and their families can find at any grocery store or tailgate market.
- Feature locally grown products. Tell the children about the farms in their area. Linking food with farms will encourage students to try new things, and will encourage them to make healthy choices.
- Pick a recipe that matches the children's abilities and attention span.
- Print copies of the recipe so students can follow along and share it with their parents.
- Break recipes into steps, and be sure you have adequate tools for the number of children in your cooking class. Pictorial recipes are great for younger children.
- Wash your hands before getting started, and ask the students to wash their hands as well. Highlight food safety and proper handling of food and tools throughout the class.
- If the class set up allows, organize "stations" where the kids can complete different steps of the recipe. Organize the cooking tools by station. Involve the students in the preparation of the recipe.
- Give a quick (and enthusiastic) description of the recipe you will be making. Read the recipe aloud or explain what you will be doing first, second, and so on to prepare the food.
- Show the children the ingredients, and tell them something about the key components of the recipe—which farm you bought it from, why you like to cook with it, why it is good for you, etc.
- Ask the students what they know about farms. You can ask: *Has anyone ever been to a farm? What did you see there?*
- If you are working with vegetables, hold the vegetables up for everyone to see and identify the part(s) of the plants they will be eating and which parts they will be cutting off and discarding.
- Before you start cooking, give a quick summary of what the kids should expect and what the outcome of the cooking demonstration will be (delicious food for everyone to try!).
- Ask sensory questions like *what does this smell like? What does it look like? Does it taste bitter or sweet? Does it feel soft or rough?* Especially for younger kids, it is helpful to ask them "either-or" questions instead of open ended ones.
- Don't talk too long. If you notice kids loosing attention get them engaged in doing something hands-on. As they are working, share stories and observations to keep their attention.
- Have plenty of ingredients so that all of the kids can participate
- If possible, allow time for questions.

Criteria for Selecting Recipes for Children

- Are the hands-on skills age/developmentally appropriate?
- Do you have access to needed equipment?
- Does the recipe connect with children's interests or classroom projects?
- Does the recipe promote healthy food choices?

- Does the recipe feature seasonal and local products children can find in the garden or on a local farm?
- Is the recipe culturally relevant?
- Is the recipe affordable for all families, and does it use familiar ingredients they have at home?

Introducing Recipes to Children

1. Prepare a simple recipe chart with illustrations of each step
2. Have examples of ingredients in their raw form
3. Have all necessary equipment and ingredients prepped and available
4. Read the recipe aloud, discussing each step
5. Discuss rules and/or safety considerations and have children identify these for specific steps
6. Include all children in the clean-up process

Tips for Working with Teachers

1. When setting up a cooking class, ask the teacher if any of the students have food allergies and ask about any knife/open flame policies the school or classroom follows.

2. Make sure you are both clear about the time, location, and the date of the cooking demonstration. Check in with the teacher several days before the demo.

3. Communicate with the teacher about event logistics. What will the class set up be? Will the students be working on desks or tables? How long can the class last? If the you arrive early to set up will you be disrupting anything important?

4. Ask teachers how students will be prepared for the demonstration and what follow up will take place. Experiences are more memorable and meaningful if they build on each other. Ask teachers what they are currently working on in the classroom or if students have recently gone on any field trips to tie your activity into their recent experience. Being able to connect with students on common experience will give you a foot in the door and remove a one-time cooking class from isolation. If the teacher requests that you connect the cooking demonstration to a particular lesson or study topic and you need support with this, contact ASAP. We have tons of ideas and can help.

5. Let teachers know in advance what recipe you are planning so that they have the opportunity to integrate it into their classroom. Children will feel like experts when they arrive to make pumpkin soup if they have been researching pumpkins in the classroom. The broader the experience children have with healthy food, the more impact it will have on their food choices.

6. Help teachers with follow up. Give them recipes to send home with the children and also provide a few recipes they may be able to cook in the classroom as a future project. You may suggest books, field trips or activities that would complement what you introduced in a cooking class.

7. Ask the teacher to assist during the cooking demonstration or class, and give him/her a clear role, even if it's just to connect the cooking class with things the students have been studying.

8. If you feel like you'll need extra help, ask the teacher to recruit a parent or community member to help during the cooking class or call ASAP and ask us to help recruit a volunteer.

Safety Tips

In general, there should be at least one adult to every eight children in a cooking demonstration (we suggest at least one to four smaller ratio for younger children). To achieve this, teachers should recruit a parent or volunteer to help with the cooking class. As with any activity, children tend to get excited and can be impulsive or impatient. It takes a lot of adult patience and reminding to make cooking with children a safe and enjoyable experience. Here are a few ideas about how to keep your students safe:

1. To prevent food poisoning:

- Always wash and dry hands thoroughly before cooking.
- Do not eat raw eggs.
- Wait until the food is cooked before sampling it. Do not sample uncooked foods.
- Always wash cutting boards before and after use.

2. Work with the chef to create a set up that is safe and appropriate for the children. Bring in small tables if necessary where the children can stand or kneel. Always use secure stools or chairs.

3. Tie back long hair.

4. Expect spills and messes, and clean up spills as they happen. Bring extra hand towels or paper towels to handle messes. If you expect something to be particularly messy (grating beets) make sure to bring plastic or something to protect classroom carpet and tables.

5. Keep handles of pans, pots, etc. pointed towards the center of the stove. If you are using a hot plate, keep handles pointed towards the middle of the table or counter. This will prevent the children from bumping the handle and knocking the pot off the stove.

6. If the children are using knives, the chef should teach them how to hold and handle the knives properly. Be sure an adult is closely supervising children using knives.

7. Use supplies that will not break, such as plastic measuring cups and stainless steel bowls.

8. For young children (5 or younger), use plastic knives or butter knives for spreading or cutting soft foods. Young children can use their fingers to break or tear foods rather than cutting them with a knife, and choppers are also an effective tool for this age group.

9. Provide constant supervision.

- Always watch students closely when they use knives, mixers, or other equipment.
- Closely supervise the use of ovens, stoves, and other kitchen appliances.
- Remind children that stoves, ovens, pans, and dishes can be very hot.

Knife Safety

Before bringing knives into schools, make sure to ask the teacher if they are comfortable with their students learning to use sharp knives. In some schools knives are not allowed. Small children should never use real knives. Instead, they can use serrated plastic knives, choppers, spoons and even melon-ballers.

This document is to serve as a reminder of a few tips you should cover with students and children before cooking begins and throughout cooking demonstrations. By taking 3-4 minutes to cover knife safety, teachers, parents, and other supervisors will feel much more comfortable with children using knives. These are also practices the kids can continue when they are cooking on their own at home. When at all possible, have one adult supervisor present for each eight children cooking. If you establish a station where children use knives as a part of your cooking class, be sure to place the teacher or volunteer at that station. When covering these tips, demonstrate the correct and incorrect ways to handle knives. Seeing how to handle the knives will ensure that the students fully understand knife safety. These tips are a starting point. Please add other safety tips and practices you use in your own kitchen.

1. Always cut with the blade of the knife angled down and away from you. Sometimes this is a hard rule to follow. If the angle is wrong, the kids may need you to turn the product around, or turn the cutting board around. (Demonstrate this)
2. Always use a cutting board. Never cut anything that is placed in your hand, and do not cut something while holding it up in the air, as there is a greater chance of cutting yourself without a stable surface. Use the board and make sure it has ample space for the task. If your cutting board doesn't have rubber feet, keep it firmly in place by planting a damp towel or paper towel underneath to keep it from moving around the countertop.
3. Show children how to hold knives properly with the fingers of their dominant hand securely gripping the knife handle and the fingers of their other hand curled under as they hold the food.
4. **Never, ever grab a falling knife.** The best way to avoid a knife falling is to make sure your knife is always completely on your work surface, without the handle sticking out into traffic areas.
5. **Keep knives on the table, and never carry them around the room.**
6. **When you have a knife in hand, keep your eyes on the blade.** Nine times out of ten, when people cut themselves they do so when they are looking away from what they are cutting. The simple fact is: you're unlikely to cut yourself if you're watching the blade, especially the tip.
7. **Make a flat surface on round objects.** Before getting started, demonstrate how to make a flat surface on an object prior to cutting. If the child is young, cut the object yourself and create a flat surface before they begin. For example, a round tomato will be likely to roll and will be difficult for a child to cut. If you cut off the top or bottom to create a flat surface, the child will be able to easily handle and cut the tomato safely.
8. Remember, graters, zesters, and peelers are sharp too. Warn kids that they are sharp and show them how to properly hold the equipment before they get started.
9. Hand-wash your knives and dry thoroughly. Never put knives into the dishwasher or drop them into a sink filled with sudsy water.

Recommended Cooking Equipment

- Large and Small Cutting boards
- Saucepans and large cooking pots
- Stainless steel steamer basket
- Colanders
- Mixing bowls with lids
- Stainless steel mixing bowls
- 3-4 Sets of measuring cups
- 2-3 Sets measuring spoons
- Choppers
- Graters
- Kitchen shears
- Peelers
- Apple slicers
- Serrated knife
- Paring knives
- Bread knife
- Plastic knives
- Timer
- Bucket
- Butane burners
- Electric burner
- Cookie Sheets and shallow pans
- Large plastic platters
- Extension cord
- Scale
- Pot holders
- Hand towels for cleaning
- Plastic gloves
- Garlic press
- Tongs
- Metal spoons
- 2 Whisks
- Metal Spatulas
- Rubber spatula
- Masher
- Ladle
- Vegetable Brush
- Funnels
- Tasting cups
- Hand sanitizer
- Napkins, plastic forks, spoons, paper plates and bowls
- Table Cloths

When organizing a cooking class, we suggest packing enough tools for the entire class. This means bringing six or seven bowls rather than one, ten or twelve knives rather than two, etc. The equipment you need will depend on the recipe you are making with the students. However, for all of the cooking demos, we also suggest bringing the following, must-have items:

- Paper towels/clean dish towels
- Paper plates/sample cups
- Table cloths
- Paper cups
- Gallon of water for the children to drink
- Plastic disposable gloves
- Hand sanitizer

Ways to Encourage Children to Have Positive Attitudes About Food

Food Preparation and Snack Time Activities are a Shared Responsibility

- Have a positive attitude toward foods and the mealtime experience. Remember, a negative attitude expressed by adults and children may influence other children not to try that food.
- When introducing new food to children, serve a small amount of the new food along with more popular and familiar foods.
- Include children in the food activities to encourage children to try new foods and also to gain self-confidence.
- Serve finger foods such as meat or cheese cubes, vegetable sticks, or fruit chunks. Foods cut smaller are easier for children to handle.
- Do not force a child to eat. Children often go through food jags. It is normal for a child to ask for second helpings of food one day, yet eat very lightly the next day.
- Provide a comfortable atmosphere at mealtime. Mealtime is also a social activity. Therefore, allow children to talk with others.
- Encourage children to eat food or new foods in a low-key way. For instance, read a book about a new food that will be served that day, and serve the new food at snack time when children are hungrier.
- Introduce a new food five or six times over a few weeks, instead of only once or twice. The more exposure children have to a food, the more familiar and comfortable it becomes and the more likely they will be to try the food.
- Offer the new food to a child who eats most foods. Children usually follow other children and try the food.
- Have staff eat with the children. Have them eat the same foods that have been prepared for the children.
- Do not offer bribes or rewards for eating foods. This only reinforces that certain foods are not desirable. Respect refusals.

Caregivers are responsible for:

- What foods are offered
- When foods are offered
- Where foods are offered

Children are responsible for determining:

- What foods they eat
- How much, or even if, they eat

Taken from *Healthy Heart Snack Choices, a facts sheet from the Cornell Cooperative Extension;* Cornell University, Plainview, New York
http://www.health.state.ny.us/prevention/nutrition/resources/attitudes.htm

Great Books to Accompany Cooking Classes

You can include nearly any children's book about food, gardens, or farms as part of your cooking lesson.

Cookbooks and Curriculum Guides

Pretend Soup and Other Real Recipes by Mollie Katzen (author of the famous Moosewood Cookbook) and Ann Henderson - A cookbook designed for preschoolers and up. Uses pictures for not-yet-readers and teaches important skills in the kitchen - counting, reading readiness, science awareness, self-confidence, patience and food literacy!

Cooking with Kids by Lynn Walters and Jane Stacey An extensive Integrated Curriculum Guide that provides everything you need to cook with kids!

Elliot's Extraordinary Cookbook by Christina Bjork and Lena Anderson A small book packed with information. This book includes fun facts, recipes, and other information you'll use in the classroom.

Simply in Season by Mark Beah and Julie Kauffman Packed with recipes that encourage kids to eat in season. Includes information about ingredients such as how, when, and where they grow.

Children's Books

Tops and Bottoms by Janet Stevens - A trickster tale that illustrates how different vegetables grow. This is a great one to supplement cooking classes using root crops.

Chicks and Salsa by Paulette Bogan-A delightful tale of farm animals making all sorts of Mexican dishes including salsa, guacamole, and nachos. Recipes included.

Delicious: A Pumpkin Soup Story by Helen Cooper-Don't be fooled by the title. This book introduces many types of soup—beet soup, carrot soup, mushroom soup and more! A great book for any soup cooking lesson.

The Giant Carrot by Jan Peck and Barry Root-A story that will make any child want to grow, cook and eat carrots!

Cook-a-Doodle-Doo by Janet Stevens and Susan Stevens Crummel- Weaves the steps of making strawberry shortcake into a creative and entertaining storyline.

Two Old Potatoes and Me-by John Coy A wonderfully illustrated book about a family growing and eating potatoes together. Includes a recipe for mashed potatoes.

The Giant Cabbage by Cherie Stihler A moose and his friends get a giant cabbage to the fair where it wins first prize. The story ends with a delicious meal (and recipe) for cabbage soup.

Applesauce Season by Eden Ross Lipson-This story introduces the idea of eating in season, teaches children about the wide array of apple varieties, and illustrates the steps of making apple sauce.

Laughing Tomatoes by Francisco X. Alarcon and Maya Christina Gonzalez A book of poems about food and life. This books offers fantastic examples of poems to get kids' inspired to write their own!

This Year's Garden by Cynthia Rylant A realistic look at one family's garden through the season. A great book to accompany any cooking class preparing dishes from the garden.

Sip, Slurp, Soup, Soup by Diane Gonzales Bertrand Takes us step by step through the process of making soup and traditional corn tortillas. Includes recipes in Spanish and English.

Pumpkin Circle by George Levenson This fun book with realistic photographs tells the story of how a pumpkin grows. A great book to accompany any pumpkin recipe.

Cool as a Cucumber by Sally Smallwood-This book includes pictures of single vegetables growing and illustrates the different parts of the vegetable how they can be cut and sliced. Also prompts children to think about descriptive words. Great for younger children (ages 2-6).

Journaling with a Cooking Class

Cooking with students presents dozens of opportunities for journaling. Give students time to write in their journals before and after the cooking class, asking them to predict something about the cooking class or reflect on what they have cooked or experienced. With successful journal prompts, you can help them get the very most from the hands-on cooking experience. Below we've compiled 10 journal prompts and activities that will get your students thinking creatively. We encourage you to create your own prompts directly related to the recipe you are bringing to your classroom.

Five Quick Writing Topics

1. What is your favorite vegetable (or fruit)? How does it taste? What does it look like?
2. If you could design your very own pizza/soup/pie, what toppings or ingredients would it have (include at least one vegetable)? How big would it be? Who would eat it?
3. Invent and describe a new fruit that grows on a tree. How big is the tree it grows on? How big is the fruit itself? Cherry size, grapefruit size or even bigger (or smaller)? What does it taste like? When is it ripe? Winter, fall, spring, summer?
4. Invent and describe a vegetable with super powers. Does it make you have x-ray vision? Does it make you fly? What color is it? Where does it grow?
5. Imagine you are a farmer. What would you grow? Where would you live and what tools would you need?

Five Journal Activities and Prompts

Read a Book

1. Read the children's book "Pumpkin Circle" by George Levenson.
   Ask your student to imagine they are a pumpkin plant (substitute pumpkin with any veggie you are featuring) in a garden. Where would you grow? What would you need to live? What other vegetables would be around you?

Give a Taste Test

2. Show students a whole apple and a piece of dried apple and ask them to describe how each appears. Ask them to predict how the fresh and dried apple will taste. Give them each a bit ofthe farm fresh apple and dried apple to eat. Guide the students in eating the apple slowly, ask them to smell it and really look at the apple slice before they eat it. Ask them to hold it in their mouths before they chew and swallow it, paying attention to how it feels or tastes. In their journals, ask the students to list descriptive words for the fresh apple and the dried apple. Older students can predict how the apple was dried. What tools were used? How long to they imagine it took for the apple to dry? Minutes? Hours? Weeks!?

Reflect on a Cooking Class

3. After the cooking class, ask your students to work in groups and write out the steps of the recipe they learned. Ask them to make a list of each group members' favorite step in the recipe. For younger grades, students can draw a picture of the step they enjoyed the most.

4. After the cooking class, write the ingredients of the recipe on the board. Is there any ingredient the students would add more of or take out? Ask the students to re-write the recipe with a change of their own and describe why they would make the change.

Predictions
Bring several cooking tools to class. Show them to the students and pass them around the room. In their journals, ask the students to first predict how the tool is used in cooking and then to invent a new use for the tool. Younger students can draw the tool being used or you can lead the class in a group discussion on about the tools.

Five Ways to Feature Farms in a Cooking Class

The more connections a student can make with the ingredients you are featuring in your cooking class, the more likely they will be to taste (and like!) the foods. Meeting or learning about the farmer who grew the vegetables you are featuring will excite students and encourage them to eat new foods.

1. Invite a Farmer
Many farmers are excited and willing to speak to students about their work and their products. As a preparation activity or follow up to cooking classes, consider inviting a local farmer to talk with students about how a featured ingredient is grown, where it is sold, and why it is important to buy local.

2. Share a Farm Profile
If you cannot locate a farmer to present to a class, consider creating a profile of a featured farmer with information about his/her work and products. Add a photograph of the farmer or ask the students to write the farmer thank you notes for the fresh food or research the farm on the web.

3. Bring Photographs
Children (and adults) love to see where and how food is grown. Bring photographs of recipe ingredients growing on farms and use the photos as a starting point for discussing local farms.

4. Include the Farms in the Recipe
When cooking with children, it is helpful to write the recipe with ingredients and steps on a large piece of paper or on the white boards in classrooms. Sending a recipe home with the students also provides them with the information they need to cook the dish with their parents. We suggest writing the farm name next to all locally sourced ingredients on the white board and on your recipe cards to be sent home. This simple step highlights the importance of purchasing locally and puts the focus of the cooking class on local food and farms.

JANUARY

APPLES

Recipe by Liz and Katie Button of Curate

Mashed Potatoes and Apples with Browned Onions

Ingredients

2 pounds local potatoes, peeled ; cut into 1-inch cubes
2 pounds tart local apples, peeled, cored, and quartered
1 teaspoon salt plus more to taste
8 tablespoons plus 2 teaspoons butter *or* 2 cups of heavy whipping cream to make butter
2 small local onions, sliced very thin
2 teaspoons cider vinegar
Pinch of sugar
4 slices of bacon, fried and crumbled *(optional)*

Tools

1 large saucepan
2 large cooking spoons
1 serving spoon
2-3 mashers
Paring knives or plastic knives
2-3 bowls
Butane burner
8 cutting boards
2 mason jars
Tasting cups
20-30 spoons
Hand sanitizer
Dish towels or paper towels
Gloves

Put potatoes and apples in a large saucepan; add cold water to cover and 1 teaspoon salt. Bring to a boil and continue to cook over medium heat until both are tender when pierced with a fork, about 15 minutes. Meanwhile, heat 2 teaspoons butter in a small skillet; sauté onions over medium high heat until browned. Drain potatoes and apples well and return pan to low heat. With a whisk or a wooden spoon, blend in remaining butter and vinegar. Or, return potatoes and apples to saucepan; mash potatoes and apples over low heat with a potato masher, adding remaining butter then vinegar as you mash. Season to taste with additional salt and a pinch of sugar. Optional: Top with onions and bacon.

Steps for Teaching Students to Cook
Mashed Potatoes with Apples

Arrive at least 20-30 minutes early to set up before the cooking class-start time. Set up a station in the room where you will work. You will be cooking and teaching from here. Wipe down all work surfaces and set up the four stations where the kids will be working. It is very important to have equipment for the stations organized and set out before the class starts. If you are cooking the mashed potatoes with younger children, pre-cook the potatoes.

Step 1: If you are a visitor, introduce yourself and anyone helping you with the lesson. Share with the kids what you do with food in our community (are you a farmer? chef? cooking enthusiast?)
Step 2: Write the recipe on the board.
Step 3: Explain each step of the recipe to the students. Demonstrate what will happen at each individual cooking station, showing the tools and methods the kids will use.
Step 4: Divide students into four groups. Vary the size of the groups depending on the task; most school classes have 20 students. Assign the students to a station and make sure they understand what they will be doing.

Station 1: Students will cut the potatoes into small pieces using cutting boards and knives. For elementary age kids, halve the potatoes before giving them to the students to cut. With a flat surface to work on, the potatoes will be easier to cut than starting with a wobbly round shape. *For young children (pre-K-2nd) pre-boil the potatoes whole; the students can cut the potatoes into smaller pieces safely with plastic knives. If the potatoes are pre-boiled the kids should mash them after they cut them into small pieces and put them in a bowl.* (5 Students)
Station 2: Students will peel and cut the apples into small pieces using cutting boards and knives. For elementary age kids, quarter the apples before giving them to students to cut. An apple peeler/corer is helpful in this recipe. *For young children (pre-K-2nd) pre-cook the apple quarters and then ask the kids to make the pieces smaller with their plastic knives.* (5 Students)
Station 3: Butter Making Station. At this station, the students will pour one cup of heavy whipping cream in each mason jar. They will take turns shaking the jars vigorously for about 5-10 minutes. Soon, the cream will solidify into butter! The students will measure 8 tablespoons of butter into one bowl and 2 teaspoons into another bowl. (6 Students)
Station 4: Students will slice or chop (using the kid-safe choppers) the onions. Middle and high school students can sauté the onions at the main cooking station on the butane burner. In younger grades, the chef or teacher should sauté the onions. (4 Students)

Step 5: As the students complete their tasks, walk around the room and supervise. With younger groups, it may be helpful to recruit one or two volunteers to help supervise.
Step 6: After each group is done with their task, ask a member of the group to bring their completed ingredient to the main cooking station. Prompt the students to gather around the main station. Prompt students to pour the potatoes and apples into the large sauté pan, add water, and begin boiling. While the potatoes and apples are cooking, teach the students about how potatoes grow, read a children's book about potatoes or gardening, or give the kids an art project to complete about potatoes.
If the potatoes are pre-cooked/mashed, add the butter, apples, vinegar, onions, salt and mix well.
Step 7: Once the potatoes and apples are cooked, drain and add them back to the large sauté pan. Add butter, vinegar, salt, onions, and mix well.
Step 8: Choose several students to scoop the potatoes into tasting cups. Allow the students to add bacon if they'd like.

Discussion: Have a discussion with the students about the farm that grew the ingredients. Point out that apples and potatoes are both foods grown in WNC that can be stored for months after harvest. Contact ASAP with the names of the farms you are sourcing from and we will produce information on the farms. You can even invite the farmer to come in and talk with the students!

Classroom Connections
Mashed Potatoes with Apples

Math: Our recipe calls for 2 lbs of potatoes and 2 lbs of apples…how many average potatoes are in 1 lb (about 3)? About how many average apples (again, 3)? So if we have 2 lbs of apples we will have 6 apples, and same for potatoes.
For younger kids - Let's say I had small potatoes…would I need more than 3 or less than 3 to make a pound? How many?
For older kids– How much do you weigh? How many apples would it take to balance you on a seesaw? (Multiply their weight by 3).
You could also do this problem in reverse to make it harder….Ex. Joe weighs 80 lbs and it took 240 apples to balance him on a see-saw…(a picture here might be funny)….how many apples are in 1 pound? These types of question can be varied for age groups and to meet course objectives regarding estimating and multiplication for each level.

Journal Entry: Potatoes and Apples: Imagine you are a potato and you have spent your whole life underground…one day you are dug up, put in a bag, sold to a teacher and brought right here to our classroom! While you are waiting to be cooked, you find yourself next to an apple. The apple doesn't believe you when you say that you spent your whole life underground…this is because the apple spent its whole life in a tree! In your journal, explain to the apple what it was like to grow underground. What did it look like? Feel like? Who did you meet? How did you feel when they dug you up?
(you could also have some students be the apple and explain to the potato what it was like to grow up in a tree…another option is to have students create a dialogue between the potato and apple explaining both perspectives)
Afterwards, invite a couple of students to read their entries out loud.

Writing Activity for Older kids: Have the kids read the following paragraph (pg. 3 of this link) about the potato famine, or another age appropriate excerpt. They can reflect in a journal entry by answering relevant questions and writing about what it would be like to live in Ireland or Scotland during the 1840s.
http://www.palmbeachschools.org/multicultural/MulticulturalCurriculum/documents/5thGradeMulitculturalCurriculumLessonPlan.pdf

Children's Literature Suggestions:
The Enormous Potato by Davis, A.
Apples Apples Apples by Wallace, N.

Taste Test:
Give the students pieces of several different types of locally grown apples to taste, such as honey crisp, Fuji, Macintosh and others. Create a voting board and ask them to vote on their favorite apple by putting a mark or sticker next to the apple they prefer. Select the winning apple as the next class snack. Talk with the students about the voting process and other occasions when voting makes decisions.

AUGUST

TOMATOES

Recipe by Liz and Katie Button of Curate

Pasta with Fresh Tomato Sauce with Garlic and Basil

Ingredients

3 tablespoons extra virgin olive oil
1 medium local onion, minced
2 medium local garlic cloves, minced or pressed with garlic press
2 pounds local ripe tomatoes, cored, peeled, seeded, and cut into 1/2 inch pieces
2 tablespoons chopped local fresh basil leaves
Salt, pepper, and a pinch of sugar to taste
1 pound of pasta
Parmesan cheese to grate on top

Tools

Medium pot
Sauté pan
Butane or electric burner
Stirring spoons
Tongs
5-6 cutting boards
6-7 knives
Small bowl
Measuring spoons
Choppers
Tasting cups/bowls
20-25 forks
Hand sanitizer
Paper towels
Gloves

Heat 2 tablespoons oil and minced onion in medium skillet over medium heat until the onion is soft and translucent, add garlic and cook until it is fragrant but not browned, about 2 minutes. Stir in tomatoes; increase heat to medium high heat and cook until liquid given off by tomatoes evaporates and tomato pieces lose their shape to form a chunky sauce, about 10 minutes. Stir in basil and add salt, pepper, and a little pinch of sugar to taste.

Meanwhile bring water to boil, salt the water, and cook until pasta is al dente. Reserve 1/4 cup pasta cooking water; drain pasta and transfer back to cooking pot. Mix in reserved cooking water, sauce, and remaining tablespoon of oil; toss well to combine. Serve immediately.

Steps for Teaching Students to Cook
Pasta with Fresh Tomato Sauce

Arrive at least 20-30 minutes early to set up before the cooking class-start time. Set up a station in the room where you will work. You will be cooking and teaching from here. Wipe down all work surfaces and set up the four stations where the kids will be working. It is very important to have equipment for the stations organized and set out before the class starts.

Step 1: If you are a visitor, introduce yourself and anyone helping you with the lesson. Share with the kids what you do with food in our community (are you a farmer? chef? cooking enthusiast?)
Step 2: Write the recipe on the board.
Step 3: Explain each step of the recipe to the students. Demonstrate what will happen at each individual cooking station, showing the tools and methods the kids will use.
Step 4: Divide students into four groups. Vary the size of the groups depending on the task; most school classes have 20 students. Assign the students to a station and make sure they understand what they will be doing.

- Station 1: Students will prepare the tomatoes at this station. Guide the students in how to peel, and core the tomatoes. Next, the students will cut the tomatoes into 1/2 inch pieces. *For younger students, core and peel tomatoes ahead of time and ask them just to cut the tomatoes into ½ inch pieces.* (6 Students)
- Station 2: Using knives or choppers, students will mince onion and garlic. (4 Students)
- Station 3: Students will cut or tear basil leaves into very small pieces. (5 Students)
- Station 4: Students will grate the parmesan cheese using a grater. (4 Students)

Step 5: As the students complete their tasks, walk around the room and supervise. With younger groups, it may be helpful to recruit one or two volunteers to help supervise.
Step 6: While the students are working, you'll need to cook the pasta. Bring the water to boil, salt the water, and cook until pasta is al dente. Reserve 1/4 cup pasta cooking water; drain pasta and transfer back to cooking pot.
Step 7: After each group is done with their task, ask a member of group to bring their completed ingredient to the main cooking station. Prompt the students to gather around the main station. The students will observe the chef/teacher complete the recipe. Heat 2 tablespoons oil and minced onion in medium skillet over medium heat until the onion is soft and translucent, add garlic and cook until it is fragrant but not browned, about 2 minutes. Stir in tomatoes; increase heat to medium high heat and cook until liquid given off by tomatoes evaporates and tomato pieces lose their shape to form a chunky sauce, about 10 minutes. Stir in basil and add salt, pepper, and a little pinch of sugar to taste. Mix reserved cooking water, sauce, and remaining tablespoon of oil into the pasta; toss well to combine. Serve immediately.

Discussion: Have a discussion with the students about the farm that grew the ingredients. Point out that the tomatoes and basil are both foods produced in WNC. Talk with students about vegetables that grow in the late summer. Contact ASAP with the names of the farms you are sourcing from and we will produce information on the farms. You can even invite the farmer to come in and talk with the students!

Journal Entry: People who study plants consider tomatoes a fruit because they have seeds. However many chefs and nutritionists consider tomatoes a vegetable because they are not sweet. Do you think tomatoes should be called fruits or vegetables? Why?

Literature Connections:
First Tomato: A Voyage to the Bunny Planet by Wells, R.
Tomatoes (t) by Snyder, I.

The Importance of Farm Field Trips

Children today are one or more generations removed from agriculture. Their connection to agriculture is through their grandparents, if at all. Many people bemoan the fact that children in inner cities don't have a clue about farms, yet we often forget that children in *rural* areas don't know about farms either. Where food comes from is a mystery to most children. The grocery store may be the closest they ever get to the source.

Why should children know where their food comes from? Why should *we* care?

What people do not understand, they do not value; what they do not value, they will not protect, and what they do not protect, they will lose. - Charles Jordan

From an agricultural standpoint, we want children to be knowledgeable about local agriculture so they will appreciate it, want to preserve it, and maybe even become farmers. Local agriculture supports our local economies and gives us more food security. Local agriculture helps preserve our rural landscape. In Western NC, tourism is our number one industry and local agriculture plays a key role in attracting those tourists.

On the farm, there are endless opportunities to educate children and reconnect them to local agriculture. Farms need to be more than an abstract notion; farms need to be experienced hands-on so that children can truly connect and understand them, with all their senses. The more children can touch, smell, and taste the things they are learning about, the more deeply they will understand and value them. Don't underestimate the simplest tasks – children absolutely love planting and harvesting and helping with chores. When children sense that the activities are authentic and not some made up activity, then they gain a sense of what it means to farm and can glean the most from the experience.

ASAP's Role and the Goal of Farm Field Trips

The farm field trip component of Farm to School is often the most difficult for teachers to implement because of funding, time and logistics. Another limiting factor is often trying to find an authentic farm experience, outside of your typical apple orchard or pumpkin patch. ASAP can help connect schools with farms in their community that may offer a more unique field trip experience, as well as working with teachers on ways to integrate the trip across curricular areas. In 2009 ASAP published the first edition of *The Hayride*, a farm field trip guide designed specifically for teachers, which lists farms in our region that welcome school groups. While ASAP's local food guide offers a more comprehensive list of area farms, *The Hayride* provides very practical information that teachers need to know in planning a field trip – does the farm have bathrooms? Can a bus turn around? Is it handicap accessible?

Authentic, hands-on experiences are the goal for farm field trips. We want children to have the opportunity to do "real" work – harvesting, planting, weeding – and they will then remember this experience forever.

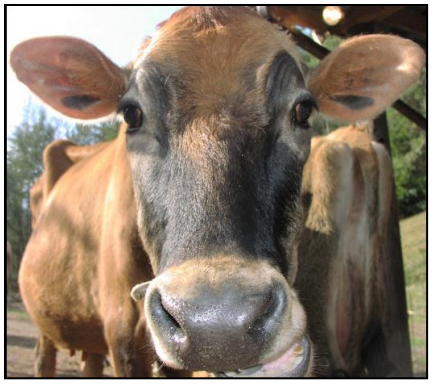
Understanding the farmer perspective

Sharing the farm experience with children can be fun and rewarding. To make these experiences positive for teachers, students, and farmers it is important to understand the farmer's perspective. As a teacher, it is important to acknowledge that opening your farm to school groups is a daunting concept for many farmers. In addition to the time, planning, and organization involved, issues of insurance and liability are usually at the forefront of considerations. Yet, many farmers are willing to open their farms to school groups in hopes that the benefits can outweigh these hassles. A farmer works seven days a week through most of the year, and should be compensated for the time they spend with your class. It is also important to help your students understand the importance of being respectful and careful on the farm, as it is not a zoo or playground, but someone's home and livelihood.

Communicating with Farmers

It is important to establish good lines of communication with farmers, so that you each know what to expect when you visit their farm and that you have a mutual understand of needs and expectations. Talk with farmers directly if possible and follow up with an email to make sure communication is clear. Make sure you both understand the timeframe and details of the trip and how you can work together to create hands on activities. Laying out expectations and clarifying details will make field trips run more smoothly and be more enjoyable for everyone involved.

Guided Questions for Planning Your Trip



Unsure what farm to go to? Here are a few questions to help you plan your trip. If you need suggestions of farms in your area or a list of farms that welcome school groups, contact ASAP for our *Local Food Guide* and *Hayride* publications.

- How far are you willing to travel to a farm?
- Is there anything in particular you want the children to see? A particular agricultural practice or animal?
- How will you integrate the farm trip into your classroom studies?
- Will you take a snack or lunch with you to the farm?
- How many children will be going on the field trip? While many folks like to maximize transportation and squeeze as many kids as they can on a bus, consider the benefits of a smaller group whenever possible.
- How long would you like to spend at the farm?
- What are the dates you are considering for the trip? What you will be able to do and see on the farm will vary widely depending on the season. It is a good idea to have a few dates in mind before contacting the farmer.
- Do you have any children in wheelchairs or with other special needs that the farm would need to accommodate?
- How will you travel to the farm (carpool, vans, bus)?
- What will you do in the case of inclement weather? (It's a good idea to discuss this with your farmer before the trip.)
- How will you fund the field trip?
- Do you need to get release forms signed? Does the school insurance cover students on a field trip? (Check with the farm about their liability insurance as well.)
- Do you have a first aid kit to take with you?
- How many chaperones do you need?

What to Bring

Please have children bring the following:

- Sun hat
- Sturdy shoes (no open toes)
- Water bottle
- Wind parka or rain gear (if rain is likely)
- Long pants, with shorts as an option
- Notebooks, art paper, pens
- A bag lunch (minimal waste please)
- Layers -Children should be prepared for both hot and cool weather.

Lunch, water and snacks:
Encourage reusable containers for the students' lunches to minimize waste and bring garbage bags to carry your lunch waste out with you. Ask farmers about bathrooms, hand washing stations and where the best place would be for the class to eat. Many farms do not have picnic tables, so be prepared to bring blankets for a picnic. Water is essential to ensure that students remain hydrated. Some days on the farm the students may wilt like plants due to the heat so it is imperative that they have a refillable water bottle with them throughout the day. Make sure to double check with farmers that there is drinking water available for refills. If a farm is able, it is great to have a fresh farm snack for students. When contacting farms ask about this possibility and make sure to compensate farmers for whatever they provide.

Name tags
Using a student's name personalizes the experience for them. Ensuring that students, teachers, parents and chaperones all have name tags makes the day go smoother.

Weather
Make sure students are prepared for all types of weather. Determine if you will have a rain day for the farm visit. Does rain cancel the trip? Make sure to determine who is responsible for making calls on the weather, you or the farmer.

On Farm Activities

While a farm field trip may be well planned with lots to see and do on the farm, it is always important to bring activities that can fill time if the bus is late, children need to be broken up into groups, or if weather or other unexpected events change the plan. Here are a few activities we suggest bringing on each field trip as a back up.

- Journals or notebooks – Having notebooks for each child offers a huge range of options on a field trip from sketching and observations to data collection or reflection.

- Children's literature – A few books that are connected to the trip are worthwhile to haul in your daypack. Books can buy you ten minutes or a can be stretched to an hour if need be (children take the theme or style of the book and write their own stories in their journal, or have groups act out the story with their own unique ending).

- Scavenger Hunt – Print copies of the scavenger hunt below and bring brown paper bags for children to collect items in. The bags help limit children to smaller items rather than dragging large branches out of the woods.

Farm Field Trip Scavenger Hunt

Collect only things that you can handle safely.

- a feather
- 3 different kinds of seeds
- something round
- something beautiful
- something that makes a noise
- something that reminds you of yourself
- something soft
- something that does not belong

Journaling is a great pre, post or on site activity for farm field trips. Here are some ideas for journal questions.

- *Write about a farmer you know. What do you admire about them? If you don't know a farmer, write about a gardener or what you admire about farmers in general.*
- *Why do you think farming is important?*
- *Would you want to be a farmer? Why or why not?*
- *Write about one thing that surprised you about the farm you visited.*
- *What will you want to tell your family about the farm?*
- *What do you think a farmer needs to know to be a good farmer?*
- *Describe the farm as if you were flying over it.*
- *What two senses did you use most at the farm? Describe.*
- *Why do you think farmers like to farm?*
- *What did you like most about the farm? Least?*
- *Write about the food grown on the farm and how your family eats it/cooks it.*
- *What do farmers do in the winter?*
- *What insects did you see today? Why are some insects good and some bad for farmers?*
- *What do you think would be the hardest part about farming?*
- *If you were a farmer what would you like to grow? Why?*
- *Write step by step directions for something you saw on the farm, such as how to plant potatoes, how to harvest apples, how to make sorghum molasses, how to care for a chicken.*
- *Write a poem inspired by your trip to the farm.*

Farm Related Children's Books

A is for Appalachia! - The Alphabet Book of Appalachian Heritage by Linda Pack – Appalachia, the people, the geographic region, the culture. (All ages)

All the Places to Love by Patricia MacLachlen – Building an appreciation of place, sense of place. (K-2)

Farmer's Alphabet by Mary Azarian – Wood cuts that should be framed. Each letter of the alphabet is a farm-associated word. Play a game—think of other farm words that Mary didn't use and make your own farm alphabet book. (PreK-2)

Harvest of Color - Growing a Vegetable Garden by Melanie Eclare – Wonderful photographs coupled with growing tips from kids. (K-2)

Insectlopedia by Douglas Florian – Children just shriek with laughter and amazement at his clever rhymes. This is a great book for reading aloud. (All ages)

Jamberry by Bruce Degen – One berry two berry pick me a blue berry. Combining counting, rhyming and berries for jam this book is a great addition to planting berries, a field trip to a you-pick farm or a visit from a Grandma telling the story of making jam. (PreK-2)

Oliver's Milkshake by Vivian French – Join Oliver as he visits a farm to buy ingredients for a different kind of milkshake. (PreK-2)

On the Farm *by David Elliott – Meet the animals that live on the farm through simple poetry. (K-2)*

One Watermelon Seed by Cilia Barker Lottridge – More than just a counting book, Max and Josephine plant their garden and watch their hard work multiply. (K-2)

Scarlette Beane by Karen Wallace – A fantastic tale of growing vegetables and seeing the miracles of the garden. Children will hoot with pleasure. (Pre K-2)

Tiny Seed by Eric Carle - The simple life cycle of a plant made into an exciting story with a nature and perseverance lesson throw in for good measure. (PreK-2)

Tops and Bottoms by Janet Stevens - A trickster tale that also shows how differences vegetables grow. (PreK-2)

Up We Grow! A Year in the Life of a small, Local Farm by Deborah Hodge –Beautiful real life pictures tell the story of the seasons on a working farm. With so many things happening on a farm, you might want to read this book one season at a time. (K-2)

Marketing Checklist for School Food Service Directors

A school food service director's ability to identify and establish a business relationship with local purveyors of fresh fruits, vegetables, and other food items may be enhanced by:

- Contacting the local county Extension agent or personnel from the Cooperative Extension department at the local land-grant university to learn about the number of small farms and small farm cooperatives operating in the area and the types of fresh and processed commodities currently available from local producers.

- Arranging visits to nearby farms, meeting with local producers, and taking the opportunity to state specific product interests and needs. Unless a local producer is already involved in supplying merchandise to the school food service market, he or she may not be aware of current school food service trends, such as the growing use of fresh fruits and vegetables in school feeding programs or the growing diversity of meals—breakfasts, lunches, after-school snacks, box lunches for off-site programs—prepared by school cafeterias.

- Contacting the nearest PBO or DSO about the possibility of using their services to procure locally grown fresh produce. The addresses and contacts of DOD's regional PBO's and DSO's are located at "http://www.dscp.dla.mil/subs/produce.htm."

- Learning about the existence of any Federal, State, or local exemptions to standard competitive bidding requirements when purchasing food commodities from local, minority-owned, women-owned, small, and/or economically disadvantaged businesses.

- Considering the introduction of locally produced food items in the school system on a test basis—possibly starting with a handful of schools—in order to assess how these items are accepted by cafeteria workers and students before making a large-scale financial commitment. Ask local purveyors if they might be willing to provide initial samples for free to enable food service personnel to test the products in school kitchens without financial risk.

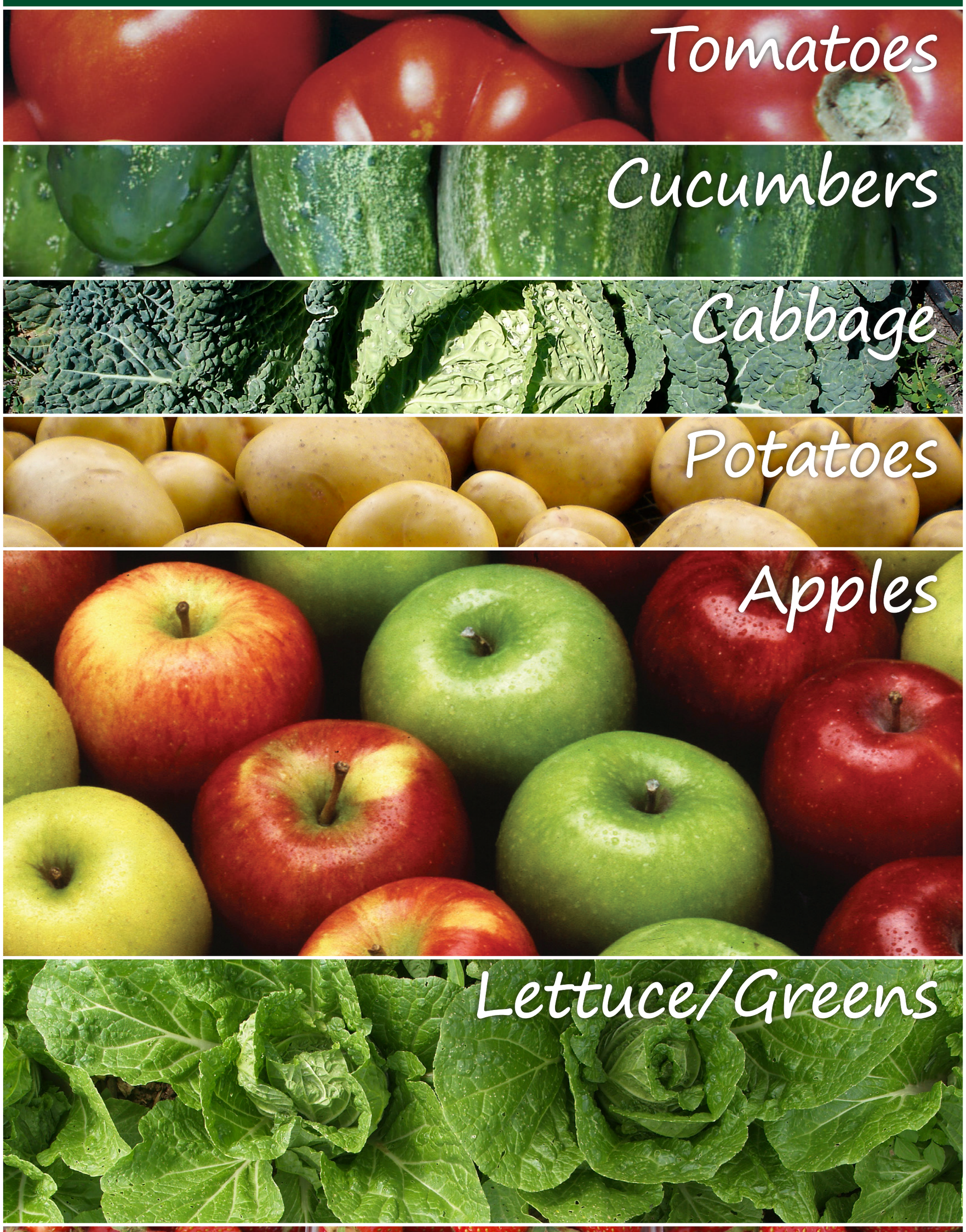
Source:

How Local Farmers and School Food Service Buyers Are Building Alliances: Lessons Learned from the USDA Small Farm/School Meals Workshop, May 1, 2000. http://www.ams.usda.gov/tmd/mta_reports/localfarmers_school.htm#Food%20Service%20Preferences:%20What%20Today's%20Food%20Service%20Director%20Needs%20and%20Wants

growing minds

farm to school program

Appalachian Sustainable Agriculture Project



get Local @school

Farm to School means fresh food from local farms served in your cafeteria. Enjoy these local tastes each month.

August

September

October

November

December
January
February

March
April

May

June

July

www.asapconnections.org

Farm to School:

Strategies for Managing Food

and Labor Costs

It is important to look at the total cost of the menu when incorporating Farm to School foods so that Farm to School works within your overall food and labor budgets. Experience shows that Farm to School foods may be more or less expensive than other options, so careful planning and product selection are key. Here are a few approaches to consider:

Menu Planning

- Talk with your farmers and/or distributor to explore the different types of Farm to School products that are available to you and their pricing. Start small, focusing on Farm to School foods and menu items that work within your budget, labor environment and kitchen facilities.
- Look not only at the cost-per-case of produce, for instance, but at the total yield, labor costs, and total cost per serving.
- Explore whether it may cost less to make a product from scratch, like a whole grain pilaf, than to buy a similar packaged and processed item.
- Consider how you might move costs "around the tray". For instance, on a given day, can you accommodate a higher cost vegetable by pairing it with another, lower-cost item elsewhere on the tray?
- Build flexibility into your menus by offering "Local Harvest Vegetables", for instance, instead of a specific vegetable so that you can use one or more Farm to School foods that are at the peak of harvest and most affordable.
- Salad bars are a great way to highlight minimally processed, local produce while retaining the flexibility to use a variety of products when they are affordable and in-season.
- If the Farm to School item is a choice option on your menu, the impact on your overall food cost for the month may be modest. The number of times a Farm to School item is served will also influence the overall impact on your foodservice budget.

Purchasing Strategies

- Look for a Win –Win with the farmer
    - Several schools use small size apples that the farmers may have difficulty selling at retail. This can allow the school to get a lower price for the apples and the farmer to sell product with a limited market.
    - Buying larger quantities from the farmer may also enable the farmer to offer you a lower price.
    - Getting to know more about your farm partners may open up new possibilities as they learn what you need and you learn what they have to offer. Getting in touch about your mutual needs well in advance can be helpful to both parties.

- Can your distributor help? Ask your distributor if they offer local produce in the fall or other times of year. Often this is the case and the pricing will likely be the normally quoted price.
- Are seconds or surplus product available? Your distributor or farm partners may have seconds available or an over-abundance of product available at the last minute. If you can accommodate products without too much notice, this may work for you and the farmer alike.
- Use donated product – explore using donated product that is produced according to your standards and food safety requirements.

Labor Cost Strategies

- Purchase Farm to School products through a distributor who handles purchasing arrangements with the farmers.
- Ask to have your distributor pre-cut local produce. Some offer a wide array of pre-cut local produce items (including husked/cut corn, cut winter squash and the like.)
- Find creative ways to cover periodic increased labor requirements:
    - Some schools have used husking corn as a learning experience for classroom involvement in Farm to School activities.
    - School clubs and community members/partners can be called in to wash fruits and vegetables or even light processing, when under school supervision.

Offsetting Cost Factors

- Can obtaining very fresh products reduce your waste rate in the kitchen?
- Would students waste less food if the foods taste great and are part of your Farm to School promotional and educational effort?
- Consider the opportunity for boosting meal rate participation with the raised awareness and enthusiasm for Farm to School products.
- Recognize (and celebrate!) the community benefit and goodwill that are generated when more of the school food dollar stays within the local community.

This document was developed by the Institute for Agriculture and Trade Policy for the Minnesota Department of Health State-wide Health Improvement Program (SHIP)—November 2010.

DISTRIBUTION MODELS FOR FARM TO SCHOOL

With farm to school programs, the transport of farm products to the schools is in many cases the most challenging issue to be addressed. There is no "one size fits all", as individual circumstances differ greatly. Some of the issues to consider are: school district size and the existence of central kitchens or satellite kitchens; the storage capacity of the schools; the existence of farmer cooperatives or networks; the capacity of these networks to deliver; the distance involved with deliveries; the volume and type of products desired; and the amount of staff time needed to research and develop the distribution method. Below are descriptions of four distribution methods, and the advantages and disadvantages of each. Whatever method is chosen, it should address the needs of both farmers and food service, in order to be successful over time.

I. Food service staff buys direct from individual farmers.

Many school food service directors from around the country have initiated purchasing relationships with farmers, and buy directly from those farmers. There are many benefits to this procurement method, as food service staff can: request specific products in the form they need them; work out details and issues without a middle man; become familiar with what the farmer grows, and even request that farmers plant specific items for them. One additional advantage is that buying from individual farmers may exempt the purchase from bidding requirements as the total amount may be below the required bid minimum. (Food service directors are required to put out to bid any order greater than a specific dollar amount. For example, a school district may require that any purchase over $15,000 must go out for at least three bids. However, if the purchase is less than $15,000, the school is not required to obtain bids. The amount of the bid requirement can be defined at the school, school district or state level.)

The disadvantages of this procurement method become apparent if food service staff is buying from a number of farmers. Buying from individual farmers entails increased administration and paperwork. This can be quite overwhelming for a food service director who has been ordering all or most of their produce from one broker. There would be a transition from making one phone call to order product, to multiple calls, multiple invoices, and coordinating multiple deliveries. In addition, a broker is generally able to provide a greater variety of produce than farmers, who are selling only what is in season and what they grow.

II. School food service works with a farmer cooperative.

In this model, farmers in a cooperative, or informal network, pool their resources to develop a group distribution strategy. While some farmer coops are focused solely on production, others are also involved in the marketing and distribution of farm products. Buying from a farmers' cooperative helps the school food service director reduce the time spent on the administrative tasks involved in ordering, receiving orders, invoicing and payment. In this way, ordering is done through one person representing multiple farmers and in some cases, one delivery is made for multiple farmers. Another advantage is that cooperatives, or informal networks, can generally offer a wider variety of produce and a more consistent supply than one individual farmer.

Some farmer cooperatives have also been able to purchase cold storage facilities, a truck for delivery, and processing facilities to produce value-added products. This is a particularly helpful strategy in colder climates with a limited growing season, and is a benefit for food service staff, as they greatly appreciate receiving a bag of broccoli florets instead of a whole head of broccoli. Many school district food services do not have the labor or equipment necessary to do this kind of minimal processing.

The biggest disadvantage is that farmer networks, cooperatives or otherwise, do not exist in all regions of the country. Some new farmer networks and cooperatives have been formed as a result of the

demand from institutional sales, but their numbers are limited. This model also limits contact with the individual farmers growing for the schools.

One alternative to buying from an organized farmer network is to have one farmer, or a staff person from a non-profit organization, handle some of the administrative tasks. One person could act on behalf of farmers, taking orders from food service and then contacting farmers to fill them. The school district would send one invoice to the intermediary person who would then handle the paperwork.

III. School food service orders locally grown food through a traditional wholesaler.

In this scenario, food service works with a distributor who purchases from local farms. Since food service directors already purchase from brokers or distributors, this allows them to maintain an existing relationship, as well as purchase other items that farmers are not able to provide. This method also allows for centralized billing, delivery and payment - but cuts farmers out of the communication loop with the food service director.

The major disadvantage of buying through a distributor is that it is difficult to know how diligent the distributor is being in attempting to source local product. Buying from local farmers may or may not be a top priority for a distributor who tries to fill an order with the least expensive product available. Unless the distributor is already aware of local farms, he or she may not be willing to make the additional effort to find them.

In some instances, wholesalers have worked very well with local farmers. One step food service can take is to request access to the buying records of the broker, showing the origins of the product. This can also be a requirement written into an agreement with the broker. In this model it is still important that food service staff familiarize themselves with the availability and seasonality of the products in their region in order to make reasonable requests of the wholesaler who may be responsible for sourcing the products.

IV. School food service purchase regional products at the farmers' market.

This strategy relies on farmers' markets for purchasing locally grown products. In this scenario, the food service staff contact the farmer one or two days in advance of the farmers' market, placing their order by fax or phone. The farmer then brings that order to the farmers' market, in addition to what he or she plans to sell that day through the market. In most cases, schools use their own truck and driver, and a buyer from the school or district goes to the local farmers' market to pick up the pre-ordered product. This option is only feasible where the farmers' market season and the school calendar coincide - in places with year-round school, or moderate climates with year-round farmers' markets.

Buying directly from a farmer at a farmers' market has the advantage of working face-to-face with growers, who know their competition is at the market as well. It also gives food service staff the opportunity to inspect the product quality, and see first-hand what other products are available. Farmers benefit from this arrangement since they can make two farm deliveries in one location - one to the farmers' market, and one to the school. This can also help to lower the price for the product, as only one trip is needed for both deliveries. However, buying at farmers' markets can also be time consuming, as this kind of shopping involves much more labor than a phone call to a distributor.

For more information: contact Marion Kalb, National Farm to School Program, Community Food Security Coalition at 530-756-8518 x32, or marion@foodsecurity.org.

Written by Marion Kalb and Sarah Borrron, Community Food Security Coalition
Many thanks to Sara Tedeschi, REAP Food Group, and Kristen Markley, Community Food Security Coalition, for their comments and insights.

A Distributor's Perspective
Don Wellborn of Carolina Produce

Food distributors can help facilitate Farm to School programs in South Carolina by serving as the middleman between farmers and school, and by linking schools to local produce while helping mitigate risk.

Pricing can be an issue, because farmers are able to get wholesale price when they sell to a distributor, but they get retail price if they sell directly to a school. There is a need for farmers to work together and pool their resources so that they can get volume pricing; this also helps maximize the quantities that they can sell. Distribution can also be split among the farms to lessen the cost.

Don believes that we need to think of "local" as SC grown, rather than region-specific, which can be very difficult to implement since sometimes only one kind of fruit or vegetable suitable to school lunches can be grown in a specific area of the state (this initiative is embodied in the Department of Agriculture's "Certified SC Grown" campaign. While it would be ideal for schools to use produce that was grown right around the corner from them, sometimes logistically it is better to use a crop that is from elsewhere in the state.

Specific problems and barriers from a distributor's perspective:

1. *Recalls/traceability:* This is not a barrier so much as it is just a very important aspect of Farm to School. If a child gets sick, or something is found in the food (Don used the real-life examples of staples found in an orange and fishing line found in food), everyone involved must have accurate and detailed records so the problem area can be identified and fixed. The distributor is usually the first to hear about any problems. If in formation on just one step of the process is missing, the entire crop or kind of food would be affected. This is where GAP certification plays an important role.
2. *Allergies/storing:* Schoolchildren can have a wide variety of food allergies and issues. When a distributor is storing different kinds of crops together or even close by, this has to be thought of. Peanuts, strawberries and other allergy-common crops should be stored in separate containers and should never come in contact with another kind of crop, for fear of cross-contamination.
3. *School budgets:* Schools have very little extra funds to spend on buying local, fresh produce. Don pointed out that currently, strawberries from California are half the price of local SC strawberries. Schools must have an incentive and see the value in local food, similarly, farmers must see the advantages of working together and bringing the price down.
4. *Drivers:* School district rules and regulations are very strict in terms of who is allowed to come on campus and make deliveries. Drivers from local distributors need to be very clearly uniformed and easily identifiable if they are going to make deliveries to schools or other institutions. Some schools and districts also require any driver that comes on campus to have a background check.

Assessing Alternative Food Distribution Models for Improving Small-Scale Producer Direct Marketing

Project Researchers: Jim Barham (MSD) and Adam Diamond (MSD)
Project Supervisor: Debra Tropp (MSD)

- Background -

The primary objective of this collaborative research project is to analyze the workings of several alternative distribution models and assess their effectiveness in improving the economic welfare of small-scale and limited-resource producers through more direct marketing of agricultural products.

To date, all primary data collection has been completed on the nine selected case study sites. We are currently working on the analysis and write-up with the final report in the form of a resource guide to be completed by March 2011. Key elements to this resource guide will include looking at the institutional drivers of the process, how prices are negotiated, the organizational/legal structure of the distribution entity, and the presence of unique or replicable factors explaining success, either pertaining to internal organizational dynamics or external environmental conditions.

The primary audience that will benefit from the resource guide will be practitioners (e.g., non-profit organizations, producer groups, agricultural extension, and for profit enterprises) that are involved in value chain development for small-scale and limited-resource producers.

Distribution Models and Stages of Development

Stage of Development / Distribution Model	Start-up/Nascent	Developing/Emerging	Mature/Developed
Retail Driven		*La Montanita, NM*	*The Wedge/Coop Partners, MN*
Non-profit Driven	*MFA/Big River Foods, MN*	*CAFF/Growers Collaborative, CA*	*Red Tomato, MA* *Appalachian Sustainable Development, VA*
Producer Driven	*Browse & Grass Association, WI*		*New N. Florida Cooperative, FL*
Consumer Driven (e.g., Buying Clubs)		*Oklahoma Food Cooperative, OK*	

INTERVIEW PROTOCOL FOR DISTRIBUTORS
BEST PRACTICE PROFILES AND CASE STUDIES

Business Operations

1) How did you get started? What got you into it? What are the mission, values, goals of this organization? What needs does it address for farmers, buyers, and consumers?

2) How long has the business been operating?

3) Who or what were the drivers in getting this business started?

4) How is the business legally organized?

5) What line of business are you involved in? How would you describe you business?

6) How is the business structured? Staffing, operations and management (changes over time – volunteer to paid staff).

7) Who are your Strategic Partners: (brief description of nature of key relationships)
    a. What is the value added by each partner in the service delivery?
    b. How did the relationship between you and your partner(s) develop?
    c. What impacts have the partnership(s) had on your organization?

8) Describe how product flows through your business from seed to fork.
    a. How do you take and fulfill orders?
    b. Who moves/stores product?
    c. Who is involved in processing/sorting/packaging?
    d. Who transports goods to customers?
    e. What physical assets do you own?
    f. How are other distribution logistics handled?

9) How do you work with farmers?
    i. How does the decision making process work in terms of farm planning, setting prices, establishing distribution routes, making sales, and other business planning and operations decisions?
    ii. What financial advantages do farmer receive from participating in this arrangement?
    iii. Did you approach farmers to source locally, or did farmers or local distributors approach you about sourcing locally?
    iv. What type of farmers do you work with? Size, practices, experience, diversity of crops, ethnicity, degree of subsistence on farm income

10) Who are your buyers? Who are they targeting? What are your buyers looking for in terms of product characteristics/preferences?

11) How do you get paid? Have you had problems getting paid on time by customers? Are there differences in payment terms?

12) How is your pricing structured? How much can you negotiate with buyers on price? Contingent on quantity? With different types of buyers?

13) What are your annual sales? How fast have they grown in the last 5 years? 10 years?
14) Current annual number of accounts.: _____growth in last 5/10 years
15) Current annual number of producers.: _____ growth in last 5/10 years

Performance Highlights/Best Practices

16) What are your most important indicators of success?
    a. Sales; b. Increased Farmer Revenue; c.Volume of product sold; d. New accounts; e. Product variety; f. Product quality; g. Level of satisfaction from farmers; h. Level of satisfaction from buyers

17) What aspects of starting up the business were most challenging?

18) How were start-up challenges addressed?

19) What challenges are you facing now?

20) What strategies have you identified to overcome these challenges?

21) What lessons have you learned (including mistakes) in the operation of the program?

22) What operational features do you consider unique/innovative in comparison with other programs of its type? That is, what makes your business different or distinguishable? And how do these unique aspects of your organization contribute to your success?

23) What do you consider to be your "best practices"?

24) What are you plans for growing the business in the future?

Tips/strategies for other practitioners

25) If you could go back and start the business from scratch again, what would you do differently?

26) What suggestions do you have for other groups that would like to implement a program/business like yours?

27) **Feedback for resource providers** – what is the best way to assist similar local food distributors get started? Loans, grants, technical assistance. Better to assist with resources at start-up or wait until more mature?

INTERVIEW PROTOCOL FOR BUYERS
BEST PRACTICE PROFILES AND CASE STUDIES

Business Operations

28) How did you get started? What got you in to it? Values? Mission?

29) How long have you had a relationship with distributor x?

30) How long have you been consciously seeking to source food locally? (how do you define local?).

31) Who is typically responsible for approving procurement decisions at your business?

32) Describe how product flows through your business.
    a. Who moves/stores product?
    b. What physical assets do you own?

33) Do you work directly with farmers?
    i. Did you approach farmers to source locally, or did farmers or local distributors approach you about sourcing locally?
    ii. How does the decision making process work in terms of:
        i. Farm planning?
        ii. Price setting?
        iii. Quality?
        iv. Or any other issues related to movement of product through the value chain?

34) Who are your suppliers? How would you describe your suppliers?

35) What have you had to do (changes to the business, additional services etc) to make the supplier – buyer relationship work?

36) What percentage of total product do you source locally? What percentage of your supply comes from distributor x? (volume and dollars)

37) How much has your sourcing of locally grown food increased over the last 5, 10 years?

38) Do you feel like your business has improved as a result of sourcing locally? Explain.

39) What do you require in terms of product characteristics (quality, quantity, packaging) from suppliers? How do you expect them to verify these standards?

40) How is your pricing structured? Is it structured any differently for locally sourced food than for other suppliers?

41) What kind of consumers do you target generally? For local food purchases? i.e. demographics and lifestyles? What do you think your consumers are looking for in terms of product characteristics/preferences?

Performance Highlights

42) What are your most important indicators of success, in terms of sourcing food locally?
    b. Increased sales
    c. Increased farmer revenue
    d. Product variety
    e. Product quality
    f. Level of supplier satisfaction
    g. Level of customer satisfaction

Best Practices

43) When you first started sourcing locally what were some of the challenges?

44) How did you address these challenges?

45) What are some of the present challenges in sourcing locally?

46) What strategies have you identified to overcome these challenges?

47) What lessons have you learned (including mistakes) in the operation of the business?

48) What are your plans for further development of local sourcing, e.g. new products, new suppliers, stepped up marketing of local products to consumers?

49) What advice, tips and etc would you have for other buyers in the country who are sourcing more local product? What should they watch out for, and how would you advise an established company on the issue.

INTERVIEW PROTOCOL FOR PRODUCERS
BEST PRACTICE PROFILES AND CASE STUDIES

1. Farm and Farmer Background

a. How long have you been farming? At this location?
b. Total Acres, Acreage under production (rented and owned)
c. Crops – Livestock?
d. Labor (household and paid – seasonal, full-time)

2. On Farm Assets?

a. Equipment, Buildings, Irrigation
b. Natural Assets (e.g. streams, ponds, topography-hilly or flat, soil type/conditions)
c. What storage, processing, packing infrastructure do you have?
d. Partnerships with other farmers? Other marketing entities?

3. Marketing

a. What percentage of your production (or sales is derived from) moves through different channels? % for each below? How has this changed over time?
    1. Farmers' Market
    2. Auctions
    3. Wholesalers
    4. Terminal Market
    5. Other Direct Markets/Institutional Sales
b. How have you adjusted your marketing strategy to maintain/increase farm income and sustainability?
c. What trends are you seeing in the marketplace?

4. What is your history with distributor x?

a. How did the relationship develop? How did you find each other?

5. How do you work with the distributor? Logistics and operations

a. How does your product get from Farm to the distribution point?
b. Is there joint decision making in terms of crop planning, price setting, delivery systems, payment mechanisms?
c. Are there any new (i.e. changes in) production practices that you have implemented to meet distributor and/or consumer demand in terms of quality, quantity, or crop choice?
d. What have you had to do to troubleshoot those practices? Research? Experimentation? Outside help/technical assistance?

6. How have your margins changed as you have changed marketing channels? Improvement with distributor x? compared to other current channels? Compared to ones used in the past?

7. In your business relationship with the distributor, what have been the critical success factors? Are you satisfied with the current relationship? If not, how could it be better?

8. What were some of the challenges to your initial involvement with the distributor? How have they been overcome?
   a. Lack of natural assets? Not enough final customers? Financing? Human capital?

9. What challenges remain? How do you intend to address them?
   a. Lack of natural assets? Not enough final customers? Financing? Human capital?

10. Are there regulatory challenges you and your distributor have in local food marketing? How have they been overcome? What challenges remain? How do you intend to address them?

11. How do you deal with competition with other farmers? Is this a problem?

12. What lessons have you learned (including mistakes) through your relationship with distributor x?

13. What advice, tips and etc would you have for other farmers in your area who want to sell through local marketing channels? What should they watch out for?

USDA Food and Nutrition Service

Southeast Region Farm to School

Websites of Interest:

USDA, FNS Website:

http://www.fns.usda.gov/fns/

FNS, Farm to School Website:

http://www.fns.usda.gov/cnd/F2S/Default.htm

FNS, Farm to School Team website:

http://www.fns.usda.gov/cnd/F2S/f2stacticalteam.htm

USDA, Know Your Farmer, Know Your Food Website:

http://www.usda.gov/wps/portal/knowyourfarmer?navid=KNOWYOURFARMER

USDA, Healthy Meals Resource Center, Farm to School and School Gardens

http://healthymeals.nal.usda.gov/nal_display/index.php?info_center=14&tax_level=2&tax_subject=526&level3_id=0&level4_id=0&level5_id=0&topic_id=2314&&placement_default=0

USDA
Food and Nutrition Service

USDA Food and Nutrition Service
Southeast Region

61 Forsyth Street, Southwest
RM 8T36
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USDA Food and Nutrition Service
Southeast Region

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Food and Nutrition Service

Farm To School

USDA
Food and Nutrition Service

Farm to School

What is the Farm to School Initiative?

The Farm to School initiative is an effort to connect schools (K - 12) with regional or local farms in order to serve healthy meals using locally produced foods. Farm to School activities may vary from community to community depending upon demographics; however, the basic goals remain the same:

- To meet the diverse needs of school nutrition programs in an efficient manner.

- To support regional and local farmers and thereby strengthen local food systems.

- To provide support for health and nut rition education.

The USDA's Food and Nutrition Service (FNS) is focusing on Farm to School efforts that incorporate regional and local farm products into school meal programs. Schools and communities may initiate and support a variety of Farm to School activities, including nutrition education, agriculture-related lessons and curriculum, school or community gardens, farm tours, taste testing, and parent/community educational sessions.

Farm to School

What is USDA's Involvement in Farm to School?

USDA recognizes the growing interest among school districts and communities to incorporate regionally and locally produced farm foods into the school nutrition programs. USDA is supporting Farm to School efforts through a number of initiatives, and continues to look for ways to help facilitate this important connection.

Recently, the USDA established **"Know Your Farmer, Know Your Food,"** an initiative which focuses on the importance of understanding where our food comes from and how it gets to our plate. In response to the growing demand for Farm to School activities, the "USDA Farm to School Team" was developed out of the "Know Your Farmer, Know Your Food" Initiative.

Farm to School Team

The USDA Farm to School Team is comprised of both Food and Nutrition Service (FNS) and Agricultural Marketing Service (AMS) staff members, and was created to support local and regional food systems by facilitating alliances between schools and their local food producers.

Working with local and state authorities, school districts, farmers, and community partners, the Team provides guidance to and develops mechanisms for:

Farm to School

- Assisting schools in accessing local markets.

- Enabling food producers to effectively service their local schools.

- Facilitating communication between interested stakeholders.

Long-term goals of the Team include:

- Providing access to resources and information on beginning and maintaining Farm to School activities for schools, farmers, and local community members.

- Providing technical assistance to assist schools and farmers in the development, progression, and/or sustainability of Farm to School activities.

- Identifying obstacles faced by schools and farmers in implementing and/or sustaining Farm to School activities and suggesting solutions.

USDA, FNS, Southeast Region States:

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee

Geographic Preference Option for the Procurement of Unprocessed Agricultural Products in Child Nutrition Programs

FINAL RULE SUMMARY

The 2008 Farm Bill amended the Richard B. Russell National School Lunch Act to allow institutions operating Child Nutrition Programs to purchase locally raised agricultural products. This provision, known as Geographic Preference, applies to institutions in all of the Child Nutrition programs, including: the National School Lunch Program, School Breakfast Program, Fresh Fruit and Vegetable Program, Special Milk Program for Children, Child and Adult Care Food Program and Summer Food Service Program, as well as to purchases made for these programs by the Department of Defense Fresh Program. The provision also applies to State agencies making purchases on behalf of any of the aforementioned Child Nutrition Programs.

The final rule was published in the Federal Register on April 22, 2011. (**http://www.gpo.gov/fdsys/pkg/FR-2011-04-22/pdf/2011-9843.pdf**)

The department received 77 comments on the proposed rule (issued April 19, 2010), resulting in the following clarifications and changes.

Procurement Issues (p. 22603):
A geographic preference established for procurement is a tool that gives bidders in a specified geographic area a specific, defined advantage in the procurement process. In February 2011, USDA published a policy memorandum (SP_18-2011) for program operators instructing them how to apply a geographic preference in the procurement process. USDA will issue additional guidance on this subject as needed.

Geographic Area (p. 22604):
The final rule allows for each institution to determine how to define the geographic area. USDA received 47 comments in support of allowing the purchaser to define the local area in which the geographic preference options will be applied; no objections were received.

Definition of Unprocessed Agricultural Products (p. 22604):
In previously issued guidance, USDA proposed a definition of “unprocessed agricultural products,” which allowed for “de minimus handling and preparation such as may be necessary to present an agricultural product to a school food authority in a usable form.“

The definition in the proposed rule included a list of acceptable food handling and preservation techniques. A number of comments were received regarding these food handling and preservation techniques, resulting in the final definition of “unprocessed agricultural products”:

> *“Cooling; refrigerating; freezing; size adjustment made by peeling, slicing, dicing, cutting, chopping, shucking, and grinding; forming ground products into patties*

without any additives or fillers; drying/dehydration; washing; packaging (such as placing eggs in cartons), vacuum packing and bagging (such as placing vegetables in bags or combining two or more types of vegetables or fruits in a single package); addition of ascorbic acid or other preservatives to prevent oxidation of produce; butchering livestock and poultry; cleaning fish; and the pasteurization of milk."

This definition replaces any previously issued definitions.

Further Clarifications on the Final Definition of "Unprocessed Agricultural Products"
A number of comments were received regarding the food handling and preservation techniques, resulting in the following clarifications and changes to the final rule:

- The definition of "unprocessed agricultural products" has been revised to include the combination of vegetables and fruits, as indicated in the Feb 2011 memo, (SP_18 – 2011) Procurement Geographic Preference Q&As (p. 22604).
- Canned, pickled, and pasteurized products are not considered to be subject to a geographic preference, as heat processing does not meet the "de minimus" standard of processing established by Congress and assessed by USDA (p. 22604).
- The definition of "unprocessed agricultural products" has been revised to include formed products that contain no additives or fillers. For example, a geographic preference can be applied to foods such as ground beef and other meat patties made with pure meat and containing no fillers or additives (p. 22605).
- USDA clarifies that ground products, such as the grinding of grain into flour, as well as cut products, such as cutting chicken into fajita strips or filleting fish, meet the proposed and final definition of unprocessed agricultural products (p. 22605).
- The addition of ascorbic acid and/or other preservatives that retain the color of a product or prevent oxidation has been added to the definition of "unprocessed agricultural products." However, no other preservatives used for any other purposes are considered acceptable under this definition (p. 22605).
- Due to the concern that the term "high water pressure (cold pasteurization)" could be interpreted to mean irradiation (p. 22605), this term has been removed from the definition of "unprocessed agricultural products." USDA's original intent was to use this term in reference to a washing technique; since "washing" is already included in the definition of "unprocessed locally grown or locally raised agricultural products," this is covered.

This final rule prohibits the application of the geographic preference procurement option for products subject to processing methods not included in the final definition of "unprocessed agricultural products."

This final rule, effective May 23, 2011, amends 7 CFR Parts 210 (National School Lunch Program), 215 (Special Milk Program for Children), 220 (School Breakfast Program), 225 (Summer Food Service Program), and 226 (Child and Adult Care Food Program) to include a Geographic Preference option for the procurement of unprocessed agricultural products.

United States Department of Agriculture

Food and Nutrition Service

3101 Park Center Drive
Alexandria, VA 22302-1500

DATE: February 1, 2011

MEMO CODE: SP_18 - 2011

SUBJECT: Procurement Geographic Preference Q&As

TO: Regional Directors
Special Nutrition Programs
All Regions

State Directors
Child Nutrition Programs
All States

In light of recent Farm to School efforts to connect schools with local or regional farmers and the need for guidance and technical assistance on the State and local levels, we have created Q&As to further explain the geographic preference option. The purpose of this memorandum is to provide Q&As on the application of the geographic preference option in procurement of unprocessed locally grown or locally raised agricultural products.

We encourage State agencies to share these Q&As with their counterparts at other State Departments (e.g., Department of Agriculture or Department of Health) that are involved in Farm to School activities.

Original Signed

Cynthia Long
Director
Child Nutrition Division

Geographic Preference

Applying Geographic Preference

Q1: The 2008 Farm Bill amended the Richard B. Russell National School Lunch Act (NSLA) to direct the Secretary of Agriculture to encourage institutions operating Child Nutrition Programs to purchase unprocessed locally grown and locally raised agricultural products. Does USDA define the geographic area that is considered to be local?

A: No, USDA does not define the geographic area that is considered to be local; the decision is left to the purchasing institution, such as a school food authority (SFA) making the purchase or the State agency (SA) making purchases on behalf of SFAs. In other words, the purchasing institutions, such as SAs, SFAs, child care institutions and Summer Food Service Program (SFSP) sponsors, may specifically identify the geographic area within which unprocessed locally raised and locally grown agricultural products will originate. The purchasing institution must not define local in a manner that unnecessarily restricts free and open competition.

Q2: Does the geographic preference option for the procurement of unprocessed agricultural products apply to all Federal Child Nutrition Programs?

A: Institutions receiving funds through the Federal Child Nutrition Programs may apply an optional geographic preference in procurement of unprocessed locally grown or locally raised agricultural products, including the National School Lunch Program (NSLP), School Breakfast Program (SBP), Fresh Fruit and Vegetable Program (FFVP), Special Milk Program (SMP), Child and Adult Care Food Program (CACFP) and Summer Food Service Program (SFSP).

Q3: Can an SFA issue a solicitation that states, "We will only accept locally grown agricultural products from a State"?

A: No, the Federal laws allow institutions receiving funds through the Child Nutrition Programs to apply a geographic preference when procuring locally grown or locally raised agricultural products, as noted in the preamble of the geographic preference rule. The exclusion of all non-locally grown agricultural products is not a preference but rather a requirement of bidding and therefore is overly restrictive.

Q4: An SFA defined "local" as the entire State and issued a Request for Proposal (RFP). Can the SFA give a bidder geographic preference points if the bidder is incorporated outside of the State with its principal place of business outside of the State?

A: Yes, geographic preference in a procurement does not preclude a bidder from outside the specified geographic area from competing for, and possibly being awarded, the contract subject to geographic preference. The geographic preference applies to the unprocessed locally grown and locally raised agricultural product; it is irrelevant whether the bidder's business is incorporated or has a principal place of business in the State.

Q5: An SFA wants to issue an Invitation for Bid (IFB). How does an SFA incorporate geographic preference points into an IFB?

A: An IFB doesn't generally include preference points; instead, an SFA determines who is responsive based on the solicitation, and then from the responsive bidders the SFA awards the contract to the bidder with the lowest price. Therefore, it may not be feasible to incorporate "points" into an IFB in the same way as is done with an RFP. However, an SFA could write in the specifications that, for example, an apple must have been picked within one day of delivery or must have been harvested within a certain time period.

Additionally, the solicitation document must clearly outline how all bids will be evaluated, including the application of geographic preference in the scoring criteria. The following is an example of one approach on how to incorporate geographic preference points in an IFB:

> Geographic preference points in an IFB would be applied after the SFA determined the three bidders with the lowest price. The three bidders with the lowest price would be given a total of ten geographic preference points if those bidders met the geographic preference. In order to determine the winning bidder, the scoring criteria would clearly state that one point would equal one cent; in other words, ten points would translate into ten cents. If one or more of the responsive bidders with the lowest price met the geographic preference, ten cents would be taken off of their respective prices and that bidder could potentially win the bid. Note: Deducting ten cents from the prices of responsive bidders that met the geographic preference only applies to determining the winning bidder and would not affect the actual price paid to a bidder.
>
> In the following example, Bidder 2 meets the geographic preference and is given ten points which translates into deducting ten cents from Bidder 2's price. In this example, Bidder 2 still doesn't win the bid because Bidder 1 has a lower price.

	Bidder 1	Bidder 2	Bidder 3
Price	$1.97	$2.10	$2.03
Meets geographic preference?	No	Yes (10 points)	No
Price with preference points	$1.97	$**2.00**	$2.03

Q6: An SFA would like to prescribe geographic preference as a percentage in their solicitation (IFB or RFP). For example, the SFA would like to give a ten percent price

preference to bidders offering unprocessed locally grown and locally raised agricultural products. Can an SFA prescribe geographic preference as a percentage in their solicitation?

A: Yes, an SFA may prescribe geographic preference in their solicitation in terms of actual percentage (e.g., ten percent price preference). Geographic preference can be prescribed in terms of points or percentages. The solicitation document must clearly outline the scoring criteria and the method in which the criteria will be evaluated.

Q7: How many geographic preference points can an SFA assign to geographic preference? What is the maximum price percentage an SFA can assign to geographic preference?

A: The Federal regulations do not prescribe the number of preference points or maximum price percentage an SFA can assign to geographic preference. Generally speaking, any price preference (prescribed as points or percentage) impacts free and open competition. However, geographic preference may have a greater or lesser impact on free and open competition depending on the characteristics of the market. The SFA's application of the geographic preference option must leave an appropriate number of qualified firms, given the nature and size of the procurement, to compete for the contract, as it is imperative that the SFA does not unnecessarily restrict free and open competition.

Q8: Can SFAs split up large purchases into smaller amounts and thereby fall under the small purchase threshold?

A: SFAs cannot intentionally split purchases in order to fall below the Federal, State, or local small purchase threshold in an effort to avoid more rigorous procurement practices. However, there may be some instances in which the characteristics of a product or market support the need to separate selected products from the overall food procurement. For example, milk and bread are commonly procured separately because there are fundamental differences between them and other food products, such as shorter shelf-life, specialized pricing mechanisms, and durability. Similarly, an SFA may find that fresh produce may be considered a

separate market given that it shares similar characteristics as bread and milk, and may want to separate this procurement from their overall food procurement.

Q9: An SFA would like to conduct a procurement under the small purchase threshold. Can the SFA procure unprocessed locally grown or locally raised agricultural products directly from a local farmer?

A: Yes; however, the procurement must be conducted in a manner that maximizes full and open competition. According to the Federal regulations, the SFA can conduct a procurement under the small purchase threshold if the procurement is under $100,000 in value. States or localities may set a lower small purchase threshold and thereby impose more formal procedures. The SFAs should put the number, quality and type of goods in writing before contacting any potential offerors. When using the small purchase threshold, we recommend that at least three sources be contacted who are eligible, able and willing to provide the unprocessed locally grown or locally raised agricultural product. Contacting a minimum of three sources ensures that an adequate number of potential offerors will be afforded the opportunity to respond to the solicitation.

Q10: An SFA would like to conduct a procurement under the small purchase threshold. Can the SFA procure unprocessed locally grown or locally raised agricultural products directly from a teacher that works for one of the schools in the SFA's school district?

A: The procurement must be conducted in a manner that maximizes full and open competition. The Federal regulations prohibit an employee, officer or agent of the grantee or subgrantee (i.e., SA or SFA) to participate in the selection, award or administration of a contract if a conflict of interest, real or apparent, would be involved. A contract award to a teacher in an SFA's school district creates an appearance of impropriety and generates the question of whether or not free and open competition has been circumvented. Therefore, a conflict of interest, real or apparent, may be involved if a teacher that works for one of the schools in the SFA's school district is awarded a contract.

Q11: May an SFA give geographic preference to farmers in a neighboring country (i.e., Mexico or Canada) for foreign unprocessed agricultural products when procuring unprocessed locally grown or locally raised agricultural products?

A: An SFA must adhere to the Buy American clause which requires SFAs to purchase domestically grown foods to the maximum extent possible. An SFA may purchase foreign goods only if the two rare exceptions to the Buy American provision are met: (1) the product is not produced or manufactured in the U.S. in sufficient and reasonable available quantities of a satisfactory quality; and (2) competitive bids reveal the costs of a U.S. product is significantly higher than the foreign product.

Q12: A State regulation requires State governmental entities to give geographic preference to local State farmers and prescribes a method on how geographic preference can be incorporated in the State governmental entities' solicitation. Is an SFA required to follow the State's regulation on geographic preference?

A: No. Under the principles of federalism, a State has the right to create a regulation of this nature; however, the application of the State's regulation to the Federal Child Nutrition Programs is an entirely different matter. Please keep in mind that States cannot mandate through law or policy that institutions apply a geographic preference when conducting procurements for the Federal Child Nutrition Programs, because the National School Lunch Act (NSLA) grants this authority directly to the purchasing institution (i.e., SFA or SA making purchases on behalf of the SFA).

Q13: Where does an SFA go to obtain help in developing bid sheets that use geographic preference? Does USDA have examples of solicitations that use geographic preference?

A: An SFA should start by contacting its SA for assistance in developing bid sheets and for examples of solicitations that use geographic preference. USDA is in the process of creating

tools that will assist in this area. USDA has created an online training on procurement, *State Agency Guidance on Procurement*, that can be found at http://www.nfsmi.org. Additionally, the USDA Farm to School website (http://www.fns.usda.gov/cnd/f2s/) provides information on the procurement requirements, as well as Q&As directly related to local food purchases.

Unprocessed Agricultural Product

Q14: Can an SFA apply the geographic preference option in the procurement of ground beef?

A: As we stated in our policy memo dated November 13, 2009, we further amended the previous guidelines regarding what is to be considered to be unprocessed locally grown or locally raised agricultural products. In our view, for the purpose of applying a geographic procurement preference in the Child Nutrition Programs, unprocessed agricultural products means only those agricultural products that retain their inherent character. Size adjustment made by grinding does not change an agricultural product into a product of different kind or character. Therefore, an SFA can apply the geographic preference option in the procurement of ground beef if no other items such as additives or preservatives are added to the ground beef.

Q15: Can an SFA give geographic preference when procuring a frozen bag of combination local vegetables (e.g., broccoli, cauliflower and carrots) from a bidder?

A: Yes, the inherent character of the vegetables is retained and not modified by freezing or combining vegetables in a bag.

Q16: Can an SFA give geographic preference when procuring fresh local vegetables in portion sized or single serving bags (e.g., small bags of carrots) from a bidder?

A: Yes, the inherent character of the vegetables is retained and not modified by placing vegetables in portion sized or single serving bags.

Q17: Can an SFA give geographic preference when procuring canned local vegetables from a bidder?

A: No, the inherent character of the vegetables is not retained because the heating process involved in canning changes the agricultural product into a product of a different kind or character.

USDA Food & Nutrition Service

School Lunch Procurement

A basic understanding of how schools must purchase for the National School Lunch and School Breakfast Programs.

National Farm to School SE Region
Cooperative Extension F2S Conference
August 25, 2011

Kirk Farquharson
Senior Program Specialist
USDA Food and Nutrition Service

Overview

- Federal Regulations are the litmus paper.
  - Federal versus State or local procurement rules.
- What is a School?
- School nutrition programs must follow specific methods of procurement for the NSLP/SBP.
- Purchasing locally produced farm products (Geographic Preference).

Applicable Federal Regulations

- **7 CFR 3016** UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS TO STATE AND LOCAL GOVERNMENTS
- **7 CFR 3019** UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND AGREEMENTS WITH INSTITUTIONS OF HIGHER EDUCATION, HOSPITALS, AND OTHER NON-PROFIT ORGANIZATIONS
- **7 CFR 210** NATIONAL SCHOOL LUNCH PROGRAM
- **7 CFR 220** SCHOOL BREAKFAST PROGRAM

Federal Regulations

- 7 CFR 3016.36
  - 3016.36(b) *Procurement standards.* (1) Grantees and subgrantees (State agency and School Districts)will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.
  - State Agencies:
    - GA DOE
    - SC DOE
    - NC DPI

Federal Regulations

- 7 CFR 3019.40
  - Sections 3019.41 through 3019.48 set forth standards for use by recipients in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders. *No additional procurement standards or requirements shall be imposed by the Federal awarding agencies upon recipients, unless specifically required by Federal statute or executive order or approved by OMB.*

School Nutrition Program Procurement

- 7 CFR part 210.21 and 7 CFR 220.16
  - State agencies and school food authorities shall comply with the requirements of this part and 7 CFR part 3016 or 7 CFR part 3019, as applicable, which implement the applicable Office of Management and Budget Circulars, concerning the procurement of all goods and services with nonprofit school food service account funds.

School Nutrition Program Procurement

- 7 CFR 210.21(c):
  - The State agency may elect to follow either the State laws, policies and procedures or the procurement standards for other governmental grantees.
  - A school food authority may use its own procurement procedures ***which reflect applicable State and local laws and regulations, provided that procurements made with nonprofit school food service account funds adhere to the standards set forth in this part and §§3016.36(b) through 3016.36(i), 3016.60 and 3019.40 through 3019.48 of this title, as applicable***, and in the applicable Office of Management and Budget Circulars. School food authority procedures must include a written code of standards of conduct meeting the minimum standards of §3016.36(b)(3) or §3019.42 of this title, as applicable.

What is a school?

- 7 CFR 210.2
  - *School* means: (a) ***An educational unit of high school grade or under***, recognized as part of the educational system in the State and operating under public or nonprofit private ownership in a single building or complex of buildings; (b) ***any public or nonprofit private classes of preprimary grade when they are conducted in the aforementioned schools***; or (c) ***any public or nonprofit private residential child care institution***, or distinct part of such institution, which *operates principally for the care of children*, and, if private, is licensed to provide residential child care services under the appropriate licensing code by the State or a subordinate level of government,
  - *except for* residential summer camps which participate in the Summer Food Service Program for Children, Job Corps centers funded by the Department of Labor, and private foster homes.

What is a School?

- The term "residential child care institutions" includes, but is not limited to:
  - homes for the mentally, emotionally or physically impaired, and
  - unmarried mothers and their infants;
  - group homes; halfway houses;
  - orphanages;
  - temporary shelters for abused children and for runaway children;
  - long-term care facilities for chronically ill children; and
  - juvenile detention centers.

A long-term care facility is a hospital, skilled nursing facility, intermediate care facility, or distinct part thereof, which is intended for the care of children confined for 30 days or more.

What is a nonprofit private ownership organization?

- Nonprofit private ownership means an organization or agency that is *recognized by the IRS as a Section 501(c)(3) organization*.
  - Tax-exempt under Section 501(c)(3) means the organization is organized and operated exclusively for exempt purposes set forth in section 501(c)(3), and none of its earnings may inure to any private shareholder or individual. In addition, it may not be an *action organization, i.e.*, it may not attempt to influence legislation as a substantial part of its activities and it may not participate in any campaign activity for or against political candidates.
- Nonprofit private ownership organizations must already be 501(c)(3) tax exempt before they can participate in the NSLP/SBP.

What Procurement Processes Must School Nutrition Programs Follow?

- Full and Open Competition,
- Use local procurement rules and use the following methods:
- Methods of Procurement
  - Small Purchase Procedures or Simple/Informal Procurement
  - Sealed Bids or Formal Advertising
  - Competitive Proposal or Request for Proposal (RFP)

Full and Open Competition

- 3016.36(c)
  - All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of §3016.36. Some of the situations considered to be restrictive of competition include but are not limited to:
    - (i) Placing unreasonable requirements on firms in order for them to qualify to do business,
    - (ii) Requiring unnecessary experience and excessive bonding,

Full and Open Competition

- (iii) Noncompetitive pricing practices between firms or between affiliated companies, (collusion)
- (iv) Noncompetitive awards to consultants that are on retainer contracts,
- (v) Organizational conflicts of interest,
- (vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and
- (vii) Any arbitrary action in the procurement process.

Full and Open Competition

- (2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. ***(FNS does allow Geographic Preference for some food products.)***

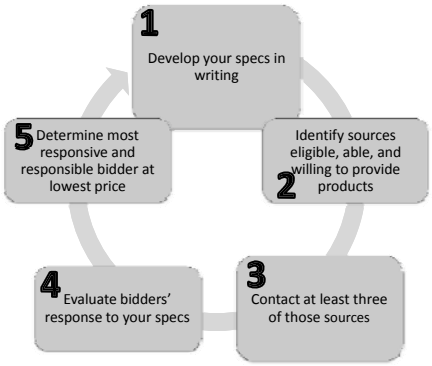
Local rule

- 7 CFR 210.21(c): A school food authority may use its own procurement procedures ***which reflect applicable State and local laws and regulations, provided that procurements made with nonprofit school food service account funds adhere to the standards set forth in this part and §§3016.36(b) through 3016.36(i), 3016.60 and 3019.40 through 3019.48 of this title, as applicable***, and in the applicable Office of Management and Budget Circulars. School food authority procedures must include a written code of standards of conduct meeting the minimum standards of §3016.36(b)(3) or §3019.42 of this title, as applicable.

Methods of Procurement

- Small Purchase Procedures or Simple/Informal Procurement 3016.36(d)(1)
  - Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold [SAT] fixed at 41 U.S.C. 403(11) [currently the Federal SAT is set at $100,000. Some local SAT are as low as $5,000]. If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources. **(FNS recommends three or more qualified sources.)**

Informal Procurement:



Methods of Procurement

- Sealed Bids /Formal Advertising 3016.36(d)(2)
  - Procurement by *sealed bids* (formal advertising)bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price.

Methods of Procurement

Sealed Bid/formal Advertising

- (i) In order for sealed bidding to be feasible, the following conditions should be present:
  - (A) A complete, adequate, and realistic specification or purchase description is available;
  - (B) Two or more responsible bidders are willing and able to compete effectively and for the business; and
  - (C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

Methods of Procurement

Sealed Bid/formal Advertising

- (ii) If sealed bids are used, the following requirements apply:
  - (A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;
  - (B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

Methods of Procurment

Sealed Bid/formal Advertising

- (C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;
- (D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and
- E) Any or all bids may be rejected if there is a sound documented reason.

Formal Procurement:

Methods of Procurment

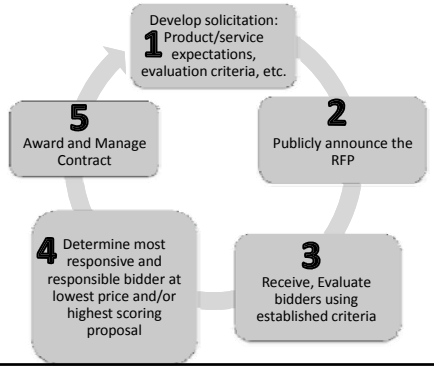
- Competitive Proposals (RFP) 3016.36(d)(3)
  - The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:
    - (i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

Methods of Procurement

Competitive Proposals (RFP)

- (iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and
- (v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

Competitive Procurement:



Methods of Procurement

- Noncompetitive proposals 3016.36 (d)(4)
  - Procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.
    - (i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:
      - (A) The item is available only from a single source;
      - (B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

Methods of Procurement

Noncompetitive Proposals

- (C) The awarding agency authorizes noncompetitive proposals; or
- (D) After solicitation of a number of sources, competition is determined inadequate.
  - » (ii) Cost analysis, *i.e.* , verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.
  - » (iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

Geographic Preference

- **7 CFR 210.21(g) and 7 CFR 220.16(f)**
  - *Geographic preference.* (1) A school food authority participating in the Program, as well as State agencies making purchases on behalf of such school food authorities, *may apply a geographic preference* when procuring *unprocessed locally grown or locally raised agricultural products*. When utilizing the geographic preference to procure such products, the *school food authority* making the purchase *or the State agency making purchases* on behalf of such school food authorities *have the discretion to determine the local area* to which the geographic preference option will be applied;

Geographic Preference

- (ii) Proposals will be solicited from an adequate number of qualified sources;
- (iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

Geographic Preference

- (2) For the purpose of applying the optional geographic procurement preference in paragraph (g)(1) of this section, ''unprocessed locally grown or locally raised agricultural products'' means only those agricultural products that **retain their inherent character**.

Geographic Preference

- The effects of the following food handling and preservation techniques shall not be considered as changing an agricultural product into a product of a different kind or character: Cooling; refrigerating; freezing; size adjustment made by peeling, slicing, dicing, cutting, chopping, shucking, and grinding; forming ground products into patties without any additives or fillers;

Geographic Preference

drying/ dehydration; washing; packaging (such as placing eggs in cartons), vacuum packing and bagging (such as placing vegetables in bags or combining two or more types of vegetables or fruits in a single package); the addition of ascorbic acid or other preservatives to prevent oxidation of produce; butchering livestock and poultry; cleaning fish; and the pasteurization of milk.

Where do I find this guidance?

http://www.fns.usda.gov/cnd/governance/regulations.htm

http://www.fns.usda.gov/cnd/F2S/f2spolicy.htm

GA: Valerie Bowers, Program Manager, GA DOE Office of School and Community Nutrition
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NC: Lynn Harvey, Section Chief, NC DPI Child Nutrition Services Section
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USDA Food & Nutrition Service

Benefits of Gardening for Children

Gardening provides different forms of engagement for children, including designing, planting, and maintaining gardens; harvesting, preparing, and sharing food; working cooperatively in groups; learning about science and nutrition; and creating art and stories inspired by gardens. The studies summarized below have been selected because they include control groups, pre- and post-measures, well controlled correlations, or in-depth qualitative analyses. For more studies and an analysis of this research, see reviews by Blair (2009) and Robinson-O'Brien, Story and Hein (2009).

Key Studies

Lifelong Benefits

In a nationwide telephone survey of 2,004 respondents, people who reported picking flowers, fruits or vegetables, planting trees, taking care of plants, or living next to a garden in childhood were more likely to show an interest in gardening as they aged and to form lasting positive relationships with gardens and trees (Lohr & Pearson-Mims, 2005). In two interview studies with adult gardeners (sample sizes of 18 and more than 100), most respondents recalled vivid positive memories of play and exploration in childhood gardens, which inspired garden ideas and a desire to garden later in life (Francis, 1995; Gross & Lane, 2007).

Positive Social and Interpersonal Skills

When third to fifth grade students who participated in a one-year gardening program filled out a survey of life skills, they showed a significant increase in self-understanding and the ability to work in groups compared to nonparticipating students (Robinson & Zajicek, 2005). Youth interns in community gardens reported increases in maturity, responsibility and interpersonal skills (Hung, 2004). In a community garden program in San Antonio, qualitative interviews of teachers, parents, a principal and 52 second and third grade students revealed that children were likely to have positive bonding experiences with their parents and other adults (Alexander, North, & Hendren, 1995). These findings are consistent with research that indicates that community gardening projects "grow" community (Glover, 2004).

Healthy Eating and Nutrition

Children who grow their own food are more likely to eat fresh fruits and vegetables (Canaris, 1995; Hermann et al., 2006; Libman, 2007; McAleese & Rankin, 2007; Pothukuchi, 2004) or express a preference for these foods (Lineberger & Zajicek, 2000; Morris & Zidenberg-Cherr, 2002). Garden programs often include lessons on nutrition, resulting in greater knowledge about healthy eating (Koch, Waliczek & Zajicek, 2006; Morris & Zidenberg-Cherr, 2002;

Science Achievement and Attitudes Towards Learning

Fifth grade students who participated in school gardening activities scored significantly higher on science achievement tests than students who had a curriculum without garden experiences (Klemmer, Waliczek, & Zajicek, 2005). Evaluations of the Junior Master Gardener program in Indiana (Dirks & Orvis, 2005) and Louisiana (Smith & Motsenbocker, 2005) also found greater science achievement gains among gardening students compared to control groups. Gardening activities can be integrated into all areas of the school curriculum, making learning more meaningful (Canaris, 1995). Parent involvement, shown to enhance student achievement (Henderson & Mapp, 2002), increases at schools with garden programs (Alexander, North, & Hendren, 1995).

Design Skills and Environmental Stewardship

Even young children can contribute to designs that make gardens enjoyable places (Whiren, 1995) and older children can competently design and create gardens and garden

programs with a range of elements and themes (Canaris, 1995; Heffernan, 1994; Lekies et al., 2006). Second and fourth grade students in a school gardening program in Texas showed significantly more gains in proenvironmental attitudes than students in a control group, and the more outdoor experiences they had, the more positive their attitudes (Skelly & Zajicek, 1998). In a qualitative assessment of an intergenerational gardening project, students expressed an increased understanding of ecology, interconnections in nature, and responsibility to care for the environment (Mayer-Smith, Bartosh & Peterat, 2007).

Special Populations

According to observations, interviews and journals, a multicultural school gardens programs for recent immigrants provided a space where children could share their cultural heritages, feel a sense of belonging, and form connections to the local environment (Cutter-Mackenzie, 2009). When juvenile offenders assessed their participation in a horticultural training program, most believed that it sparked their interest in further education, gave them ideas for green careers and improved their job skills (Flagler, 1995). Pre- and post-tests of juvenile offenders in a Green Brigades program that involved learning horticultural techniques and working on community landscaping found that participants increased their levels of self-esteem (Cammack, Waliczek & Zajicek, 2002a), horticultural knowledge and proenvironmental attitudes (Cammack, Waliczek & Zajicek, 2002b). Gardening has long been recognized as a therapeutic healing activity which can positively impact mental health and well-being (Ulrich, 1999).

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Reasons Why Teachers/Parents Should Consider A School Garden Project

- It is a truly motivating experience for children
- Soon the state will begin testing for science (and we already have to) show evidences of science instruction
- Can be integrated across the curriculum easily
- Can be a theme for an entire school
- Teaches a good life skill/leisure time activity
- You would be joining a nationwide movement
- All kinds of resources available to you
- Great way to integrate parent participation
- Addresses obesity prevention and increases physical activity
- Has year-round possibilities
- Can easily be adapted to each teacher's comfort level
- Hands-on learning which can be connected to classroom learning
- Addresses different learning styles
- Builds sense of community within a classroom/school

Easy Steps for Teachers:
Creating a Classroom Garden

1- **Start early.** Make plans for your garden in *January*. Think about where and what you're going to plant, as well as resources in your community. Who might donate a few seed packets? Who could help with preparing the seed bed if your students aren't old enough? You may want to contact your local high school or community college. Students in Ag programs could potentially offer labor, plants and/or planting advice. Garden Club members can often offer their time to give you an extra hand. Start with a small space, turning over the soil with a shovel. To reduce weeds remove grass and roots as you turn the soil or cover it will plastic for a month before hand. Most soils that sustain grass are fine for growing vegetables. You may want to incorporate some compost into the soil if available.

2- **Send home a wish list** with your students**.** Many parents have old tools lying around that they don't use or would be happy to donate seeds, gloves, compost or mulch.

3- **Tell teachers and administration about what you are doing.** Showing your school's administration and other teachers how you are tying the garden into curriculum will build support and encouragement. You might even inspire others to get involved!

4- **Start small.** The first year that you do a garden with your students, don't feel pressure to have a big harvest. You don't have to plant lots of different crops. Classroom gardens should be more about the experience and magic of planting rather than what is produced. A small successful project is something you can build on each year.

5- **Planting in the classroom.** Some types of plants need to be started indoors months before they can be planted outside. Most seed packages will give you a recommendation as to when seeds should be planted and if they need to be started indoors. If you have good light or grow lamps you and your students can plant "starts" beginning in February. If you don't start seeds yourself, you can buy starts at tailgate markets or greenhouses beginning in April. ASAP's Growing Minds website (www.growing-minds.org) has lesson plans (correlated to standard course of study objectives for 3rd grade) that walks you through the process of doing starts in the classroom.

6- **Choose a few things to plant:**

The following are considered "cool season vegetables", which can be directly seeded outside in *March or April:*

Lettuce Chard Radishes
Collard greens Mustard greens Carrots
Kale Spinach Peas
Spring Mix Beets Potatoes

All of these veggies should be ready to harvest (except potatoes, which are dug in the late summer/fall) before school lets out!

The following fruits and vegetables are considered "warm season", and can be planted in *May*, after the danger of frost has passed. Make sure to check the seed packages, because many warm season plants (such as tomatoes and peppers) need to be started indoors or purchased as transplants.

Most of these crops will not be ready to harvest until into the summer or fall:

Tom	atoes	Beans	Peppers
Squash	Melons	Pum	pkins
Zucchini		Gourds	Eggplant

7- **Lesson plans.** ASAP's Growing Minds website (www.growing-minds.org) includes a Lesson Plans page that will help you use hands-on garden experiences to fulfill standard course of study objectives. This site also provides more in-depth information on how to start a school-wide garden program. If you do not have internet access, please contact Emily Jackson or Molly Nicholie for printed information and resources at (828) 236-1282.

8- **Upkeep.** Depending on the size of your garden, mulching and weeding can be more than young kids can take care of. If you find that you have more upkeep than you and your students can handle, ask a parent or community volunteer to come in occasionally to help. If you plant summer or fall crops, you may want to enlist a family or volunteer to help maintain your plot over the summer. If not, a weedy garden can be a great source of adventure when students return to school. When it doesn't rain, make sure to water thoroughly at least once per week so that that soil always stays moist.

9- **Routines.** Established routines are great for students and gardens alike. Students look forward to "garden time" and benefit from being involved in maintenance, as well as harvesting. Having "garden time" at least once a week to plant, water, weed, or just observe will ensure your students are engaged in the growing process, and that your garden is getting the attention it needs.

10- **Keep it fun!** Students love to work in the garden, and it can be a powerful and fun way to teach concepts from early literacy to math. One look at a child engaged in the wonder of growing or eating vegetables they once scoffed at, and all of the work of planning your garden will pay off!

Literacy Beds

This idea was stolen from a school in Alexandria, Virginia…creating a garden bed based on the information in a certain piece of children's literature (they used Beatrix Potter's *Peter Rabbit)*. Of course this is only limited by yours and your children's imaginations, but the basics are to include as many of the props that figure prominently in the book and since it's a garden, to grow everything mentioned in the book. My take on this, being a gardener, is that in Storybook Land, they don't have to quite get the facts straight about horticulture and so I improvise. If the book includes growing veggies that don't actually grow at the same time (peas and corn, for instance) then I recommend planting whatever is supposed to be planted when you are doing this and providing a substitute for the other. The substitute could be as fancy as a plywood-painted piece of corn or a child's drawing laminated (it should withstand the weather). You can also have a child color a picture of the cover of the book, so that everyone in your school knows what you are doing.

What? You don't have any gardening experience? Super! You actually get to model learning for your students instead of just pretending to learn to learn! Resources for learning about gardening (people always come to mind first): parents or grandparents (latter more likely), a local farmer (look in the ASAP Local Food Guide or online at www.BuyAppalachian.org), Cooperative Extension, or maybe one of your students!

So, there you have it! Sound easy? Well, here are some pieces of literature (in no particular order) that you might consider and what you might do with each of them:

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Tops and Bottoms by Janet Stevens – talk about a lesson of parts of the foods we eat (roots, stems, leaves) and a lesson on trickster tales to boot! Props might include an Adirondack chair and foot stool, aluminum lawn chairs and a wooden vegetable sign. The bear and rabbits are also props (done in plywood, or stuffed animals) and the bear wears men's shoes and a tie with bees on it and the rabbits wear a hat and shirts with veggies (carrots) on it. Following the book, you would plant: carrots, radishes, beets, lettuce, broccoli, celery, corn. Kids think this book is such fun so it should be a popular one to do!

The Lorax by Dr. Seuss – a lesson on recycling…you could plant a thneed garden (remember, thneeds are things you don't need)…plant seeds and transplants (anything you want, but please include veggies (easy lesson for nutrition)) in old rusty buckets, old shoes, in anything you might salvage! These items could easily be brought from home by your children. You could also build a strange tree that would be the Truffala Tree (lesson on extinction).

Scarecrow by Cynthia Rylant – hate to play favorites but this is the one! I usually start a gardening program with children (or adults for that matter) reading this book. You could do a choral reading with this book (have children select their favorite lines and then read them one after the other) to get the gentle, calm lesson across. Props could include: scarecrows (duh! But you could also send popsicle sticks home and have all your kids make teeny scarecrows), the main scarecrow should include all the important elements (pie pan hands, suit, button eyes, hat, worm living in lapel…it never fails that some kid will ask me what a lapel is). What you would grow: sunflowers, beans, pumpkins. You could also include the owls, rabbits, spiders, birds and worm mentioned. You could research all these things for projects! Find out the significance of why Rylant chose the birds she did (birds that no one cares much for, often considered pesky birds). You could write stories from the perspective of the scarecrow. Endless possibilities with a piece of literature this rich.

How Groundhog's Garden Grew by Lynne Cherry – what a romping garden you'd have if you planted everything in this book! You can really tell that gardens are a dear subject of Cherry's. This could be the nutrition project to beat all! Won't even go into all the things you would plant. Props could include: a squirrel, a groundhog, trellis, wren, praying mantis (buy these from a mail order and release in your garden!), seed markers, pictures of seed to seedling to plant (life cycle of plants), small compost bin (easy to make out of chicken wire)…this one could keep you busy! In the back of the book, Lynne Cherry writes a letter to the reader and gives contact info where the children can write to get more info on children's gardening fun. Again, endless!

Growing Vegetable Soup by Lois Ehlert – turn this into an author study as Ehlert also writes other books that you could include (Eating the Alphabet, Planting a rainbow). Your props for this book would need to be, in my opinion, brightly painted to stay with the style of Ehlert. Props: shovel, rake, hoe, gloves, seed packs, watering can, bushel basket, basket, pail, soup pot, ladle, hand grubber, spading fork. Again, numerous things to plant.

I think you get the idea…other books to consider: *The Ugly Vegetables, Moonflower, Grandpa's Too Good Garden, Eddie's Garden and How to Make Things Grow, The Carrot Seed, Growing Colors*, *Sunflower Sal* coupled with *Ten Seeds, Scarlette Bean, Who's garden is it*, *What's This?*, *The Little Mouse, the Red Ripe Strawberry and the Big Hungary Bear*, *Mrs. Spritzer's Garden*, *Harvest, And the Good Brown Earth,* and *Muncha, Muncha Muncha*…have fun!

Other considerations and recommendations

Those planning and planting the school garden should review your school's rules and regulations. Some plants that can cause serious allergic reactions may be prohibited.

If the garden is near parking areas or other high-traffic zones, consider testing for contaminants before growing fruits and vegetables. Many states have agriculture extension services that can help with this. If building a raised-bed garden, consider purchasing soil meant for food production from an established retail entity to ensure soil safety and traceability.

If your school has a composting program for cafeteria waste, use the resulting compost for flowers, ornamental plants and trees rather than for garden beds where food is grown. Compost that comes from garden waste can be applied to food-growing beds if deemed appropriate by the school garden supervisor and/or compost coordinator.

Be sure to coordinate with school grounds-keeping or custodial staff about your garden's goals, protocols and maintenance plan. If you are concerned about the presence of pesticides on or near your garden, be sure to communicate that, too. Consider using your school garden as an educational tool that can teach students about food safety procedures and incorporate curricula that teach to these issues in your garden educational plan.

Be sure that your school garden program is aligned with any relevant school district policies including, but not limited to, wellness policies, school procedures for receiving gifts and donations, working with parent and community volunteers, and liability policies.

"Last week we had a salad with lettuce from the greenhouse. It was amazing to know that we had grown some of that food...If I hadn't done this in school I never would have done this. I'm glad that I did." 8th Grader

These best practices were created as a collaborative effort among school garden practitioners from across the country. Thanks to Kelly Erwin, Deb Habib, Tegan Hagy, Noli Hoye, Dana Hudson, Marion Kalb, Emily Jackson, Catherine Sands, and Amy Winston. This was created with the support of the National Farm to School Network www.farmtoschool.org

Fresh, Healthy, and Safe Food:

Best Practices for Using Produce from School Gardens

School Gardens serve as exciting living laboratories and are an important component of Farm to School efforts. The bounty from school gardens can contribute to the school cafeteria, students' families, or be used in classroom and afterschool taste-testing activities.

The following practices are intended to provide basic food safety guidelines for those involved with school gardens. They include principles from Good Agricultural Practices and safe food handling procedures and are intended to serve as a framework that may easily be adapted to meet individual school settings and regional requirements. The safety benefits of fresh food grown on site include the avoidance of potential contamination that accompanies long-distance travel (where products frequently change hands) and control over the supply chain direct from garden to table.

Safe handling information should be provided to students, teachers, and others involved in growing, harvesting, and preparing. In addition to the many benefits of fresh food, healthy activity, and learning, your school garden can be an educational tool that helps teach students about food safety procedures.

"We were able to plant the spinach and then we ate the spinach and that was really great." 1st Grader

"Between the excitement introduced into the curriculum, the nutritional benefits, the hands on sense of accomplishment and the sense of pride, the school has never had such a wonderful opportunity to integrate learning and connect it to real life." Teacher

Growing Practices

All organic matter should be fully composted in aerobic conditions and at high temperatures prior to application. Avoid raw manure and limit composted manure to what can be purchased from a commercial outlet to ensure traceability.

When using water for irrigation make sure it is potable and from a tested source. Check with your state cooperative extension or state health offices for simple testing kits.

If soil used for growing is coming from school property, test for contaminants before planting. Testing kits are usually available through your state same as water testing above.

There are many places to purchase seeds for your school garden, so be conscious of where your seeds come from and consider source and quality. Look for those that are preferably non-genetically modified, and come from companies that have taken a “safe seed pledge.”

No synthetic pesticides or herbicides should be used, preventing toxic residue on food and avoiding human and environmental exposure to pesticides.

Materials used for garden beds, containers, stakes or trellises should be constructed of non-toxic, non-leaching material (no pressure treated wood or used tires).

Harvesting and Handling

Students, staff, parents or volunteers involved in harvesting should wash hands thoroughly in warm soapy water for at least 20 seconds prior to harvesting. Anyone with open cuts or wounds on their extremities should not participate in harvest until they have healed.

All harvesting tools--scissors, bowls, tubs--should be food-grade and/or food service approved and designated solely for harvest and food handling. The tools should be cleaned regularly with hot water and soap, then dried.

School Garden produce delivered for use in a school cafeteria should be received and inspected by food service personnel upon delivery with the same system used to receive and inspect all other incoming products.

If storage is necessary, produce should be cooled and refrigerated promptly after harvest. Temperatures vary on type of produce being harvested; specific post-harvest storage and transportation temperatures can be found at http://postharvest.ucdavis.edu/produce/storage/index.shtm

School Garden produce should be washed according to the same standards that the cafeteria has in place for conventionally received produce. A person with ServSafe or comparable food-safety certification should supervise students, parents, or staff who participate in any food preparation--i.e., taste-testings or special cafeteria events.