



SEASON CREATION

PROFESSIONAL DEVELOPMENT PROGRAM

PARTNERSHIP & FUNDING PROVIDED BY
RURAL ACTION + SARE



ADVANCED SERIES WORKSHOP:

THE GREEN EDGE MODEL

History: Timeline



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Green Edge Organic Gardens

2004: Green Edge Gardens, a certified organic farm, starts out with 4 employees and one greenhouse, which had been previously used to grow landscape



2004



2004: We sell our produce at the Athens Farmer's Market and to restaurants in Athens and Columbus



Nov '05: Microgreen house built

2005: Packing room and 2 new greenhouses constructed

2005

2006: Green Edge has 8 employees and 3 interns

2006

May '06: Green Edge acquires the fresh mushroom division of Mushroom Harvest Inc.

Dec '06: Athens Hills CSA begins, with Winter '07 CSA: 46 full or half share members

2007



2007: Green Edge has 8 employees and 3 interns

2008



Winter '09: Bread, milk, and fruit introduced into the CSA as partner items

2009

Winter '08 CSA: 85 full or half share members



2009: Green Edge has 10 employees and 3 interns

2010

Summer '10: Integration Acres cheese share introduced into

2011: Green Edge has 11 employees and 3 interns

2011



March '12: Green Edge has 13 employees, and will have 4 full time interns beginning in April

2012

Fall '12: New drainage system added to 6 greenhouses



Fall '12: Green Edge partners with a local nonprofit, Rural Action, to offer a series of educational

2013

Winter '09 CSA: 105 full or half

Fall '10: A new drainage system is excavated in the fields

Winter '10 CSA: 143 full or half share members



Winter '11 CSA: 157 full or half share members

April '11: Equipment shed built

Fall '11: 2 new greenhouses constructed, for a total of 10 houses devoted to vegetable production

Winter '12 CSA: 193 full or half share members



Winter '13: CSA expands to Belpre,

Winter '13 CSA provided 194 full shares each week, with over 260 households participating



Why We Grow in Winter



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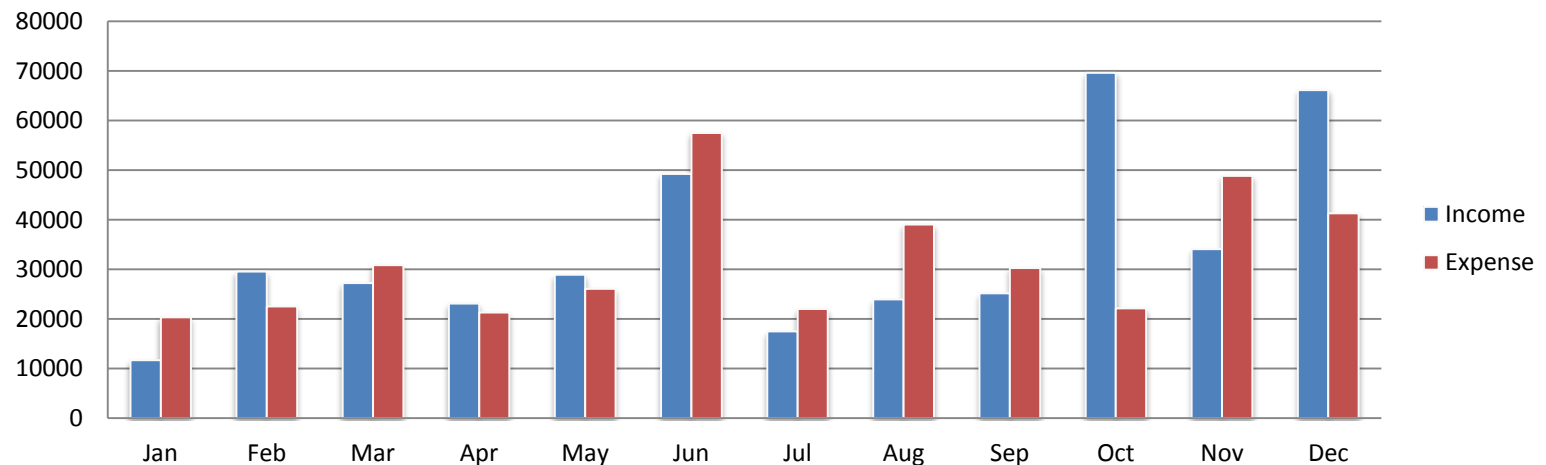


To Increase Profitability:

- With few farmers growing vegetables year-round, winter gardening has allowed our farm to corner the market and retain customers
- Depending on the type of crop, Green Edge earns between \$8,000-\$12,000 from each high tunnel green house (mid-November through April)
- Using the CSA model to sell the majority of our produce, Green Edge has a more balanced income throughout the year, rather the income concentrated in the summer months (most CSA customers pay up front for the 20-week season)



2012 Income and Expense by Month



Why We Grow in Winter

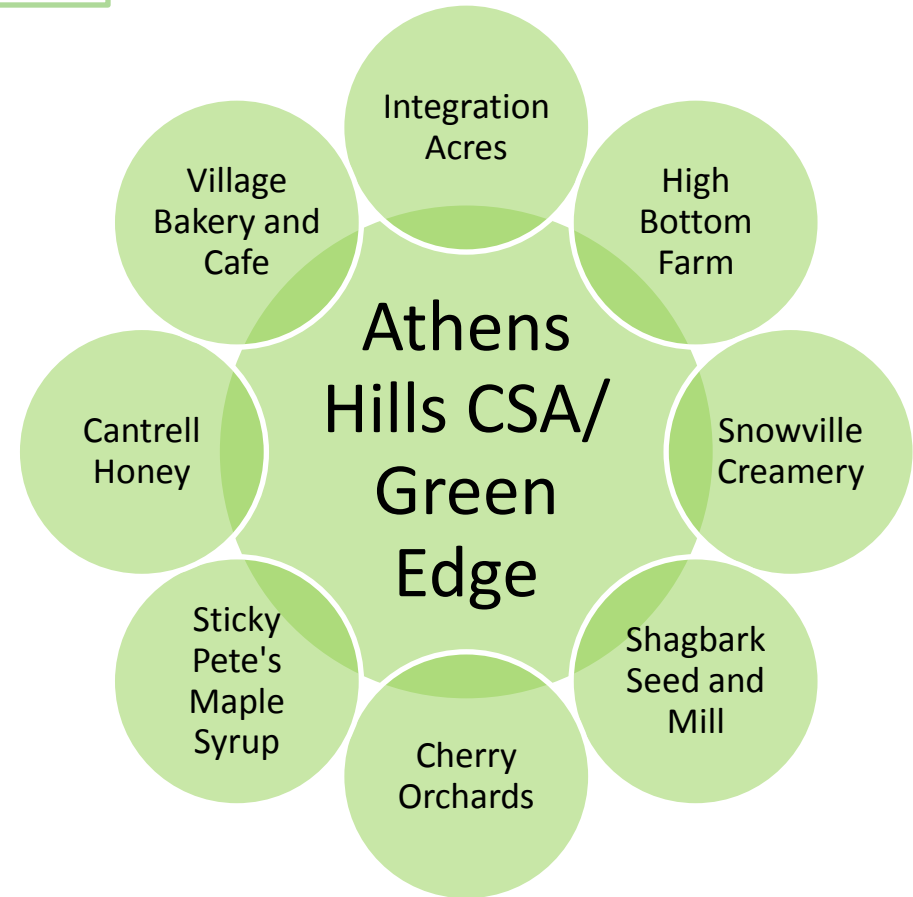


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To Support the Local Food Economy:

- In 2013, we paid our partner farms and businesses \$32,000 for local products (bread, cheese, eggs, milk, maple syrup, honey, fruit) sold through our CSA in summer, and \$27,000 in winter for a total of over \$59,900.



To Serve a Consistent Customer Base:

- In 2012, Green Edge sold 84% of its produce at retail prices, through the year-round Athens Farmers Market (24%) and the Athens Hills CSA (60%)
- Our Winter 2013 CSA season provided vegetables to over 250 families in the Athens, Columbus, and Belpre areas, delivering nearly 200 bags each week. Our CSA customers join and pay in advance for a 20-week season.

Green Edge Marketing Story



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2004
When the business was acquired, we marketed to:

- Athens Farmers Market
- local restaurants
- broker who resold our products (Mushroom Harvest)
- Attempted to work with local institutions

1 greenhouse
•4 employees
•0 apprentices

2007
We sought out wholesale accounts (Some worked out, many did not)

- Added:
- Columbus chefs
- wholesale local sales meetings with verbal agreements -January
- Whole Foods
- Acquired former broker company (Mushroom Harvest)

4 greenhouses
•8 employees
•3 apprentices

2009-2010
Moved to a greater retail focus (Diversification is key)

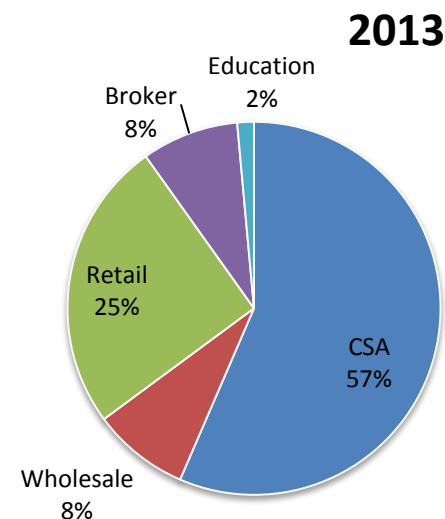
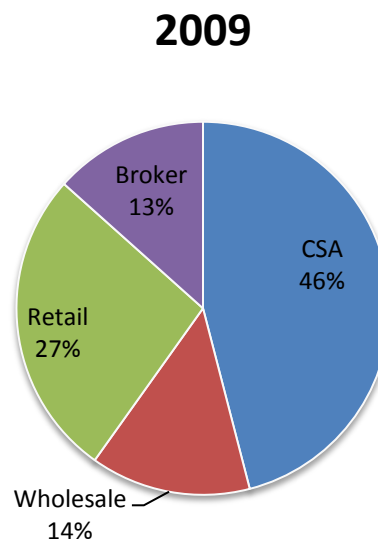
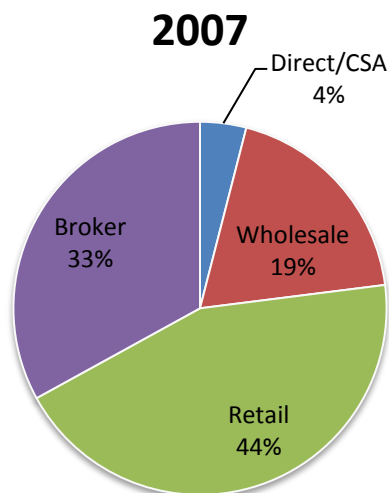
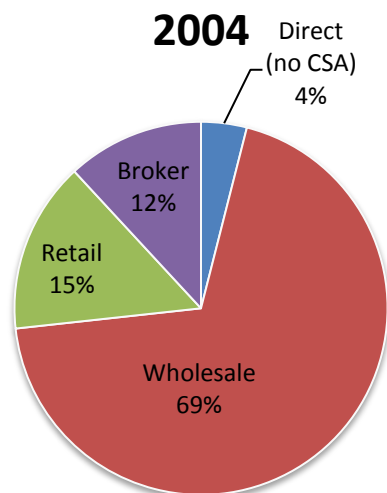
- CSA first
- Then Athens Farmers Market
- Leftovers go to wholesale (important for reducing waste)

6 greenhouses
•10 employees
•3 apprentices

2013
Increased production, focused on efficiency and new systems

- Adjusted CSA to lower enrollment
- Resulted in an increase in market sales
- New field and raised beds were created

10 greenhouses
•13 employees
•4 apprentices



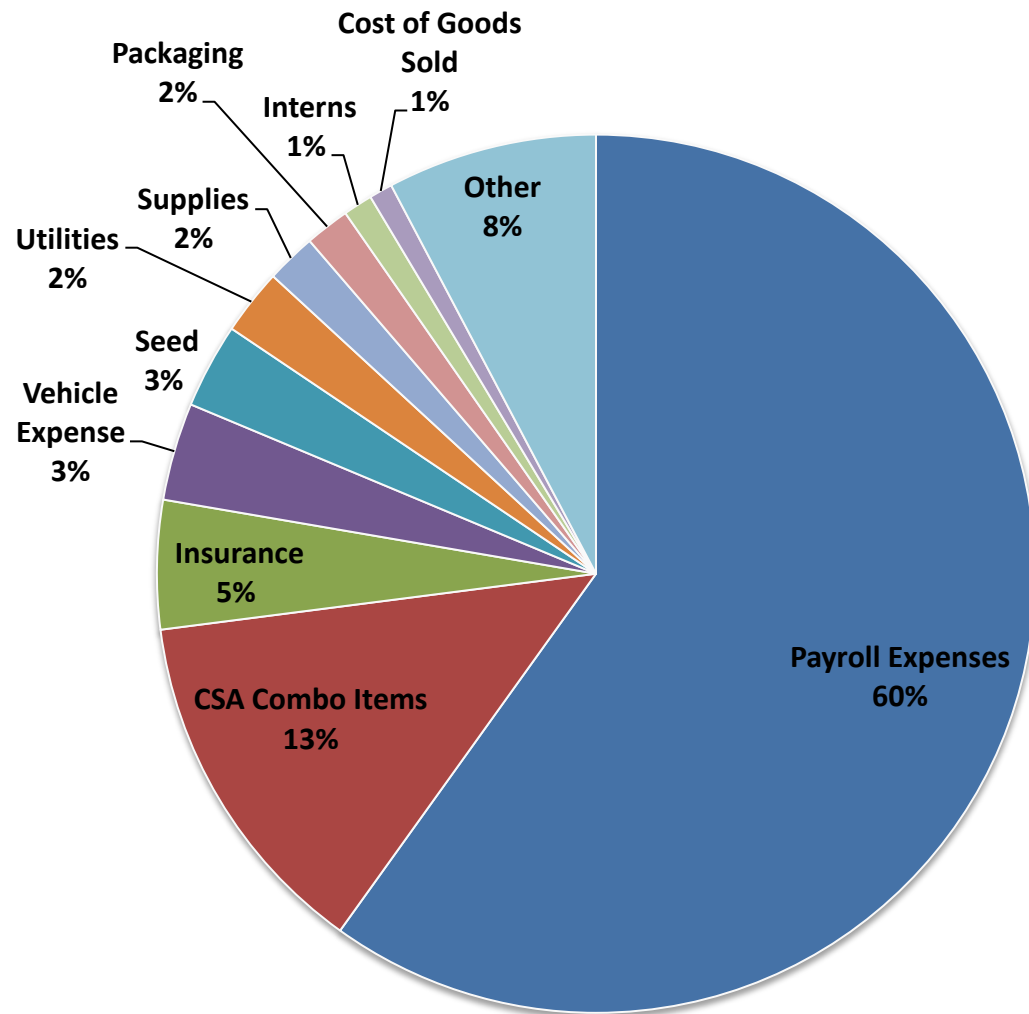
Business and Marketing



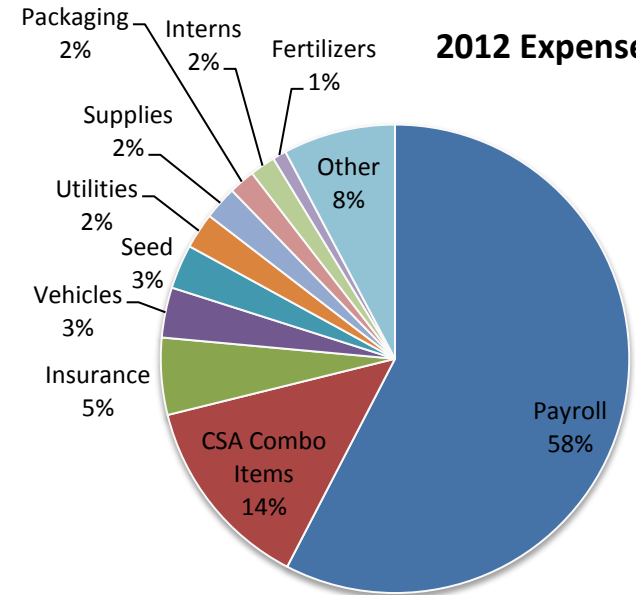
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2013 Expenses



2012 Expenses



- Analyze last year's costs in reference to the budget
- Review, analyze, and calculate payroll costs including expected raises, benefits, and taxes
- Predict this year's costs including inflation + known large item purchases
- Review last year's cost increases to evaluate our prices; are increases needed?
- Annual budget is prepared knowing there are built-in excesses

- Review sales and categories from previous year
- What can we be expanded or shrunk to give us the best advantages?

Valuing Vegetables



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Money Makers

- **Appealing to all customers**
- **Good profit margin**
- **Little competition**
- **Major demand**
- sunflower microgreens
- micromix microgreens
- mushrooms
- tomatoes
- beets
- carrots
- ginger
- arugula
- swiss chard
- kale
- spinach
- cilantro

Crops Grown for CSA and Market Variety

- **Loss leaders**
- **Okay to grow because it is already sold through the CSA**
- **Plant in limited amounts**
- **Investigate partnering**
- beans
- broccoli
- cucumbers
- eggplant
- collards
- mustard
- Asian greens
- dill
- parsley
- basil
- peppers
- per. herbs
- potatoes
- sweet potatoes
- radishes
- green onion
- radishes
- green onions
- turnips
- rutabaga
- summer squash

Seasonal Fillers

- **Crops to take to market while we transition the greenhouses to summer crops and wait for field plantings to mature**
- asparagus
- rhubarb
- peas
- broccoli (spring)

CSA: value at retail price comparable to market and stores

Market: must be in range of others selling the same type of produce (organic is a factor)

Wholesale: bound by distribution
Broker: Set price and keep it

Valuing Vegetables: Greenhouse Income



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	Season	Yield (#/bed)		WS Price (per #)	Retail Price (per #)	market packaging	% sales in retail	% sales in WS	\$ per bed @ retail only		\$ per bed @ WS only	
		Minimum	Maximum						Minimum	Maximum	Minimum	Maximum
Arugula	winter	75	-	\$ 4.00-5.50	\$ 10.00-11.00	\$2 for 3 oz	100	0	\$ 750.00	\$ 825.00	-	-
Spinach	winter	200	300	\$ 5.00	\$ 6.00	\$3 for 8 oz	95	5	\$ 1,200.00	\$ 1,800.00	\$ 1,000.00	\$ 1,500.00
Kale	winter	400	500	\$ 2.00	\$ 3.30-4.00	\$2.50 for 10-12oz	80	20	\$ 1,320.00	\$ 2,000.00	\$ 800.00	\$ 1,000.00
Lettuce	winter	200	250	\$ 6.50	\$ 9.71-10.67	\$3 for 4.5oz / \$8.50 for 14oz	80	20	\$ 1,942.00	\$ 2,665.50	\$ 1,300.00	\$ 1,625.00
S. Chard	winter	500	700	\$ 2.00	\$ 3.30-4.00	\$2.50 for 10-12oz	70	30	\$ 1,650.00	\$ 2,800.00	\$ 1,000.00	\$ 1,400.00
Carrots	winter	300	-	N/A	\$ 5.33-6.00	\$3 for 8-9 oz	100	0	\$ 1,599.00	\$ 1,800.00	-	-
TOTAL for 6 beds									\$ 8,461.00	\$ 11,890.50	\$ 4,100.00	\$ 5,525.00

		Range*	Range*
Spinach	95% retail	\$ 1,140.00	\$ 1,710.00
	5% WS	\$ 50.00	\$ 75.00
	TOTAL	\$ 1,190.00	\$ 1,785.00

		Range*	Range*
Kale	80% retail	\$ 1,056.00	\$ 1,600.00
	20% WS	\$ 160.00	\$ 200.00
	TOTAL	\$ 1,216.00	\$ 1,800.00

		Range*	Range*
Lettuce	80% retail	\$ 1,553.60	\$ 2,132.48
	20% WS	\$ 260.00	\$ 325.00
	TOTAL	\$ 1,813.60	\$ 2,457.48

		Range*	Range*
S. Chard	70% retail	\$ 1,155.00	\$ 1,960.00
	30% WS	\$ 300.00	\$ 420.00
	TOTAL	\$ 1,455.00	\$ 2,380.00

	Retail/Wholesale mix		
	Minimum	Maximum	
Arugula	\$ 750.00	\$ 825.00	RETAIL PRICE
Spinach	\$ 1,190.00	\$ 1,785.00	
Kale	\$ 1,216.00	\$ 1,800.00	RETAIL PRICE
Lettuce	\$ 1,813.60	\$ 2,457.48	
S. Chard	\$ 1,455.00	\$ 2,380.00	
Carrots	\$ 1,599.00	\$ 1,800.00	
Total for 6 beds:			
	\$ 8,023.60	\$ 11,047.48	

These totals give us an approximation for income per greenhouse in the winter growing season, based on how much we typically sell in wholesale and retail markets.

*Range reflects the variance in yield per bed

Predicting Sales and Covering Costs



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Restaurants' purchasing habits can vary dramatically from year to year; some anticipate steady growth, while others expect to maintain a very consistent purchasing pattern. It is not always possible to learn this ahead of time, but valuable information to predict sales.

Year	Restaurant A	Restaurant B
2004	\$10,200	\$3,400
2006	\$9,914	\$8,900
2008	\$9,270	\$13,000
2010	\$9,600	\$11,000
2012	\$9,200	\$13,200

An example of how our sales have changed over time for two restaurants



14 ft. box truck delivers once per week to Columbus and pickup truck with an 8 ft. box deliver food to wholesale, market and CSA customers

In order to offset these costs, the truck must be full to the Columbus delivery run. This includes CSA shares, produce grown on the farm, and products bought and sold from others farms and businesses.



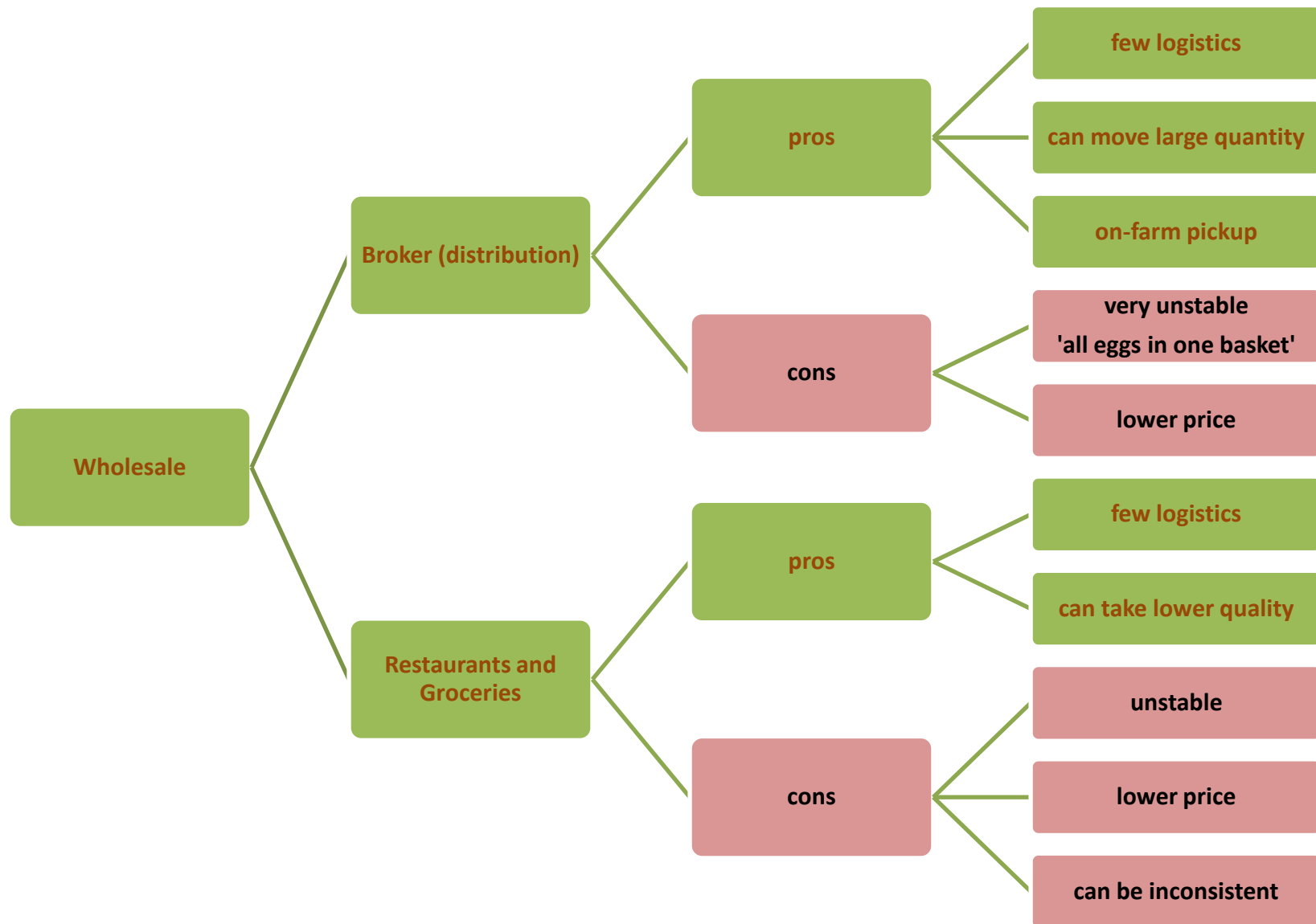
Annual Trucking Costs for Columbus Delivery (2012)

Fuel	\$6,164.00
Repair	\$3,347.00
Total	\$9,511.00

Understanding the Market



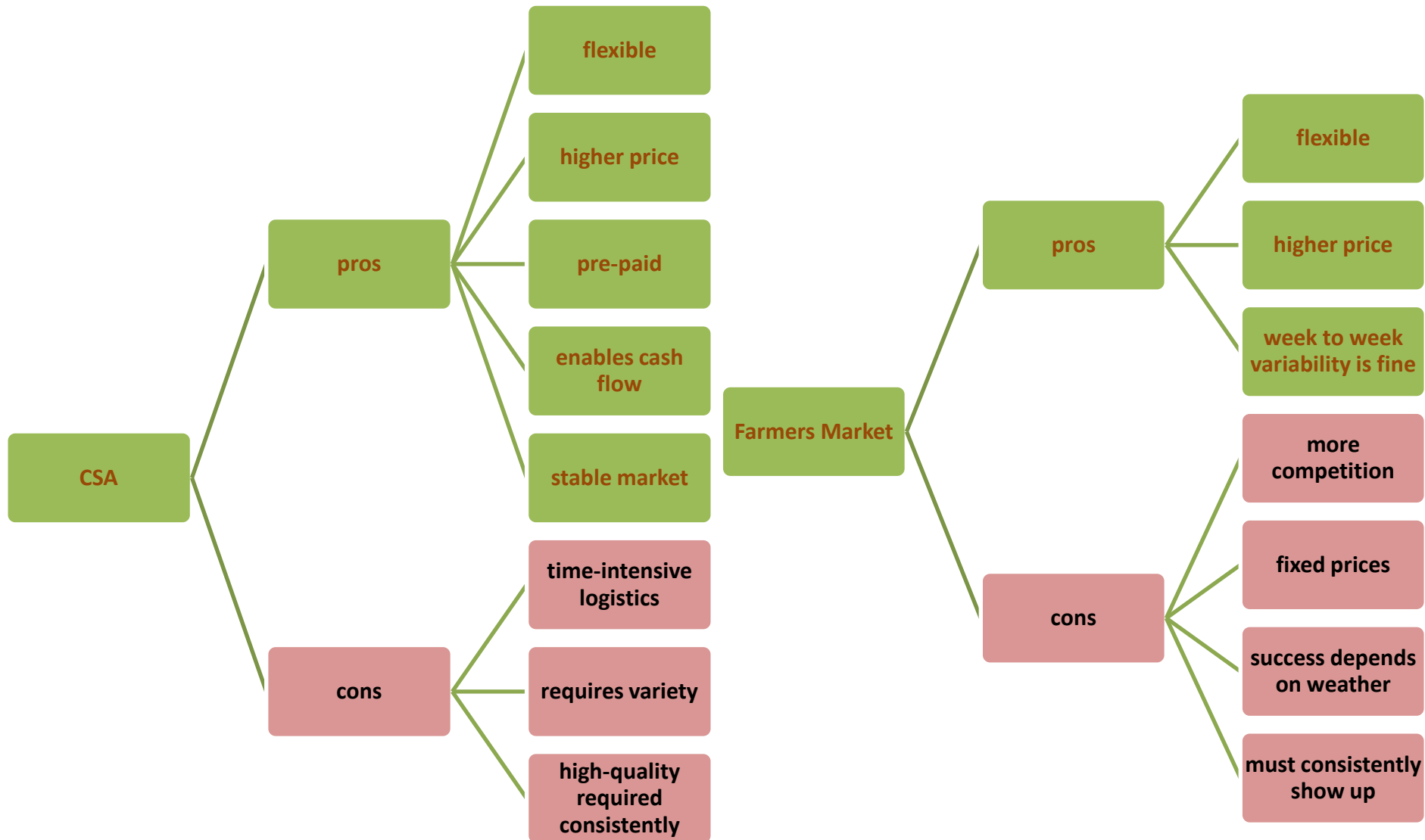
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Understanding the Market



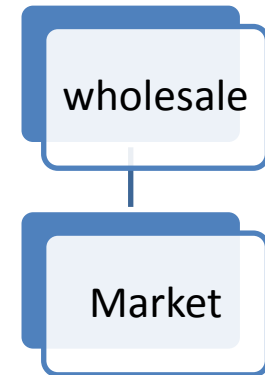
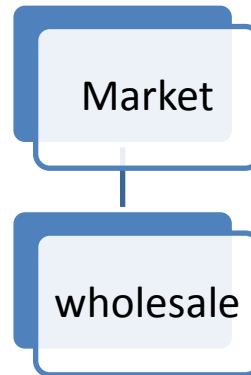
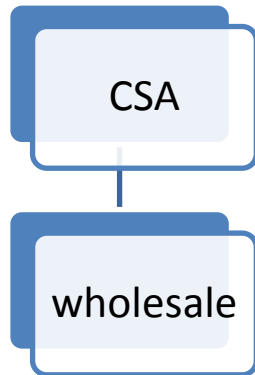
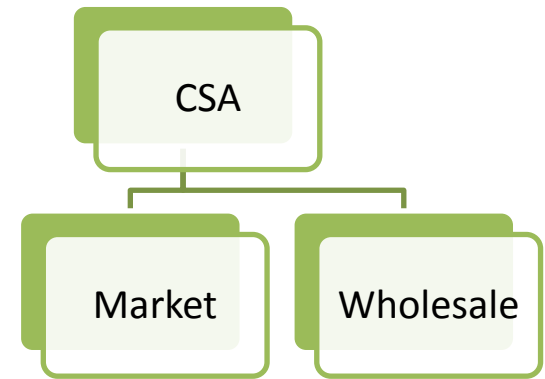
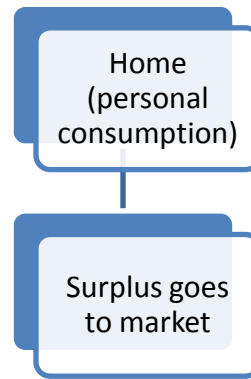
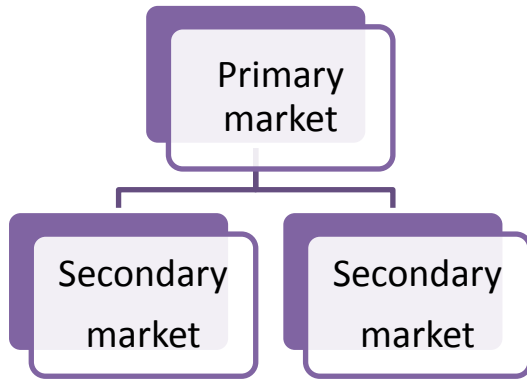
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Marketing Models



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These are a few examples of how you might focus your sales. Most farms choose a primary market to be their focus, and one or two others to sell surplus or to help boost sales. The previous slides can help you to assess what model might work best for you.

Moving Forward...



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Annual Inspections for Compliance:

- O.E.F.F.A.** - Organic inspection; detailed review of all inputs, purchases, sales, records, etc; 1/year (scheduled)
- O.D.A.** - harvest and handling; facilities; 1/year (unannounced)
- F.D.A.** – packing room; labels; packing room procedures; tracking; required registration with Homeland Security of ‘food processing facility’; 2/year (unannounced)



Training :

Current – employees regularly switch responsibilities to provide a better understanding of all the processes at the farm

Planned – update current employee policy and manual; GAP training for all employees; review for all employees of proper safety including equipment, procedures, lifting, etc....



Infrastructure: Greenhouses

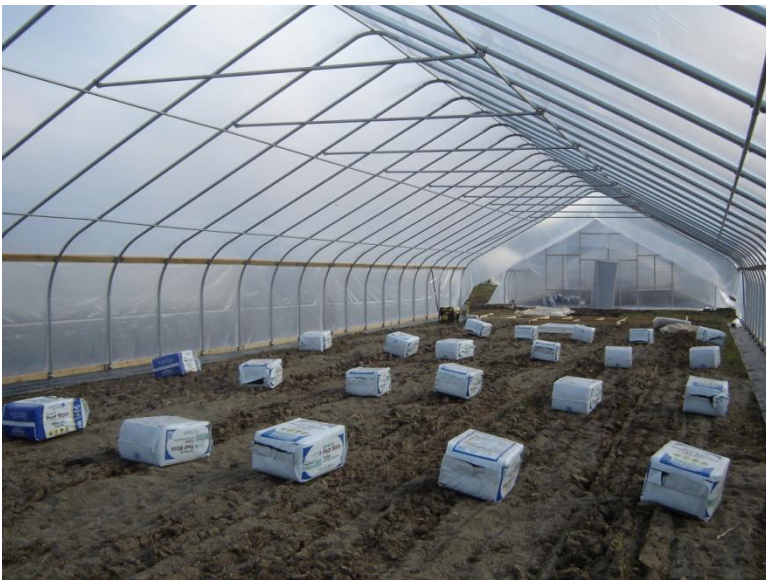


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Considerations:

- Orientation:
narrow end faces
prevailing wind
- Crowning the soil
to elevate the site
- Amending the
soil
- Drainage system



Infrastructure: Greenhouses



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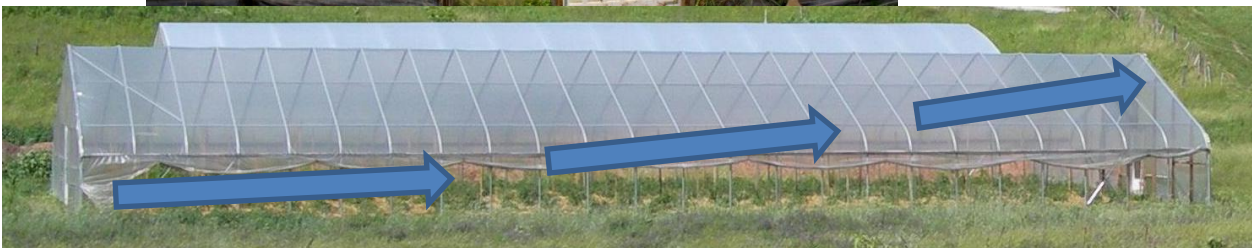


GREEN
EDGE
GARDENS
Certified Organic



Provides Natural Self- Ventilation:

Oriented so narrow end faces prevailing wind;
the lower vent doors are on west side; upper vent
doors on the east side



Infrastructure: Covering Systems



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Between November 2010 and April 2011, covering took place on about 123 days .

- We uncover the plants in the morning unless the temperature is 10°F or less and it is severely overcast.

3 types of covers: fabrics (.90 oz, 1.25 oz/SqYd.) & plastic, each applied separately and removed manually.

- When the temperature is going to drop below 27°F, cover with fabric.
- When the temperature is going to drop below 25°F, cover with fabric and plastic.

Transitioning our System: Old method: Two employees per greenhouse (uncover time: 90 worker minutes, cover time: 60 worker minutes)

New system: 1 person uncovers in 6 minutes, or 2 people in 1 minute (time savings on uncovering: 70 worker minutes), 1 person, 1 minute per house to cover (time savings 50 worker minutes)



Sun's Out: Uncover



No Sun: Cover Up

Infrastructure: Water



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Water moves
from the
ponds to the
pump house
and UV filter



Then to the
irrigation tanks
and through
hoses into
greenhouses



Infrastructure: Start House



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- A heated house, uses hydronic heat system, powered by a hot water tank
- Closed circuit heating system, operating at 20# pressure, using a small, circuit pump (A/C)
- More efficient way to heat, as opposed to heating air
- The hot water hoses lay on tables, above a layer of insulation; trays sit directly on the hose; water temperature is approximately 140 degrees

