



GREEN  
EDGE  
GARDENS  
*Certified Organic*

# SEASON CREATION

## PROFESSIONAL DEVELOPMENT PROGRAM

PARTNERSHIP & FUNDING PROVIDED BY  
RURAL ACTION + SARE



**Rural Action**  
Working Together to Revitalize Appalachian Ohio



# AN INTRODUCTION TO SEASON CREATION: THE GREEN EDGE MODEL

# Why We Grow in Winter



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## To Provide Stable Employment:

One of the largest employers in the village of Amesville and Ames Township, with 8 full-time year round employees, 3 part-time employees, and 4 seasonal interns who join us for the summer season (not including farm owners Kip and Becky)



Photo by Meg Roussos



Sample CSA shares from  
January and February



- By providing year-round agricultural jobs, Green Edge can maintain more skilled workers, and spend less time retraining new crew members each season.

# Why We Grow in Winter



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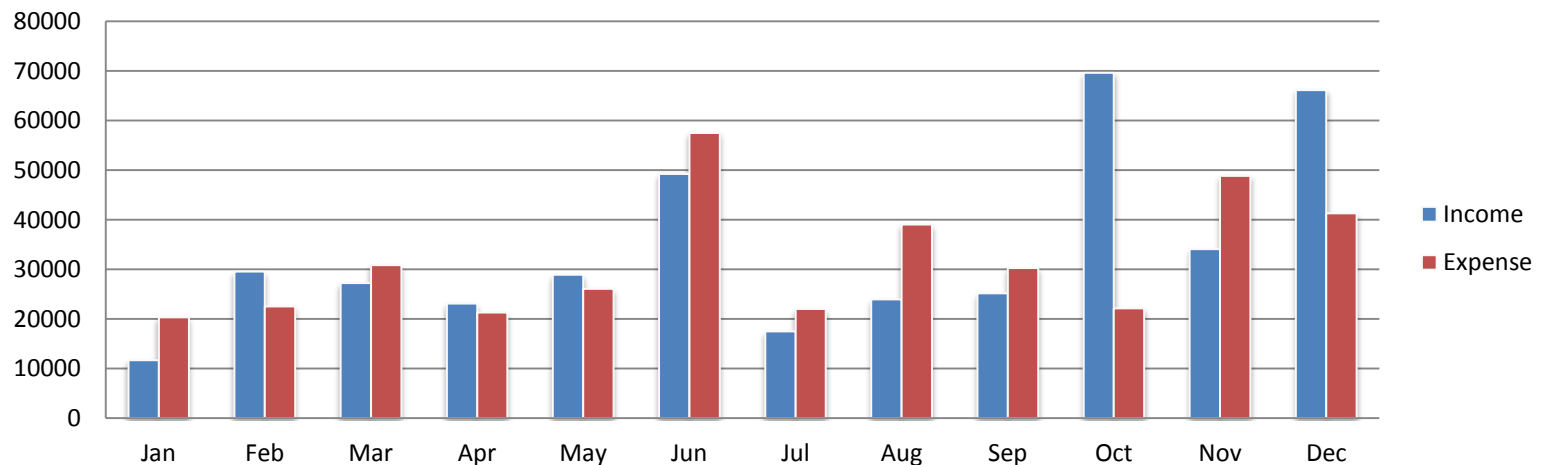


## To Increase Profitability:

- 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-\$13,000 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

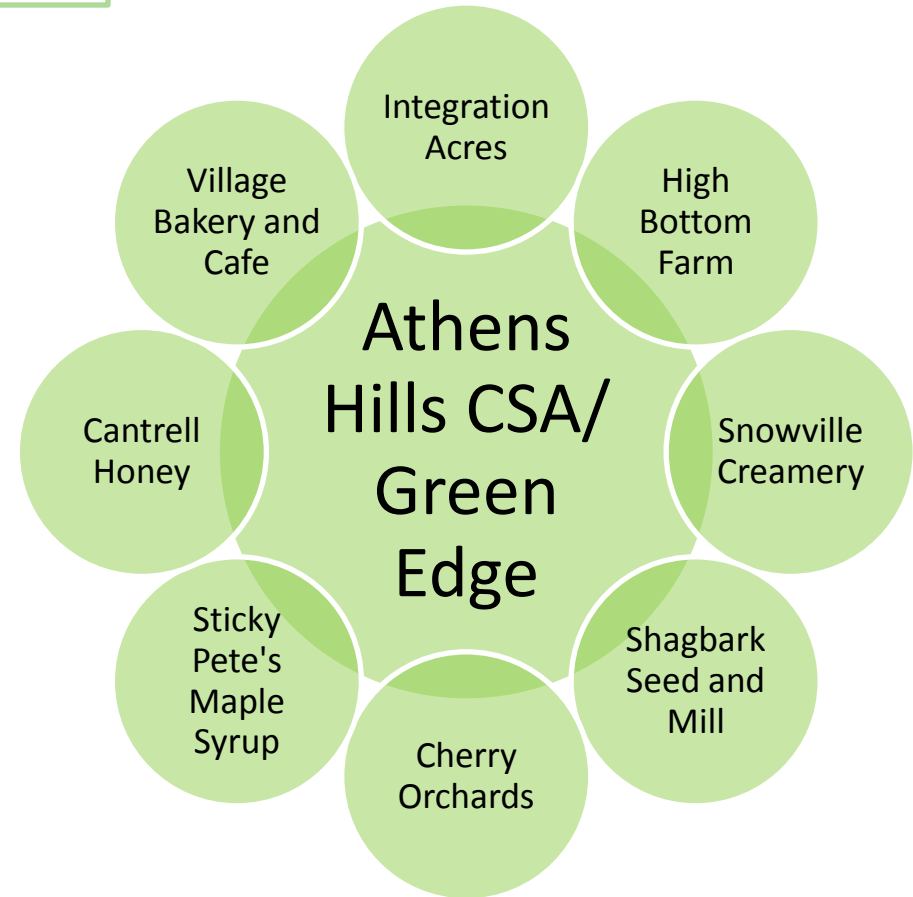


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## To Support the Local Food Economy:

- Last season, we paid our partner farms and businesses \$27,000 for local products (bread, cheese, eggs, milk, maple syrup, honey, fruit) sold through our CSA, and last summer we paid over \$24,000



## 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.

# History: Timeline



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## Green Edge Organic Gardens

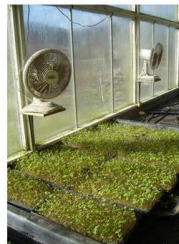
2004: Green Edge Gardens, a certified organic farm, starts out with 4 employees and one greenhouse, which had been previously used to grow landscape



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.



2007

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

2007: Green Edge has 8 employees and 3 interns

2008



Winter '08 CSA: 85 full or half share members



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

2009



2009: Green Edge has 10 employees and 3 interns

2010

Summer '10: Integration Acres cheese share introduced into

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

2011

2011: Green Edge has 11 employees and 3 interns



Winter '11 CSA: 157 full or half share members

April '11: Equipment shed built



2012

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

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

Fall '12: New drainage system added to 6 greenhouses



Winter '12 CSA: 193 full or half share members



Winter '13: CSA expands to Belpre,

2013

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

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



# Currently...



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- Our current CSA supplies 194 full shares each week in Athens, Columbus and Belpre, reaching over 260 households.
- We employ ten employees full time and three part-time and offer 4 summer internships for aspiring farmers.

- The Athens Farmers Market provides access to a vibrant 12-month retail venue.

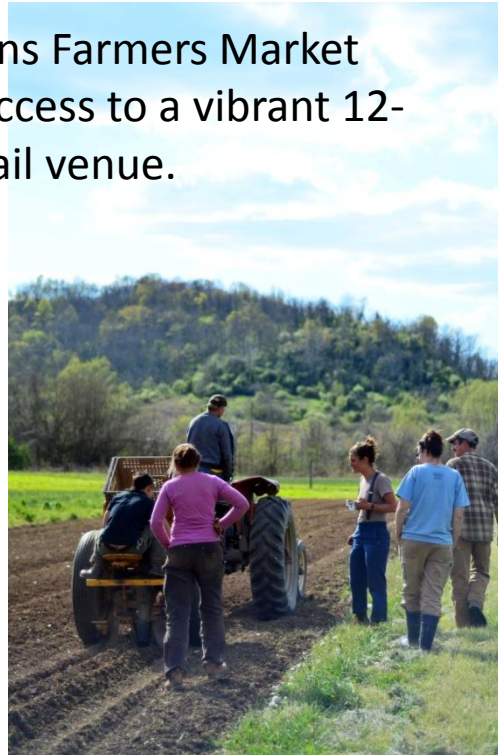


Photo by Emily Hammon



Photo by Meg Roussos

# Infrastructure: Greenhouses

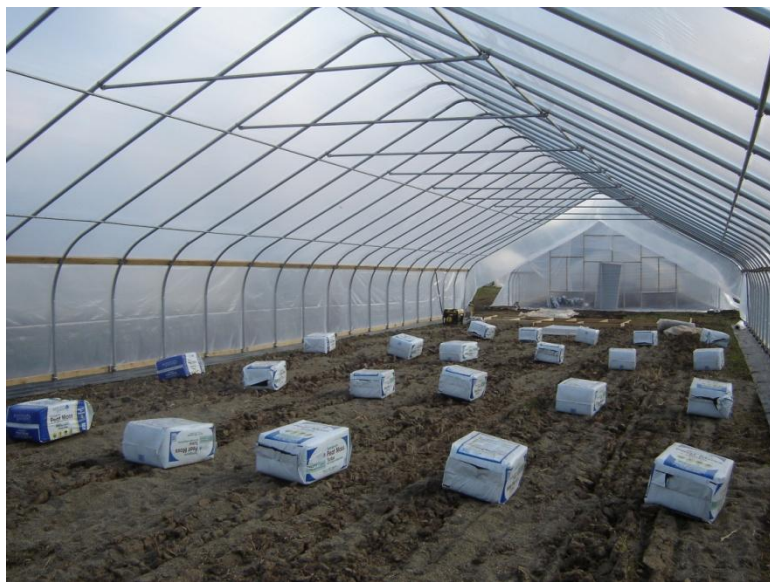


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## Considerations:

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



# Infrastructure: Greenhouses



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## 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



# Infrastructure: Packing



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## Main Packing Room



Recently  
winterized  
outdoor  
rinse  
station

All packing facilities use a  
municipal water source

# Infrastructure: Storage and Delivery



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Storage: Walk-in Coolers,  
winter storage crop bunker

Delivery:  
14 ft. box truck  
and pickup  
truck with an 8  
ft. box deliver  
food to  
wholesale,  
market and  
CSA customers



# Winter Growing: Planting and Harvest Schedule



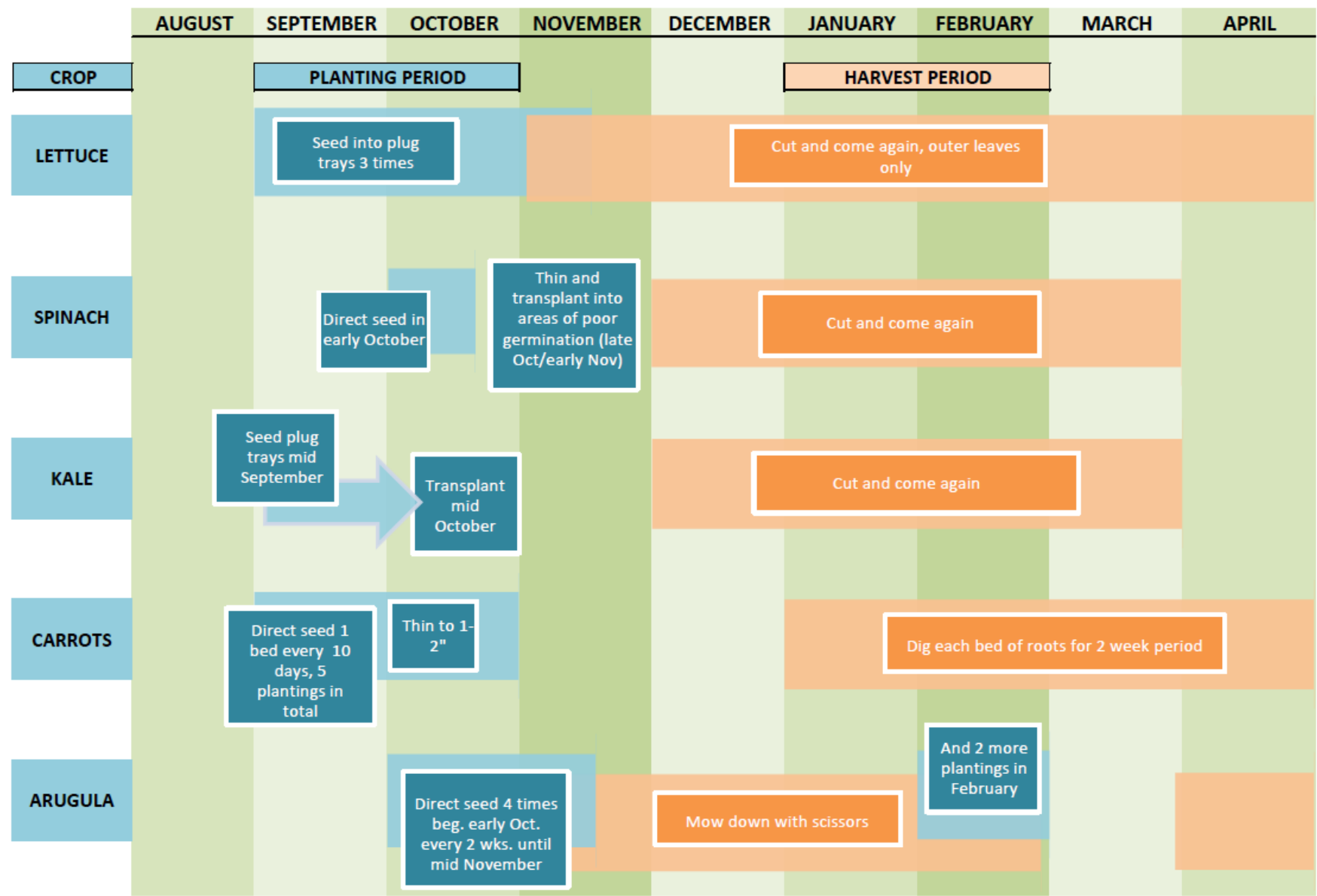
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Timing and sticking to the schedule is key to winter success

Be patient

# Winter Growing: Planting and Harvest Schedule



# Winter Growing: Climatic Threats



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heat (sun), cold, wind, cloud cover, air flow



Timely action and close observation  
will increase yields





# Winter Growing: Pests and Disease



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Red-legged black mites,



aphids



cabbage worms



Disease

Downy mildew  
on lettuce



rodents

Time invested in nurturing  
healthy soil will prevent a  
multitude of pests and  
disease



Stem rot

# Winter Growing Threat: Weeds



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Ground Ivy



Chickweed

## Green Edge Crop Threats

Crop	Pest threats	Disease and threats	Weed pressure
Arugula	none	base rot	high pressure, weed well to avoid loss of time + efficiency during harvest
Carrots	rodents	base rot root rot	high pressure, must keep well weeded, because tops grow slowly and carrots are easily shaded out
Cilantro	none	none	high pressure (grows quickly, so weed thoroughly)
Dill	none	none	high pressure (takes a long time to mature)
Green Onions	onion maggots	none	high pressure, onions take very long time to mature and do not shade out well
Lettuce	aphids red-legged black mites	downy mildew base rot	high pressure, must keep well weeded or yields will fall
Radishes	slugs rodents	none	low pressure (grow so quickly)
Salad mix (Mesclun Greens)	aphids	downy mildew base rot	high pressure, weeding will cut down on time for future cuttings during harvest
Swiss chard	slugs	cercospora leaf spot	low pressure (grows above them)

**Be diligent and thorough**

# Labor Management



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## Management Team

Dan:

Scheduling

Crop Management

Planting

Harvesting

Kip:

Construction

Deliveries

Repairs/Projects

Becky:

Finances

Sales

Marketing



Assigning responsibility and quality mentoring can create self-sufficient employees

## Farm Crew Roles

*Responsibilities are divided among full time staff:*

Planting

Harvesting

Fallow fields/Cover crops

Irrigation

Pest management

Weeding

Grounds/Mowing

Packing room manager

Greenhouses

Daily log

Fertilization

Compost

Farmers Market

Inventory

Delivery

Storage

# Labor Management



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Create structure: Clear expectations and consistent communication can prevent many misunderstandings



NOTES WEEK: FARM TOUR:

- Matt
- Dan
- Natalie
- Rob
- Jane
- Mark
- Emily

**TIME OFF**

\* please note in office as well!

- 3-22 & 3-28
- 2/22-24
- 3-30 or 31
- 3/23-28
- 3/30-3/31

**LABOR SCHEDULE / FEBRUARY**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3	4	5	6	7	8	9
17	18	19	20	21	22	23
24	25	26	27	28	1	2
DAN'S HOURS	8-4	8-4	8-5	8-4	8-3	OFF

Crew schedule board

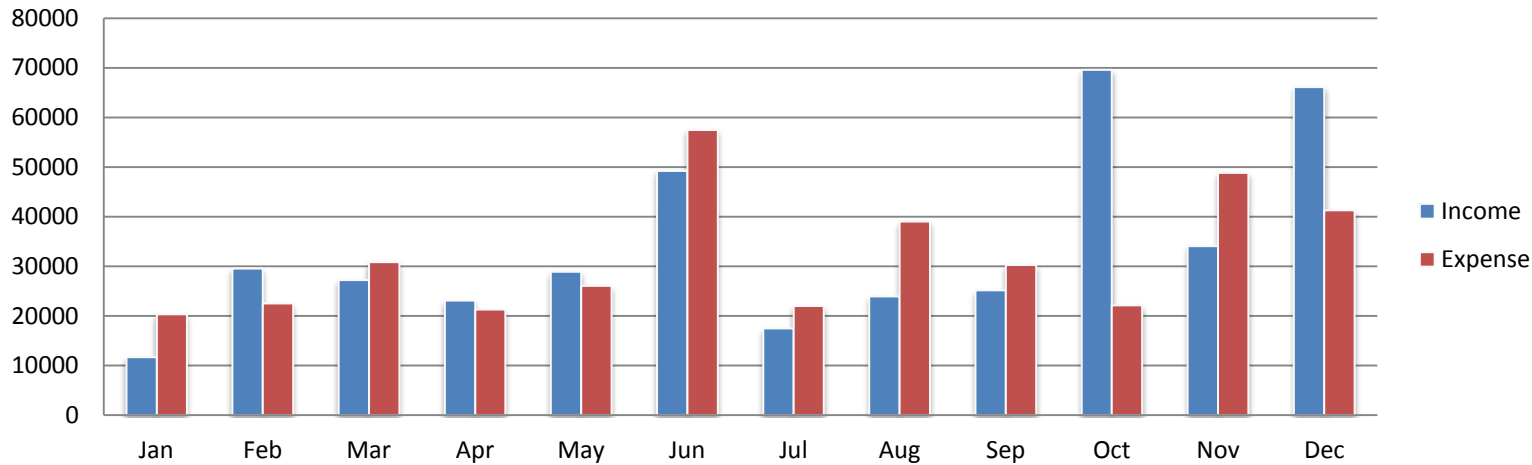
# Business and Marketing



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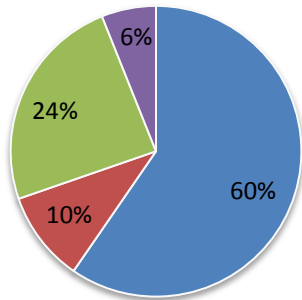
## 2012 Income and Expense by Month



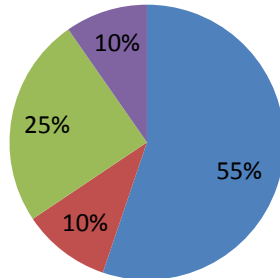
**Marketing -**  
CSA, RETAIL,  
WHOLESALE,  
BROKER

These  
different  
markets make  
it possible for  
us to sell all  
that we can  
grow.

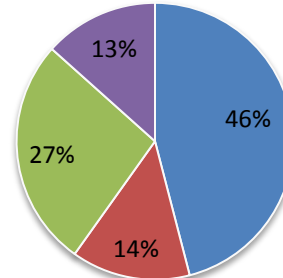
### 2012



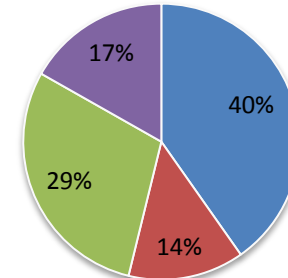
### 2011



### 2009



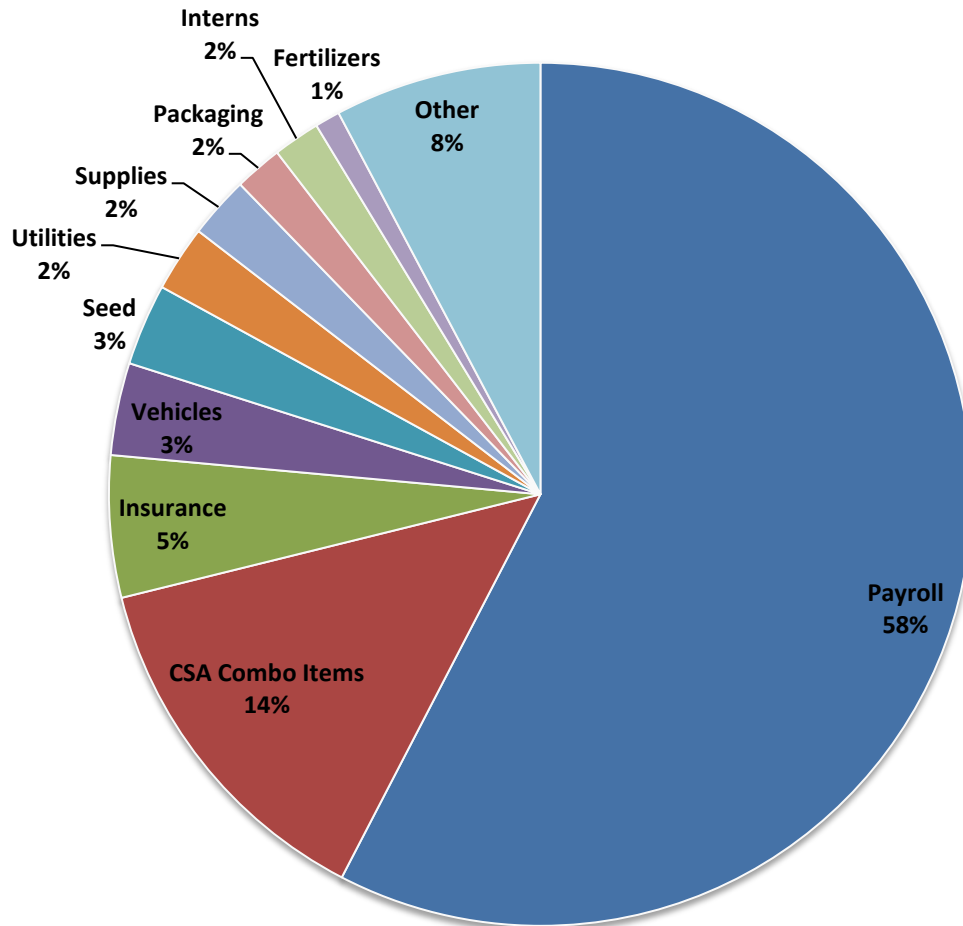
### 2008



■ CSA  
■ WHOLESALE  
■ RETAIL  
■ BROKER



## Expense Summary January - December 2012



Targets - GEOG follows this process to establish annual sales targets:

- 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

After this:

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

# 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....

