One Thing Leads to Another

Cultivating a First Generation Farm

Scott Thellman
About Me

• Owner of Juniper Hill Farms, LLC
• Senior at Iowa State University
  – Agricultural Business
  – Agronomy
  – Agricultural Entrepreneurship
• Agricultural Entrepreneur
• Interests in post harvest handling, marketing, storage, and distribution of local and regional foods.
Background

• Raised in Lawrence, Kansas.
• Moved with family to rural Douglas County, Kansas in 1999.
• Became interested in agriculture.
• Began working at different agricultural operations in the area as a teenager.
  – Sweet corn, vegetables, cattle, row crops.
Background

- Became interested in starting my own farm.
- Purchased some old hay equipment with savings from summer jobs.
- Baled 20 acres of hay in 2006, and sold it quickly.
- Saw my opportunity to enter into farming!
Background

• Expanded hay operations throughout high school.
• Graduated high school in 2009, and produced 10,000 small square bales that summer.
• Entered into vegetable operations in 2010 with the construction of our first high tunnel.
• Started schooling at Iowa State in the fall of 2010.
Background

• Constructed second high tunnel in 2011, and grew on one acre.
  – Primarily marketed crops at farmers market’s.
• Expanded to two acres of vegetables in 2012, and focused on direct sale to grocers and restaurants.
• Partial USDA Organic Certification of farm in 2012.
• Increased hay production to 500 acres.
Today we…

• Produce 750 acres hay and alfalfa.
  – 1,300 round bales and 5,000 square bales in 2013.

• Grow two acres of USDA Certified Organic vegetables.
  – Serving four grocery stores, five restaurants, and one food bank.
    • Harvested over 20,000 lbs of produce for fresh market distribution in 2013.

• Provide agricultural consulting services, hay and vegetable brokering services, and custom hire services to over 100 customers around the region.
Crops We Grow

- Hay and alfalfa
- Small grains and soybeans
- Hops
- Vegetables
  - Tomatoes, potatoes, onions, bell peppers, okra, beets, head lettuce, leaf lettuce and greens, cilantro, kale, beets, radishes, zucchini, squash, and more!
High Tunnels!
Entry into the Unknown

• Applied and received Organic EQIP grant for high tunnels available through the NRCS.

• Had NO experience or education in vegetable production, but saw an opportunity to diversify and expand the farm.

• Constructed first high tunnel and began to grow on a small scale to determine crops that would work well in the area.
Construction of Our High Tunnel

• First step was site selection.
  – Limited to commodity crop production area.

• Selected level area in creek bottom with high quality soil.

• Wabash silty clay loam soils with good drainage and high organic matter.
### Construction Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hummert Intl. High Tunnel</td>
<td>$5,200</td>
</tr>
<tr>
<td>End Walls</td>
<td>$750</td>
</tr>
<tr>
<td>Baseboards</td>
<td>$260</td>
</tr>
<tr>
<td>Other</td>
<td>$200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$6,410</strong></td>
</tr>
</tbody>
</table>

- Do not forget the labor costs!!
- 80+ hours of labor… Not included in costs as much of it was considered ‘sweat equity’ for the farm.
Growing
Making Your Plan

• Form a 12 month plan
  – Down to the week!
• Things to consider
  – Crop rotations
  – Fertility needs of crop
  – Seasonal weather
  – Market demand
  – Sequential planting requirements
  – Opportunity costs of space
  – Labor involved
• High tunnels need high value crops, and quick turn around to be economically feasible!
Crop Rotations

- Use common agronomic sense.
- Overplanting/double-cropping can increase pest and disease presence, and can decrease quality and yields of crops.
- Spring, Summer Fall rotations with uses of cover crops if not overwintering crops.
Fertility Needs

• Take annual soil samples.

• Apply compost or manure during off season.
  – Be aware of food safety regulations.

• Regular application of fertilizers at proper times in growth cycle.
  – Fertigation or foliar application methods.

• Plant beneficial cover crops when possible.
Weather

• Seasons change!
• Be ready for whatever could come your way.
  – Row Covers
  – Ventilation
  – Opening/closing sides
• It IS possible to grow year round without heat if you have the right cropping system and the right tools.
December 20th, 2012
February 28th, 2013
Seasonal Demand

• High tunnels give you an advantage to season extend.
• But, be ready take price breaks to move your inventory.
• Know your markets, and what they desire.
• Market yourself well, and form long-lasting relationships with your customers.
• Keep up on consumer trends and industry changes.
Sequential Plantings

• Key to keeping your customers supplied and satisfied.
• Requires detailed planning in high tunnels.
• Remember to account for day length changes.
Seasonal Demand

• High tunnels give you an advantage to season extend.
• But, be ready take price breaks to move your inventory.
• Know your markets, and what they desire.
• Market yourself well, and form long-lasting relationships with your customers.
• Keep up on consumer trends and industry changes.
Opportunity Costs of a High Tunnel

• Make enterprise budgets of each crop to determine economic profitability and feasibility.

• Remember to account for labor involved in season extending/winter growing conditions.

• Cost of production is much higher per square foot in a high tunnel. Make sure you plant high value crops!
Labor

• Labor is the biggest cost of growing.
• Be efficient in your system.
• Purchase machinery and tools to increase operational efficiency.
• Limit downtime, and ensure that all members of the team are well trained.
• Make sure to follow labor laws, and to file and pay all necessary taxes!
Following Your Plan

- Plans will change
- Be ready to react.
- It is key to inform customers of changes to availability as soon as possible to avoid problems and confusion.
- Always record when plans change, and use it in your future plans.
Keep Good Records

• Record keeping in the field, and in the office is key to your success!
• Without history, you cannot see the future.
• Yields of crops, sales, quantities available, peak harvests all are key items to track.
### 2012 Tomato Yield Data:

<table>
<thead>
<tr>
<th>Variety</th>
<th>#1 Tomatoes Sold (lbs):</th>
<th>#2 Tomatoes Sold (lbs):</th>
<th>Total Sold (lbs):</th>
<th>% #1</th>
<th>% #2</th>
<th>% of Tomato Sales:</th>
<th># of Plants:</th>
<th>Yield (lbs)/Plant:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martha Washington</td>
<td>418.00</td>
<td>148.00</td>
<td>566.00</td>
<td>73.9%</td>
<td>26.1%</td>
<td>36.30%</td>
<td>30</td>
<td>18.87</td>
</tr>
<tr>
<td>Cherokee Purple</td>
<td>200.00</td>
<td>170.25</td>
<td>370.25</td>
<td>54.0%</td>
<td>46.0%</td>
<td>23.75%</td>
<td>30</td>
<td>12.34</td>
</tr>
<tr>
<td>Japanese Black</td>
<td>153.00</td>
<td>105.25</td>
<td>258.25</td>
<td>59.2%</td>
<td>40.8%</td>
<td>16.56%</td>
<td>15</td>
<td>17.22</td>
</tr>
<tr>
<td>Striped German</td>
<td>69.30</td>
<td>47.00</td>
<td>116.30</td>
<td>59.6%</td>
<td>40.4%</td>
<td>7.46%</td>
<td>8</td>
<td>14.54</td>
</tr>
<tr>
<td>Green Zebra</td>
<td>10.50</td>
<td>6.00</td>
<td>16.50</td>
<td>63.6%</td>
<td>36.4%</td>
<td>1.06%</td>
<td>8</td>
<td>2.06</td>
</tr>
<tr>
<td>Cherry Tomato</td>
<td>223.50</td>
<td>0.00</td>
<td>223.50</td>
<td>100.0%</td>
<td>0.0%</td>
<td>14.34%</td>
<td>16</td>
<td>13.97</td>
</tr>
<tr>
<td>Tomatillo</td>
<td>8.25</td>
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<td>8.25</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.53%</td>
<td>8</td>
<td>1.03</td>
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<tr>
<td>Totals:</td>
<td>1082.55</td>
<td>476.50</td>
<td>1559.05</td>
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<td>30.6%</td>
<td>-</td>
<td>115</td>
<td>13.56</td>
</tr>
</tbody>
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**Tomato Sales by Grade**

- **Martha Washington**: 418.00 lbs
- **Cherokee Purple**: 200.00 lbs
- **Japanese Black**: 153.00 lbs
- **Striped German**: 69.30 lbs
- **Green Zebra**: 10.50 lbs
- **Cherry Tomato**: 223.50 lbs
- **Tomatillo**: 8.25 lbs

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**Tomato Revenues by Grade**

- **Martha Washington**: $418.00
- **Cherokee Purple**: $200.00
- **Japanese Black**: $153.00
- **Striped German**: $69.30
- **Green Zebra**: $10.50
- **Cherry Tomato**: $223.50
- **Tomatillo**: $8.25

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**Chart Area**

- **#1 Tomatoes Sold**
- **#2 Tomatoes Sold**
## 2012 Tomato Price Data:

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<td>$0.00</td>
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<td>16</td>
<td>13.97</td>
</tr>
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<td>Tomatillo</td>
<td>8.25</td>
<td>0.00</td>
<td>8.25</td>
<td>0.53%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>$2.33</td>
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<td></td>
<td><strong>115</strong></td>
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</tbody>
</table>

## Enonomic Yield per Plant (S):

<table>
<thead>
<tr>
<th>Variety</th>
<th>#1 Tomato Revenues:</th>
<th>#2 Tomato Revenues:</th>
<th>Total Revenues:</th>
<th>% of Revenue:</th>
<th>% #1:</th>
<th>% #2:</th>
<th># of Plants:</th>
<th>Enonomic Yield per Plant (S):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martha Washington</td>
<td>$1,111.88</td>
<td>$185.00</td>
<td>$1,296.88</td>
<td>37.3%</td>
<td>85.73%</td>
<td>14.27%</td>
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<td>$43.23</td>
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<tr>
<td>Cherokee Purple</td>
<td>$532.00</td>
<td>$212.81</td>
<td>$744.81</td>
<td>21.4%</td>
<td>41.02%</td>
<td>16.41%</td>
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<td>$24.83</td>
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<tr>
<td>Japanese Black</td>
<td>$406.98</td>
<td>$131.56</td>
<td>$538.54</td>
<td>15.5%</td>
<td>31.38%</td>
<td>10.14%</td>
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<td>$35.90</td>
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<tr>
<td>Striped German</td>
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<td>14.21%</td>
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<td>$30.39</td>
</tr>
<tr>
<td>Green Zebra</td>
<td>$27.93</td>
<td>$7.50</td>
<td>$35.43</td>
<td>1.0%</td>
<td>2.15%</td>
<td>0.58%</td>
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<td>$4.43</td>
</tr>
<tr>
<td>Cherry Tomatoes</td>
<td>$596.75</td>
<td>$0.00</td>
<td>$596.75</td>
<td>17.2%</td>
<td>46.01%</td>
<td>0.00%</td>
<td>16</td>
<td>$37.30</td>
</tr>
<tr>
<td>Tomatillo</td>
<td>$19.22</td>
<td>$0.00</td>
<td>$19.22</td>
<td>0.6%</td>
<td>1.48%</td>
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<td>$2.40</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>$2,879.10</strong></td>
<td><strong>$595.63</strong></td>
<td><strong>$3,474.72</strong></td>
<td><strong>82.86%</strong></td>
<td><strong>17.14%</strong></td>
<td></td>
<td><strong>115</strong></td>
<td><strong>$30.21</strong></td>
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</table>
Marketing
Marketing

• You have to sell yourself!
  – Logos
  – Emails
  – Mailings
  – Social media
  – Brochures
  – Posters
  – Packaging and labeling
  – Invoicing
  – T-Shirts, hats, etc.
  – EVERYTHING!

• Be professional at all times. It matters!
Growing the future of agriculture, one plant at a time.

Who we are...

The Sustainable Difference!
Using increasingly sustainable practices, our first generation farm produces high quality crops, restores and manages crop and grassland areas, and works to promote long-range agricultural industry in and around Douglas County, Kansas.

The Right Choice!

Grow your business with us!
Building long-term business relationships with our clients and their businesses.

We’re there when you need us, and we’re ready to work for you!

What we do...

Products and Services designed to meet your needs!

Conventional and Certified Organic hay, alfalfa, straw, small grains, hops, fruits, and vegetables.

Custom farming operations designed to fit your schedule.

Agricultural Consulting Services to help your business sustainably get the job done.

Ready for business? Contact us at (785) 840-4892
OVATION GREENS MIX

A zesty combination of ORGANIC Red Mustard, Mizuna, Tatsoi, Kale, and Arugula grown just for YOU.

Produced by Juniper Hill Farms, LLC | 1547 N. 2000 Road | Lawrence, KS 66044
Certified Organic by ODAFF
ENCORE LETTUCE MIX

A vibrant ORGANIC mix of Green and Red Oakleaf, Green and Red Romaine, Lollo Rossa, Redleaf, and Bibb Lettuces grown just for YOU.

Produced by Juniper Hill Farms, LLC | 1547 N. 2000 Road | Lawrence, KS 66044
Certified Organic by ODAFF
Start your marketing early

• Work to establish contracts with your customers.
• Establish prices that are agreeable for both parties involved.
• Commit to a customer, and make sure to not expand too rapidly.
Post Harvest Handling

• See your post harvest handling practices as a way to sell your products.
• Have a food safety plan in place.
• Deliver products as you would like to receive them.
Additional Things to Consider

• Intensity of growing system desired.
• Insurance/Liability
• Location and Access to Markets.
• Other growers in area
• Access to water
• Quality of soils
• Labor pool
The Potential

<table>
<thead>
<tr>
<th>Crop (Year)</th>
<th>Revenue/Acre (non-irrigated)</th>
<th>Revenue/Acre (irrigated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn (2012)*</td>
<td>$326/acre</td>
<td>$1,119/acre</td>
</tr>
<tr>
<td>Corn (2013)**</td>
<td>$551/acre</td>
<td>$678/acre</td>
</tr>
<tr>
<td>Soybeans (2012)*</td>
<td>$302/acre</td>
<td></td>
</tr>
<tr>
<td>Soybeans (2013)**</td>
<td>$505/acre</td>
<td></td>
</tr>
<tr>
<td>Vegetables (2012)^</td>
<td>$13,500/acre</td>
<td></td>
</tr>
<tr>
<td>Vegetables (2013)^</td>
<td>$18,000/acre</td>
<td></td>
</tr>
</tbody>
</table>

*2012 - $4.24/bu spot price (10/21/13 @ Ottawa Co-op); assumed yields under proper management: Corn - 130 bu/ac (non-irrigated), 200 bu/acre (irrigated); soybeans @ $12.63/bu spot price @ 40 bu/acre (non-irrigated). **2013 - $7.00/bu spot price (KS avg for 10/12); assumed yields under proper management: Corn – 46.6 bu/ac (non-irrigated), 159.9 bu/acre (irrigated); soybeans @ $14.40/bu @ 21 bu/acre (non-irrigated). ^JHF Averages per acre
The Future of Juniper Hill Farms

• Expansion of vegetable operations from to four acres.
• Entry into Kansas City markets.
• Expansion of hay operation to 900 - 1,000 acres.
• Increase in employment opportunities.
• Increase in partnership with other growers.
You Will Make Mistakes!

• Do not assume that you will profit in your first year.
• It takes many years of experience growing, marketing, and distribution experience to build a sustainable business model that will benefit your farm, your community, your soils, and you.
Thank you!

Questions?