

A close-up, low-angle shot of a brown and white cow grazing in a lush green field. The cow's head is in the foreground, looking down at the grass. Its body extends towards the right side of the frame. In the background, other cows are visible grazing in the field under a clear blue sky with some light clouds. The overall scene is bright and sunny, suggesting a healthy, rural environment.

Southern Tier West: The Invigoration of Local Livestock and Processing Industries

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Southern Tier West: The Invigoration of Local Livestock and Processing Industries

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Southern Tier West:

The Invigoration of Local Livestock and Processing Industries

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Executive Summary

Southern Tier West has a unique three-county region that supports over 40 locally marketed beef and pork livestock farms, as well as a cluster of poultry producers. While there is a focus on economic development around agriculture in the region, the slaughter, processing and logistics segment of this industry is perceived as limiting to the success of the farmers here.

At the outset of this project, Southern Tier West (STW) Regional Planning and Development Board (RPDB) wanted to assess the local industry and uncover the realities of these potential issues, and decide if it would be warranted to open a new processing facility. The biggest perceived problems that we set out to quantify are that (1) the facilities that do exist in the region are booked to capacity, and are crippling the output of the local farmers, and (2) these facilities take an approach that is limiting to the farmers that are raising a product which demands a higher price point than conventionally raised product ("values-based" livestock, such as organic, grass fed, pasture raised).

Throughout the course of this study, we executed primary research by interviewing 17 livestock farmers in the region, and 12 meat processors that serve the Southern Tier West farms. After performing statistical analysis on our survey results, the results were eye-opening. What we found was that the processors in the region do have excess capacity, and building a new facility would not necessarily eliminate the frustrations of the local farmers. After interviewing various organizations in the region and nationwide, we found a general consensus of similar issues in local food, as the demand for locally raised meat and organic food is growing.

We have not been able to identify any scenarios where a local public organization has assisted with the building of a meat processing facility without the involvement of a distributor or growing brand label that already had the market pathways built to ensure there was demand for the product. The "if you build it, they will come" philosophy often leads to financial failure, and this argument was validated by the other organizations leading the movement of sustainable agriculture and local food.

Meat processing is an issue that has recently come into focus for many organizations, and we sought to interview them for this study. We spoke with The Niche Meat Processor Assistance Network, The Northeast Livestock Processing Service Company, Fair Food Philadelphia, The Hudson Valley Agriculture Development Corp., and many organizations that finance economic development projects in agriculture outlined in the "Finance Research and Advising" section below.

Our solution for STW RPDB has a two-pronged approach: **(1)** Create a variety of tools and projects to improve upon the state of meat processing in the region, including programs to bring the local meat processors together for roundtable discussions. Additional programming would include education modules to unify farmers' needs and what the processors can produce. **(2)** Raise capital to assist selected opt-in local processors through a program designed to ensure their capacity is secure for the future of the local livestock industry, whether that be via equipment upgrades, succession planning, butchery training programs, or business analysis.

Kitchen Table Consultants (KTC) was selected to provide this study because we are experts in non-profit and small business development. Providing entrepreneurship coaching, business development, marketing execution, opportunity assessment (strategic planning) and financial advising to farmers, non-profits and food businesses since 2009. Our goal is simple - to help passionate farmers and food artisans build lasting, profitable, locally-focused businesses. Our experience spans all aspects of this job, from market research to communicating with industry experts to financing to business planning. To date, we have worked with over 75 businesses and non-profits to address their financial opportunities in the marketplace. While there is a big research component here, the heart of this study is the potential outcomes and recommendations.



STW Regional Meat & Poultry Production

A Note on Research Methods:

Our research was done in successive phases, in order to prevent too much outside information from biasing our survey process. When this report discusses comparisons (comps) and the findings of other organization pursuing similar information, it should be known that this information was gathered after the surveys were taken and the statistical analysis performed on the data. This was done purposely to avoid bias. Therefore, when we discovered similar problems/solutions/attitudes in other areas of the country, our data collection was already complete; and while we were not surprised to find similar issues in other regions, we were a bit stunned by how much this issue is mirrored almost exactly in other regions.

We began with primary research – personally interviewing 17 farms in the region that STW RPDB helped us identify with an opt-in process from their list of farms involved in the local farmers markets and also from Cornell extension's list of regional farms. Eight of the farms were visited in-person for these survey interviews, by Rebecca and a member of STW RPDB. Six were surveyed face to face off the farm, at a public location or in the STW office. Three were surveyed over the phone. Surveys were completed in 60-75 minutes per survey depending on the respondent.

Next, we surveyed the processors. Five of those interviews were conducted by Rebecca at the processing facility, followed by an optional tour of the facility, to which all of the plant owners happily accommodated the request. Rebecca surveyed the other seven processors over the phone. Surveys were completed in 45-60 minutes per survey depending on the respondent.

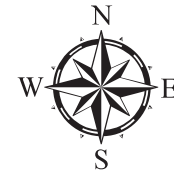
Once all the surveys were completed, the names of the farmers and processors were removed, as we promised their results would be anonymous, and statistical analysis was performed on the survey data.

Our research also utilized secondary sources, such as census data and published articles.

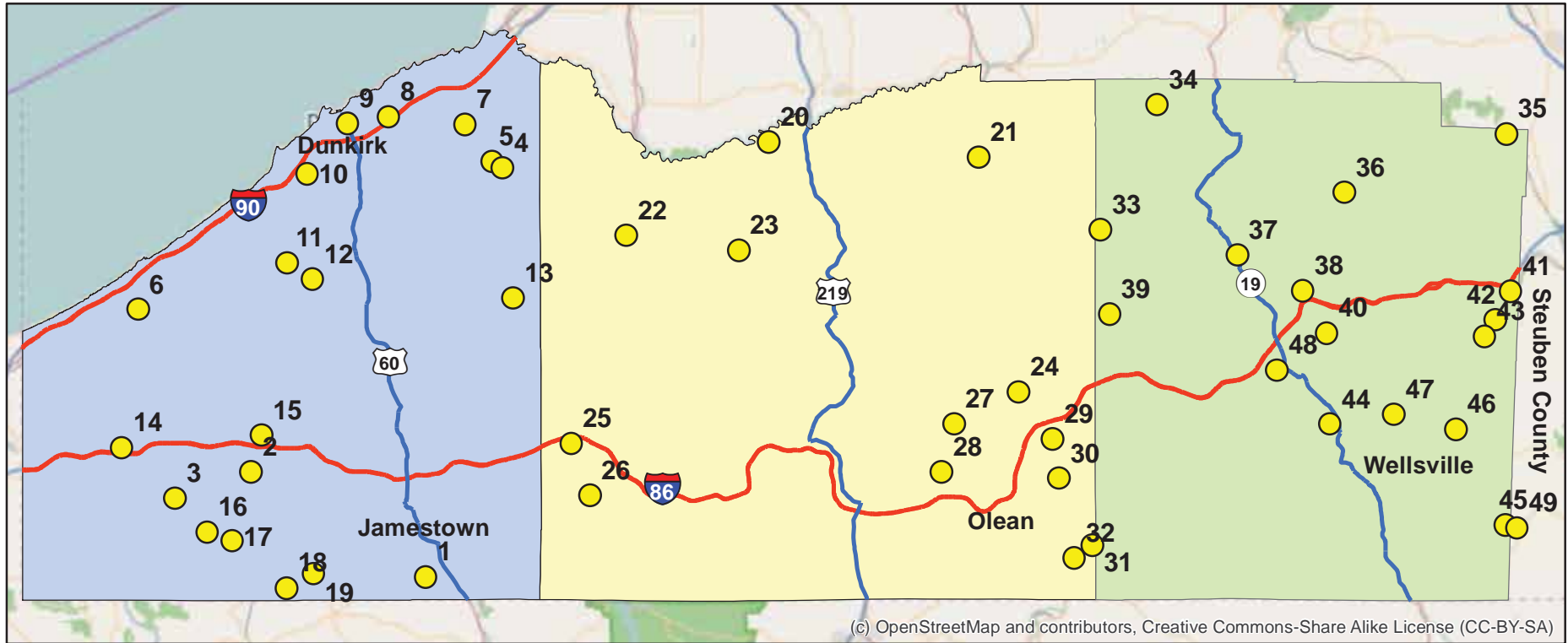
In the final phases of our research we contacted organizations that could share information about comparative projects in other regions, and on financing opportunities.



Southern Tier West Region Meat Animal Producing Farms



This Map was Created by:
Southern Tier West RP&DB
GIS Department
July 2015



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Chautauqua County Farms

- | | |
|----------------------------------|--|
| 1 - Forest Meadows Farm | 1 - Chicken / Cows / Lamb / Sheep / Eggs |
| 2 - Good Grass Farm | 2 - Chicken / Turkey / Cows / Eggs |
| 3 - Green Heron Growers | 3 - Chicken / Cows |
| 4 - Lake Country Beef | 4 - Cows / Pigs / Lamb / Sheep |
| 5 - Roo Haven Farm | 5 - Chicken / Turkey / Pigs / Goats / Eggs / Ducks / Geese |
| 6 - Toboggan Hill Farm | 6 - Chicken / Cows / Lamb / Sheep |
| 7 - Someday Maybe Farms | 7 - U-Pick Berries / Corn / Produce / Plants / Beef / Pork / Eggs |
| 8 - Avid Farms | 8 - Eggs / Poultry / Holiday Turkeys |
| 9 - Stand Fast Farm | 9 - Beef |
| 10 - JM Joy Farms LLC | 10 - Produce / Meat / Eggs / Baked Goods / Jams and Jellies |
| 11 - Ivorywind Acres | 11 - Produce / Beef / Lamb / Pork / Poultry / Rabbit |
| 12 - ML Farm | 12 - Poultry / Beef / Pork |
| 13 - Roots and Wings Family Farm | 13 - Beef / Lamb / Goat |
| 14 - Steady Plow Farm LLC | 14 - Berries / CSA / Eggs / Flowers / Honey / Maple Products / Poultry / Produce |
| 15 - Spac Farm | 15 - Beef |
| 16 - Sweet Hill Farm | 16 - Lamb |
| 17 - Munsee Farm | 17 - Corn / Pumpkins / Beef / Poultry / Tours |
| 18 - Small Meadows Farm | 18 - Goat / Produce |
| 19 - Johnson Farms | 19 - Beef / Pork |

Cattaraugus County Farms

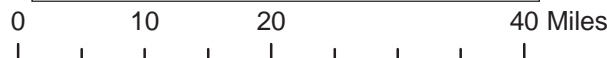
- | | |
|--------------------------------|---|
| 20 - Back Porch Produce | 20 - Corn / CSA / Eggs / Farm Store / Jams and Jellies / Poultry / Produce / U-Pick |
| 21 - Heavenly Valley Farm | 21 - Lamb |
| 22 - BRD Forever Farm | 22 - Beef / Pork / Eggs |
| 23 - Native Offerings Farm LLC | 23 - Produce / Fruit / Beef / Pork / CSA |
| 24 - Maple Ridge Bison Farm | 24 - Maple / Bison |
| 25 - Angus Hill Farm | 25 - Beef |
| 26 - Pine Hill Cattle Company | 26 - Beef / Eggs / Tours |
| 27 - Perry Dice Valley Farm | 27 - Organic / Chicken / Turkey / Eggs |
| 28 - Eco Valley Farm | 28 - Beef / Poultry / Eggs |
| 29 - Flanigan Farm | 29 - Beef / Pork / Poultry / Eggs |
| 30 - Sojourner Farm | 30 - Beef / Pork / Poultry / Eggs / Soups / Groups Welcome / Tours / Events |
| 31 - Deer Creek Farm | 31 - Beef / Pork / Eggs |
| 32 - Sprague's Turkey Farm | 32 - Turkey |
| 33 - Wild Geese Farm | 33 - Beef / Lamb |

Steuben County Farms

- | | |
|------------------------|------------------------------------|
| 49 - Sugar Haven Farms | 49 - Chicken / Cows / Pigs / Maple |
|------------------------|------------------------------------|

Allegany County Farms

- | | |
|------------------------------------|--|
| 34 - Emary Springs Farm | 34 - Organic Produce / Herbs / Eggs / Beef / Chicken |
| 35 - Wilson Beef Farms | 35 - Beef / Pork / Smoked Goods |
| 36 - Hillview Rabbitry | 36 - Rabbit |
| 37 - On The River Farm | 37 - Produce / Maple / Duck and Chicken Eggs / Pork / Beef / Chicken / Cut Flowers / U-Pick Pumpkins / Corn / Strawberries |
| 38 - Torrey Family Jams and Bakery | 38 - Jams / Jellies / Preserves / Baked Goods / Pork |
| 39 - Skyview Farms | 39 - Beef / Lamb / Goat |
| 40 - Mascho Homestead Farms | 40 - Beef / Farm Store / Pork / Produce / Pumpkins |
| 41 - Quest Farm Produce | 41 - Organic / Produce / Eggs / Honey / Baked Goods / Meats / Syrup / Grains |
| 42 - Locustbrae Farm | 42 - Beef |
| 43 - Sunny Cove Farm | 43 - Produce / Fruit / Beef / Dairy / Goat / Maple / CSA / U-Pick / Tours / Store |
| 44 - Vandermark Farm | 44 - Honey / Maple / Beef / Produce / CSA |
| 45 - B A Blessing Farm | 45 - Organic / Beef / Chicken / Eggs |
| 46 - Kent Farms Inc. | 46 - Christmas Trees / Pumpkins / Beef / Tours |
| 47 - Kellogg's Alpaca Farm | 47 - Farm Store / Alpaca Meat |
| 48 - Amity Highland Rance | 48 - Beef / Eggs |



Economic Trends in the Region

Southern Tier West is a region that includes three counties in the southwest corner of New York State. They all border Pennsylvania to the south. Chautauqua County is the westernmost of the three counties, on the shore of Lake Erie, with Cattaraugus County to the east, and Allegany County further east.

Chautauqua County has the largest population of the three counties, and includes the anchor cities of Jamestown and Dunkirk, and is also a tourism destination for Lake Erie and Chautauqua Lake. This county is also dotted with wineries, and boasts an Opera House and the Lucille Ball-Desi Arnaz Center, alongside the famed Chautauqua Institution as tourism destinations, swelling the population in summer season. Cattaraugus County is the largest geographically by about 300 square miles, and is about 60% the population of its westerly neighbor, with is anchor cities including Salamanca and Olean, home to St. Bonaventure University. Cattaraugus County hosts the “Enchanted Mountains”, driving tourism via skiing in Holiday Valley and the camping and hiking retreat of Allegany State Park. The Seneca Nation is also part of the county, with a casino resort. Allegany County is the least populated of the trio, 35% of the population of Chautauqua County and 60% of the population of Cattaraugus County. There are no cities in Allegany County, and the anchor towns are Alfred and Wellsville, the prior being home to Alfred University and Alfred State College (SUNY). County tourism promotions boast bicycling trails and old fashioned small town charm.

The census offers information to orient the reader to the region at hand.

Census Results

Population in the three counties is shrinking slightly, and of equal proportion. The majority of the population is educated at a high school level and is about 2% lower than the national average. Median household income is about \$10,000 (18%) lower than the national average. Homeownership rate straddles the national average of 64%, and home values are about 60% less than the national average of \$173K. Poverty levels are a bit higher than the national average, 15.4%.

Census Data	Allegany	Cattaraugus	Chautauqua
Population 2014	47,736	78,600	132,053
Change since 2010	-2.5%	-2.1	- 2.15
Under 18	21%	22.9%	21.1%
Over 65	16.5%	16.6%	17.7%
Education level			
High school	88.3%	87.5%	87.4%
BA or above	18.9%	17.2%	20.7%
Income			
Median Household	\$42,445	\$42,603	\$42,429
Home Values	\$69,600	\$81,100	\$83,500
Home ownership rate	54.2%	71.9%	69.1%
Below poverty rate	16.5%	17.9%	19.1%
Geography – square miles	1029.3	1308.4	1060.2

Status of Regional Production, Highlights

The following data is from the Census of Agriculture.
Comparisons over time are holding 2012 data against 2007 data.

Trends:

- **Average Farm Size**, Allegany and Cattaraugus – 191 acres / Chautauqua – 156 acres
- Dairy is **85%** of cattle stock in the three counties, beef cattle inventory is median 2500 head/county
- Beef inventory is decreasing - Allegany county by as much as **56%**. However when we look at the sales data from NASS, the sales have gone up according to our USDA source. We identified 155 cattle going to slaughter this year across 16 farms, which would represent **less than 3%** of this data set of animals sold.

Sales stats by number of head of cattle:

2012 Sales Data	All farms Cattle 500lbs or more	Small-mid size farms Under 100 animals sold (Incomplete for very small under 10)	% Comparison % Small-mid
Allegany	7414	2296	31%
Cattaraugus	9868	4258	43.2%
Chautauqua	10990	4704	42.8%
Total	28272	11258	39.8%
Estimated Value		Avg. \$10/lb – 350# wt - \$3500 Estimate 10% going direct sales \$3,940,300.00	

- **Hogs** are increasing (9%) but number of farms is decreasing. Average farm is slaughtering 8 hogs/yr. We can see Allegany County has a number of large confinement hog operations that are not indicators for this study, together making up sales of 75K hogs in 2012. Chautauqua County also has a few mid-size hog operations with between 300-500 hogs. In our interviews we identified 140 hogs going to slaughter this year - which would represent 20% of this data set of direct sales.

Sales stats on number of hogs:

2012 Sales Data	Mid size farms under 1000 hogs # of hogs sold	Small farms under 100 hogs # of hogs sold	Ratio small:mid
Allegany	312	312	100%
Cattaraugus	437	271	62%
Chautauqua	1850	850	46%
Total	2599	1433	
Estimated Value		Avg. \$9/lb – 175# wt - \$1575 Estimate 50% going direct sales \$1,128,487.50	

Status of Regional Production, Highlights (cont.)

- **Sheep** are increasing (6.5%) but sales are decreasing, indicating growing herds.

2012 Sales Data	Assumption is all small to mid size farms on pasture		
	Sheep sold	Value	Value/animal
Allegany	787	\$89,000.00	\$113.09
Cattaraugus	1005	\$149,000.00	\$148.26
Chautauqua	569	\$80,000.00	\$140.60
Total	2361	\$318,000.00	

- **Goats** (for meat) are declining (23% statewide) but STW has 70 farms with meat goats - valued at \$56K - it didn't make the Census of Agriculture survey because it is such a small niche.

2012 Sales Data	Assumption is all small to mid size farms on pasture		
	Goats sold	Value	Value/animal
Allegany	100	\$8,000.00	\$80.00
Cattaraugus	156	\$12,000.00	\$76.92
Chautauqua	371	\$36,000.00	\$97.04
Total	627	\$56,000.00	

- **Poultry** inventories have greatly increased from 2007-2012. However poultry numbers are harder to extrapolate because they cycle so quickly, and there may be confusion among census takers about current inventory vs. annual inventory. We suspect these numbers are under-reported. However, from 2007-2012, broiler flock inventory increased 55-85% across the three counties.

2012 Sales Data	Census Inventory Count		
	Broilers	Layers	Turkeys
Allegany	2034	223	87
Cattaraugus	2209	279	284
Chautauqua	4523	675	284
Total	8766	1,177	727
Estimated Value	\$5.50/lb 4# wt - \$22	Stew hens - \$3.50/lb 3# wt. - \$10.50	Avg. 18# - \$4.50/lb
\$264,097.50	\$192,852.00	\$12,358.50	\$58,887.00

- Value of farmland per acre is increasing (11%)
- Acres of farmland is increasing (2.4%) but the # of farms is decreasing (9.2%)



Survey Results from 16 Farms and Their Stories

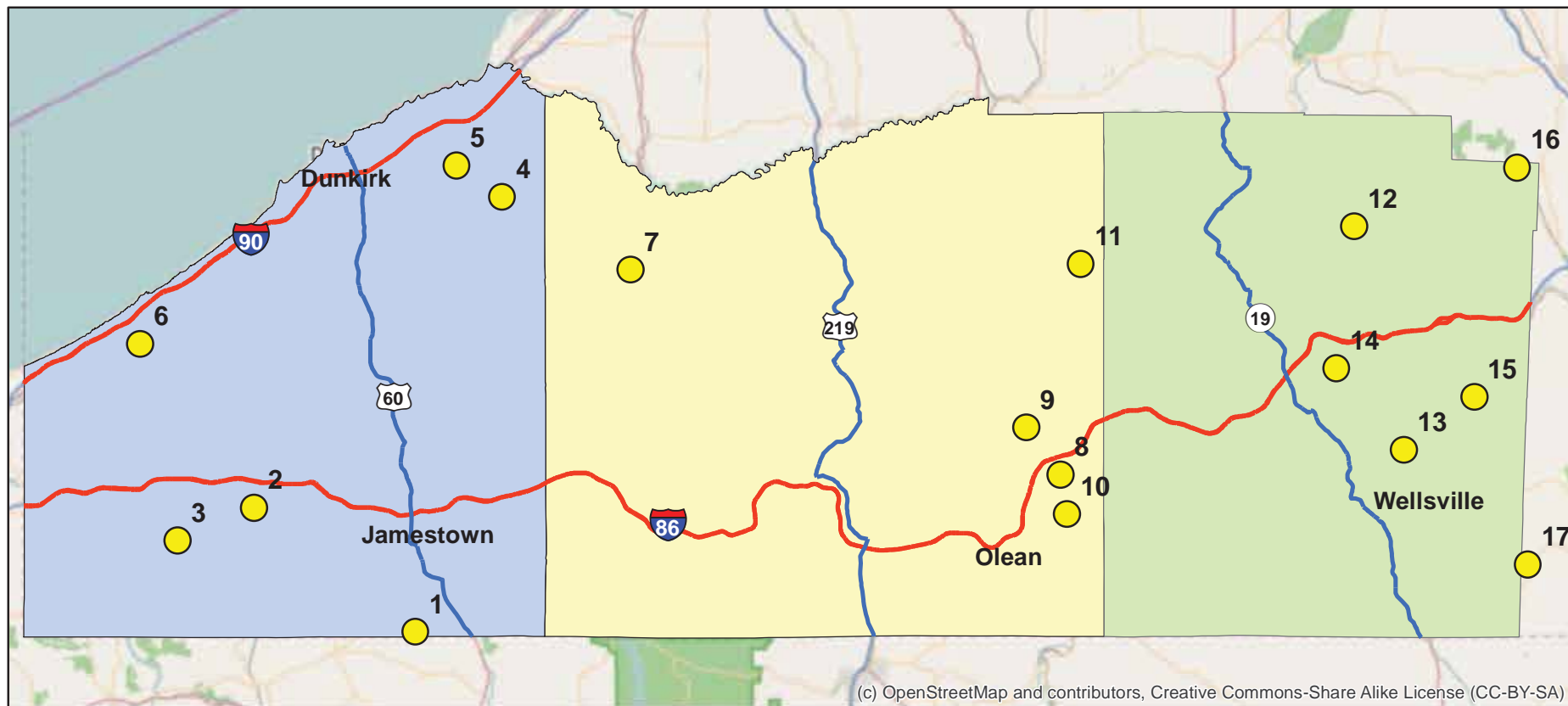
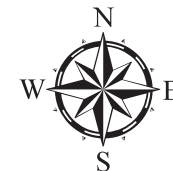
Our farm survey contained about 30 questions, some open ended, but most with checkboxes to choose answers. Farmers were given an opportunity to tell their story, and make comments off the survey. During this conversational time the farmers were able to get comfortable with the interviewer, and we learned that the farmers have a wide range of experience, some from multi generation family farms, and some started the farm as a lifestyle and career change anywhere from 3-15 years ago, and are still learning the ropes. All the farmers talked about future plans for the farm and the evolution of their practices, always seeking growth and improvement in sustainability. Some continue to work off the farm part-time, and others pursue additional revenue streams on the farm, ranging from prepared food sales to on-farm events to becoming a distributor for livestock feed or supplements.

The full survey results and raw data are the property of STW RPDB. Because the farmers were told that their answers would not be connected with their farm name, no farm names are included on the survey results below. The survey asked questions on a broad range of topics including sales, marketing, processor satisfaction, and other processing related questions. A sample of the survey can be found in the appendix of this document.

This map represents the three-county region and the farms that were surveyed, and the types of livestock they raise:



Southern Tier West Region Farms Survey Participants



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Chautauqua County Farms

- | | |
|-------------------------|--|
| 1 - Forest Meadows Farm | Chicken / Cows / Lamb / Sheep / Eggs |
| 2 - Good Grass Farm | Chicken / Turkey / Cows / Eggs |
| 3 - Green Heron Growers | Chicken / Cows |
| 4 - Lake Country Beef | Cows / Pigs / Lamb / Sheep |
| 5 - Roo Haven Farm | Chicken / Turkey / Pigs / Goats / Eggs / Ducks / Geese |
| 6 - Toboggan Hill Farm | Chicken / Cows / Lamb / Sheep |

Cattaraugus County Farms

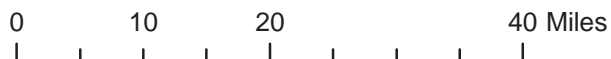
- | | |
|----------------------------|---------------------------------------|
| 7 - BRD Forever Farm | Chicken / Cows / Pigs / Eggs |
| 8 - Flanigan Farm | Chicken / Turkey / Pigs / Eggs |
| 9 - Maple Ridge Bison Farm | Bison |
| 10 - Sojourner Farm | Chicken / Turkey / Cows / Pigs / Eggs |
| 11 - Wild Geese Farm | Chicken / Cows / Lamb / Sheep |

Steuben County Farms

- | | |
|------------------------|-------------------------------|
| 17 - Sugar Haven Farms | Chicken / Cows / Pigs / Maple |
|------------------------|-------------------------------|

Allegany County Farms

- | | |
|-----------------------------|------------------------------------|
| 12 - Hillview Rabbitry | Rabbit |
| 13 - Kellogg's Alpaca Farm | Chicken / Cows / Alpaca / Peacocks |
| 14 - Mascho Homestead Farms | Cows / Pigs |
| 15 - Sunny Cove Farm | Cows / Goats |
| 16 - Wilson Beef Farms | Cows / Pigs |



This Map was Created by:
Southern Tier West RP&DB
GIS Department
July 2015

Survey Overview

We have identified 17 processing places among the 17 farmers we interviewed. Many farmers use more than one processor. We also found other processors in the extended region (less than five) and have been able to contact some. We have created visual maps of the processors to get an understanding of the geographical spread, which are shown in the processing section, page 33.

- 25% of farmers in the region are using Grizzly’s or Coffarro’s, both USDA facilities, located in Hunt, NY and Sugar Grove, PA respectively. Grizzly’s and Coffarro’s are the most-used of any facility by our farmers. We were able to visit both facilities. They process beef, pork, goat, sheep and some exotics.
- Some of the farmers are doing on farm slaughter for poultry, some are using HLW acres (50/50). HLW is close to capacity and farmers are up against their 1000-birds exemption for on farm slaughter. There is demand for more poultry processing. However, when held up against the market potential for pastured beef and pork, the value of pastured poultry in the marketplace per farm has a much lower potential, simply due to the per pound price and meat yield per animal, and time required for pastured poultry. Because of the maximum value and allowable on-farm processing, poultry often takes a backseat in discussion on processing.
- On a scale of 1 to 5, farmers ranked their processor satisfaction at an average of 3.9. Some processors ranked as low as 3.2, and some as high as 5, although anecdotally, about 65% of the farmers had complaints about their processing options.
- The biggest unmet needs about the processors included (1) lack of consistency in labeling (naming, ingredients, weights, and placement), and (2) issues with the skill of the butchery in the thickness and types of cuts.
- The most common challenges included distance (25%), getting the order right (50%), ability to book time slots (38%), no options for poultry (25%).
- The time traveled for processing (calculated at 45 mph over distance) was 1.2 hours on average, with a median time of 1.08 hours.

When asked if there was anything they’d like to add in conclusion, 36% of farmers in the region remarked that they need resources around organic processing and also 36% advocated for poultry processing in general.

Number of animals planned for slaughter in 2015, from all 16 farms: ¹

cattle	lamb	goats	pigs	chickens	turkeys	bison	geese & ducks	rabbit	alpaca
154	65	27	137	3,805	170	15	22	300	3

Statistics on Farm Acreage:

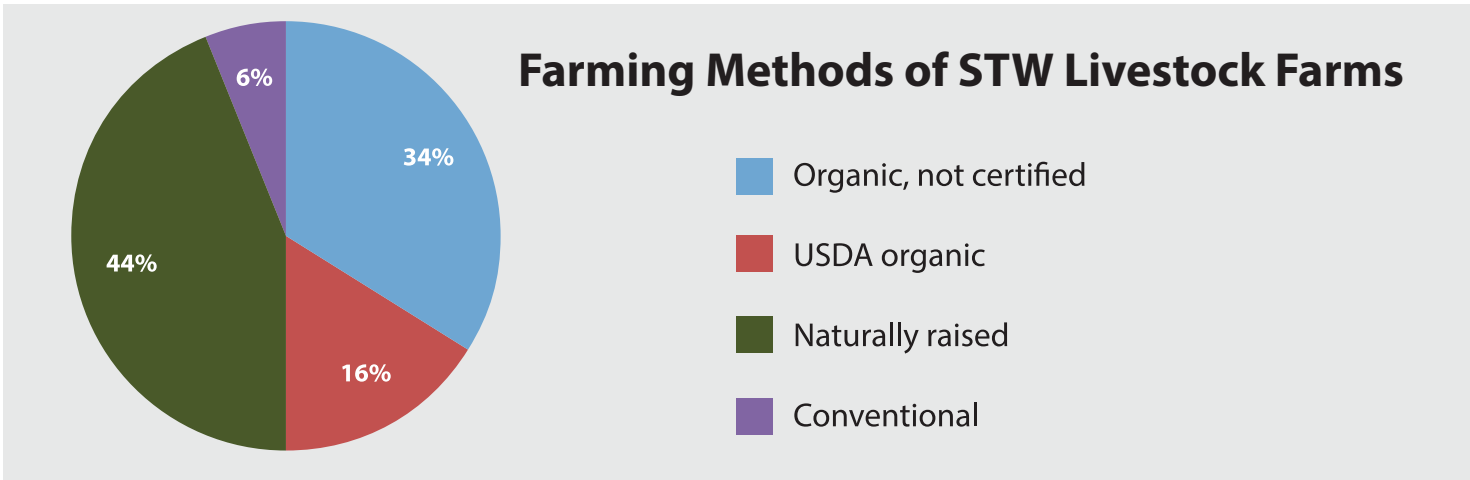
Total # of farms surveyed	16
Total Acres	3015
Average # of acres/farm	188.4
Median # of acres/farm	88

¹ We eliminated Wilson Beef Farms from this data because they are so large and process their own meat in a private plant on their farm and would skew the perceived need for processing.



Growing Practices

The farmers were asked to put themselves in one of the following four categories. “Organic, not certified” was defined as using organic feed and organic practices, but opting out of certification. “Naturally raised” was defined as animals out on pasture, but with supplemental non-organic feed, or pasture management practices that would not be considered organic.



On Farm Workforce

This chart shows how many employees each farm reported (not including the farm owners, which in all cases here consists of a family unit, varying in size). It also shows side by side how many of those employees are family members. Half an employee indicates part time work. This chart shows that across 16 farms, there were only 6 non-family employees working.



Sales Channels

When asking the farms about sales channels used, they were given checkboxes to choose their options. Our farms were using an average of 3.4 sales channels, with a high of 5 and a low of 1.

Sales Channels of STW Farms Surveyed

The following table represents the raw data from our study.

direct order to customers	someone else's CSA	my CSA	farmers markets	direct to retailers	direct to restaurants	on farm pick ups	on farm store	events (ready to eat)	farm 2 school
15 94%	3 19%	3 19%	11 69%	8 50%	6 38%	1 6%	5 31%	2 13%	1 6%

Table Terms	Table Definitions
Direct orders	Customers calling in a custom order for a bundle, quarter, or side of beef or pork, or pre-orders for bulk poultry.
On farm pick-ups	Customers buying frozen meat at the farm, directly from the farmer because there is no store on site.
Events (ready to eat)	Refers to farms that cook their product and sell ready to eat food at on or off site events such as festivals and fairs.
*other terms are self explanatory.	



Marketing Activities

When asking the farms about marketing activities used, they were given checkboxes to choose their options. Our farms were using an average of 4.6 marketing channels, all of which take time to maintain, with a high of 10 and a low of 1. In the one case of a farm using only one marketing activity, that activity was referral marketing. There was one farm using 2 activities, which were print materials and Facebook. Three farms each were using 3, 4, 5, or 6 activities, one farm using 8 activities and one farm using 10. The majority of farms were using 3-6 marketing activities, which were varied from farm to farm.

Marketing Activities of STW Farms Surveyed

The following table represents the raw data from our study.

Channel	#	%
referral marketing	8	50%
email marketing	9	56%
price specials and promotions	9	56%
Facebook	12	75%
other social media	1	6%
online directories	1	6%
community flyers	5	31%
print materials	11	69%
advertising	5	31%
online store	4	25%
press/PR	1	6%
distributor	2	13%
sales calls	2	13%
networking	2	13%
demos	5	31%

Table Terms

Print materials

Press/PR

Advertising

Distributor

Sales calls

Networking

Demos

Table Definitions

Rack cards or any other printed piece that explains farm product and practices.

Calls or press releases to local media

Paid print ads, direct mail, or vehicle ads.

Using a 3rd party to sell your products.

Phone calls or visits to potential customers or repeat customers.

Utilizing personal and community events to promote your business.

Cooking and sampling the product for potential customers to taste, either at a farmers market, store or event.

**other terms are self explanatory.*

Unique Selling Features

When farmers were asked an open question about the unique selling features of their product, we got some obvious answers such as grass fed, pasture raised, or organic. We heard a few farmers use the term “beyond organic”, indicating that the USDA Organic Program has made some compromises that their personal value set does not agree with, or are justifying their reasons to not buy into the certification program, but still communicating the benefits of organic practices. All of the responses showed that the farmers take a lot of pride in their work, and are happy to discuss their practices. Other responses include:



Other selling features are based on their processing, including nitrate-free value-added products, for which demand is growing. We can even see the demand for nitrate-free meats growing in national grocery chains, with house nitrate-free brands at Trader Joes and Whole Foods, along with the popularization of nitrate-free deli meat brand Applegate Farms - now raking in \$300M in annual sales of nitrate-free multi-species meats, which has grown from zero since the company's inception in 1987. ²

² NRDC Case Study: Going Mainstream: Meat and Poultry Raised Without Routine Antibiotics Use

Processing Activities

When asking the farms about processors used, they were asked an open ended question. Our farms were using an average of 1.8 processors, with some using up to five different plants. The following table represents the raw data from our study. We did not show farm by farm data because we did not want the farmers' ratings of their processors to in any way be connected back to their farm. We identified that 16 farms were being served by 16 different processors, obviously with overlap due to multiple processors per farm. Satisfaction ratings were only allowed to be offered when the farms had worked with a particular processor. The name of the farm that was used for processing via the Amish was not shared.

Processor	Certification	# of farmers using plants	% of farmers using plants	Satisfaction rating (1-5)
Grizzly's	USDA	4	25%	3.2
Leona	USDA	2	13%	5
Bryan's	USDA	1	6%	5
Stevens Bros	USDA	1	6%	5
HLW	NYS	2	13%	4
Four Seasons	custom exempt	1	6%	4
Coffaro's	USDA	4	25%	4
Kerr's	custom exempt	2	13%	3.5
Falconer's	custom exempt	1	6%	3
MacDonald Meats	USDA	2	13%	5
Whiting Foods	USDA	2	13%	3
Joe's Meats	USDA	1	6%	5
Shirks Meats	USDA	1	6%	3
Parker Poultry	NYS	2	13%	4.5
On Farm Birds	exempt	3	19%	n/a
Amish On Farm Chickens	exempt	1	6%	5

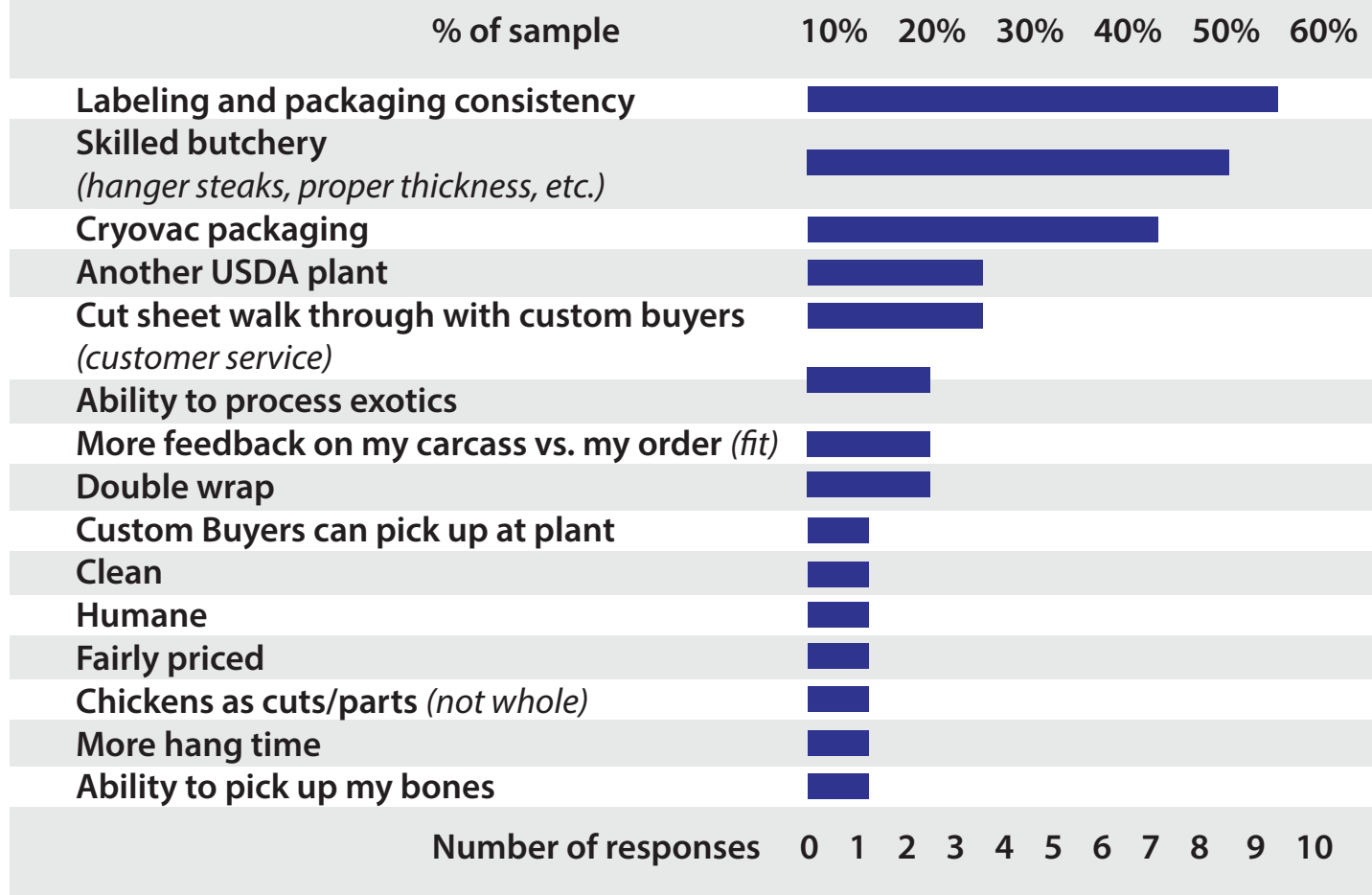
The satisfaction ratings do leave room for improvement but were not nearly as poor as we expected, given the need for a study on processing in the region.



Qualitative Questions on Processing

Next the farmers were asked a series of open ended questions designed to group their unmet needs and challenges to find statistical correlations. The following charts shows what was discovered.

What needs do you have regarding processing that are not being met?



The “Labeling and packaging consistency” groups a few different responses all relative to packaging, including putting the same name on the same cut each time (for example, a flank steak is always called a flank steak), always having ingredients on the value-added product’s label, consistently including the product weights on the label, the placement of the label being square on the package, and the ability to use a customized label with the farm name.

A note on combined labels: Farm Names and USDA Numbers

A number of the farms we interviewed were frustrated with their ability to file the form with the USDA that would allow them to have a USDA approved label with a farm name on the label, and get approved. With a USDA stamp on a livestock product, farmers can get a combined branded label with the plant’s USDA number and the farm name, but it must be approved by the USDA. For on-farm slaughtered birds, approval from the USDA is not needed, but the label must include safe handling instructions along with the farm’s name, address, contact information, and package weight.

The form required to get a USDA approved combined label is FSIS Form 7234-1 and can be pulled up via Google. This form goes to the Washington DC office and takes some time to be approved. An instruction sheet is included with the form document.

A few words of warning – the processor needs to be involved in this process! They need to be aware of the inclusion of their USDA number on the farm’s new label. The farmer should also know what kind of label machine is used, what kind of print stock it takes, and where on that label the cut/weight/price would go, before having it designed. Farmers will benefit from doing their homework and getting the specs first.

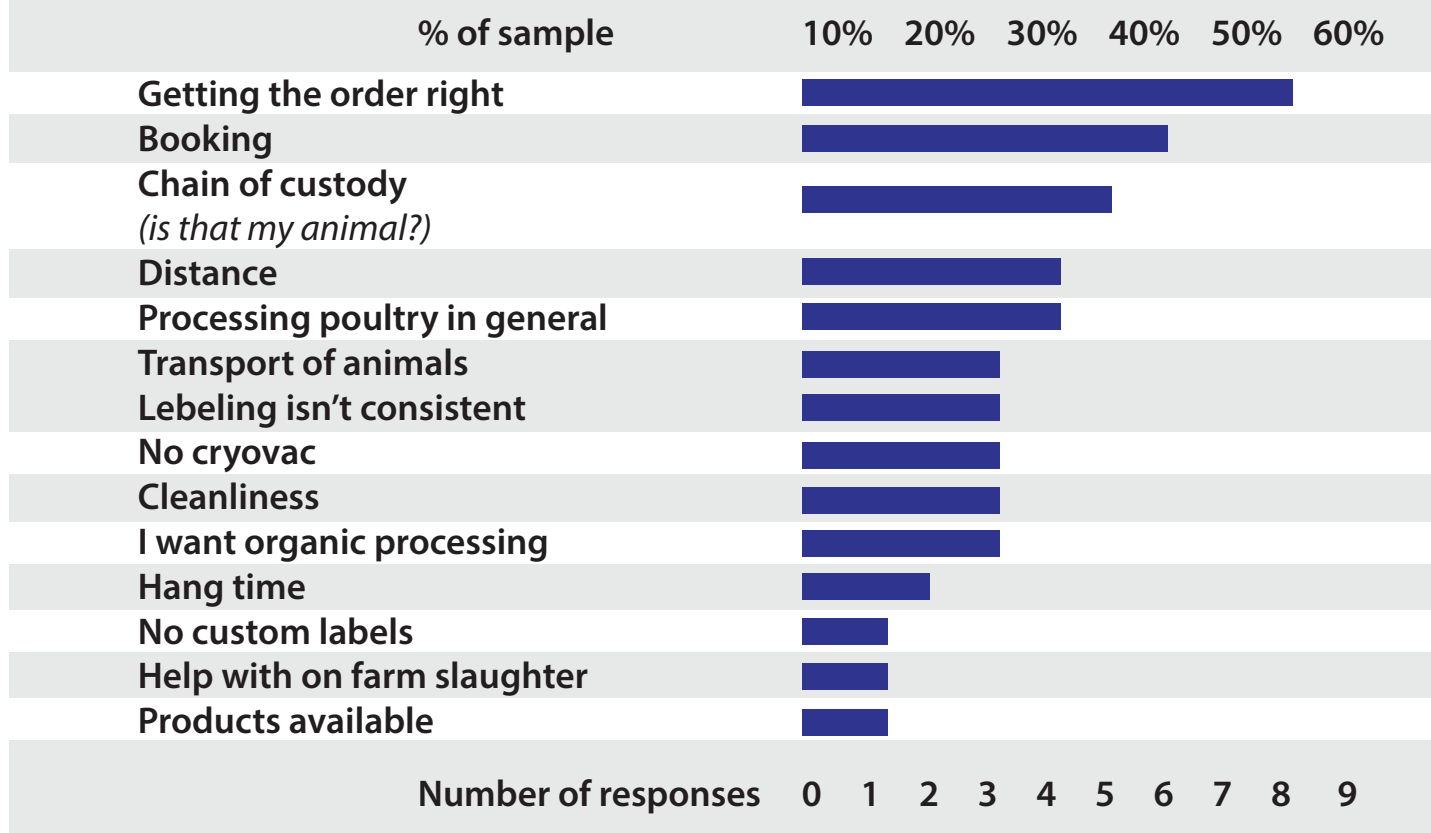
Another option is to hire a private company to push your label through the approval process. We were able to interview Stuart McCarty, owner of Growers Discount Labels. His company has level 2 access through the USDA online system (the same as a USDA inspector) to submit the forms directly, when a farmer would have to mail or fax the label request. The company charges \$50 per application as of the time of our conversation.

KTC cannot endorse their services as we have never used them, but he was open and helpful over the phone during our interview and has worked with many processors in New York State. They are also a design service and sell label design services – the filing of the application is a value-added service for their customers.

An in-plant USDA inspector could also help a farmer find the FSIS Form 7234-1 (We were given a copy by an inspector during a plant visit). However, the inspector could not give any advice on submitting the form or approval parameters.

The farmers were then asked another open-ended question about processing challenges, in an effort to ask the question in more than one way, so as to draw out all answers from the farmers.

What are your biggest challenges when it comes to processing?



Travel to Processing Plant:

While some respondents said distance was one of their biggest challenges, we found this item to be somewhat subjective. We surveyed the farmers to gather average distance and time to processing facilities, and found the average distance to be 74.2 miles or 1.2 hours, with median distance as 65 miles or 1.1 hours.

Some of these issues were also discussed with the processors. While some farmers were concerned that they didn't get back the right animal or all of their meat, all of the processors go one by one on the cutting floor and keep the carcasses and boxes labeled in the coolers. It is a game of finger pointing, and the processors rightfully claim that the farmer has no idea what to expect from a carcass unless they come and see it hanging in the cooler before it's processed.



Demand Analysis

Agricultural Marketing Trends

For the first time this year, the USDA published "Trends in Local and Regional Food Systems: A Report to Congress", which was an eye opening document discussing how US consumers spend dollars in the local food system. According to their report 7.8% of US farms were marketing foods "locally", defined as conducting either direct-to-consumer (DTC) or intermediated sales of food for human consumption, according to Census of Agriculture data. Of these farms, 70% used only DTC marketing channels, which include farmers markets and community supported agriculture (CSA) arrangements, and would also include New York State's "freezer trade." The other 30% used a combination of DTC and intermediated channels or only intermediated channels. **We found the farms in the STW region came in with a much higher rate of DTC sales channels in play, ranging from 13-14%, almost double.**³

³ Trends in U.S. Local and Regional Food Systems: A Report to Congress

Freezer Trade: This is the sale of local meat in bulk, which is frozen immediately after processing. Customers can purchase quarters, halves, or whole animals directly from farmers before the animals go to slaughter (most often beef and pork) and then pick up the meat after processing. This reduces marketing and storage costs for the farm. The Finger Lakes Meat Project has done some research on this topic: their research shows that freezer trade offers consumers an affordable price per pound – a survey of beef prices in the Ithaca area showed that locally raised, high quality beef and pork could be purchased in bulk for less than grocery store meat.⁴ A half-cow purchase would be approximately 160 pounds of meat.⁵

The following statistics are national, from the USDA Report to Congress:

- **Growth Rates:** The number of farms with DTC sales increased by 17 percent and sales increased by 32 percent between 2002 and 2007; however, between 2007 and 2012 the number of farms with DTC sales increased 5.5%, with no change in DTC sales.
That DTC sales did not increase may be due to plateauing consumer interest or to growth in non-direct sales of local food (i.e., local food sold through marketing channels like grocery stores or distributors), the value of which is not measured by the Census of Agriculture.
- **Size of Farms in DTC:** Farms with gross cash farm income below \$75,000 accounted for 85% of local food farms in 2012, according to census data. These farms are estimated to account for only 13% of local food sales. Local food farms with gross cash farm income above \$350,000 accounted for 5% of local food farms and 67 percent of sales.
- **Staying in Business:** Farms selling local food through DTC marketing channels were more likely to remain in business over 2007-12 than all farms not using DTC marketing channels, by as much as 10%, according to census of agriculture data. This could be due to scale, as DTC farms tend to be smaller farms, likely with less overhead (land and equipment). Farms with DTC sales tended to experience smaller increases in sales than all other farms, however, although more likely to succeed and remain in business over the long term.

Farms selling local food through DTC marketing channels were more likely to remain in business over 2007-12 than all farms not using DTC marketing channels, by as much as 10%.

(source: national census of agriculture)

So Who Buys Local Food? ⁶

Several studies have found that the social desirability of buying local food plays a central role in influencing consumers to participate in the local food economy. A national survey found consumers who bought directly from farmers are strong influencers of others in their community, and the buyers at large felt that their actions made a difference for the farmer and local economy. Other reasons noted as impacting local purchase decisions include freshness, taste, concern for the environment, economic impact of transporting food, conscious attempts to avoid synthetic chemicals in food, feeling of empowerment that comes from sourcing locally, perceived social desirability of buying local food.

Restaurants and institutions (hospitals and schools) also buy local food, but are limited by inadequate quantities being available, knowing where and how to buy local food, and understanding the local food shed and what is available at what times of year. Most school and hospital programs are buying milk and produce locally, not meat and eggs, likely because of the high cost of local non-dairy proteins.

⁴ Finger Lakes Meat Project

⁵ Philly Cowshare

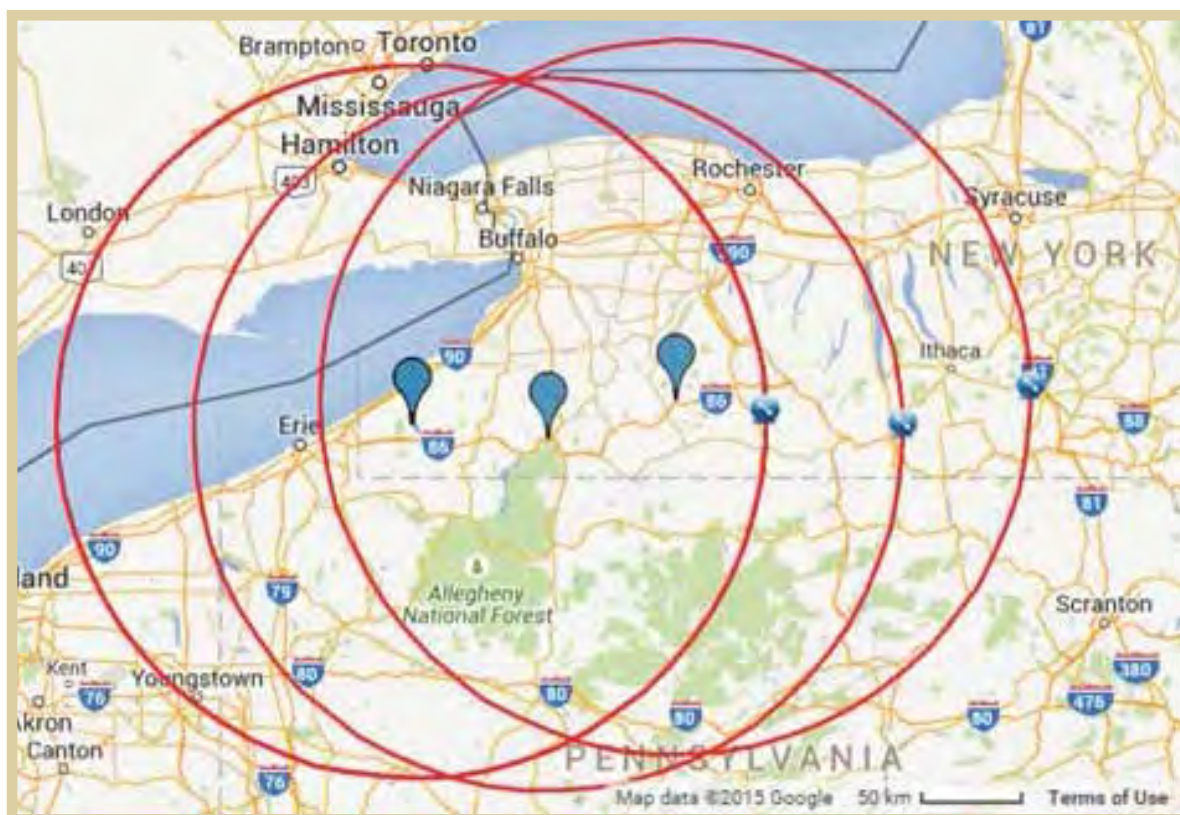
⁶ Trends in U.S. Local and Regional Food Systems: A Report to Congress

Farmers Markets: From 2006-2014, the number of farmers markets have increased 180% nationwide. Fresh Local WNY (Western New York) hosts 20 farmers markets across the region.

- A study that explored New York, Iowa, and California farmers markets addressed how the experience offers contributions to the development of vendors' capacity as entrepreneurs and found that 66% of vendors expanded an existing product line, 50% added a new product category, and 40% made new business contacts. Sales income may be less important than the skills and business experience developed through participation in farmers markets (Brown et al., 2007).

Food Hubs: Although food hubs are not a direct sales channel, it is often the next step for DTC farms that are seeking another sales channel. Nationally, food hubs have increased in number 288% since 2006. In 2013, 76 percent of food hubs worked exclusively or mostly with farmers with sales under \$500,000, of which 26 percent were beginning farmers (those with less than 10 years' experience farming)⁷. This description is a match with our cluster of farmers, yet the region has zero food hubs. The greater area accessible to the region within 100-150 miles has only three food hubs. This could be due to the long driving times over rural roads, or the general geographic spread and low population of the area. Additionally, the farmers we surveyed depended on direct sales, and may not have the margins to accommodate this sales channel without first overhauling their business model. Of course, given the opportunity, they may take steps to develop wholesale pricing, especially if coaching and technical assistance were an option. Nationally, over 50% of food hub customers are within 50 miles of the hub, and 23% were 50-100 miles away. 75% if hubs were located in metropolitan counties, and 16% in adjacent non-metropolitan counties.

Here is a 100 mile radius (food hub distance figure) showing the local food marketplace for STW farms based on a center point of each county:



⁷ 2013 National Food Hub Survey, conducted by scientists at Michigan State University

*The following food hubs are serving the region around STW:*⁸

Headwater Food Hub - Rochester, NY

<http://headwaterfoodhub.com>

Lake-to-River Food Hub, Youngstown, OH

<https://www.localfoodmarketplace.com/laketoriver/>

Both of these hubs are just over 100 miles away from certain parts of the region, and in the 150-mile range from other areas in the counties. The Headwater Food Hub (part of the Good Food Collective) and the Lake-to-River Food Hub are both using a model of sourcing sustainable foods, including meats, from local farmers, and distributing them to stores and restaurants. Both have opportunities to join the hub listed on their website. The other two food hubs in the area are either a food bank model, which is price sensitive, or a produce-only model, which would mean there is not frozen food infrastructure. There are no food hubs listed in the Buffalo-Niagara area, although a WNY food hub is on track to be funded and opened in Buffalo, with Eden Valley Growers as the proposed operator. The project has been on deck since 2013, with this most recent announcement in February.⁹

Farm to School Programs: These programs exist in more than 4 out of 10 school districts across the country, a 430% increase since 2006. Only one of the 17 farms surveyed were selling to schools.

Farm to SUNY

In 2013 “SUNY Commits” was launched, a program that aims to increase the procurement of fresh and minimally processed New York-grown produce and meats at 12 SUNY campuses, some of which are in the STW region: University at Albany, Alfred State College, University at Buffalo, SUNY Canton, SUNY Cobleskill, SUNY ESF, SUNY Morrisville, SUNY New Paltz, SUNY Oneonta, SUNY Plattsburgh, SUNY Potsdam, and SUNY Purchase. The program is working - for example, in 2013 SUNY Albany procured 30% of its pork from local farms.¹⁰



⁸ <http://search.ams.usda.gov/foodhubs/>

⁹ <http://www.buffalonews.com/city-region/food-hub-to-serve-small-farmers-help-them-sell-to-large-buyers-20150217>

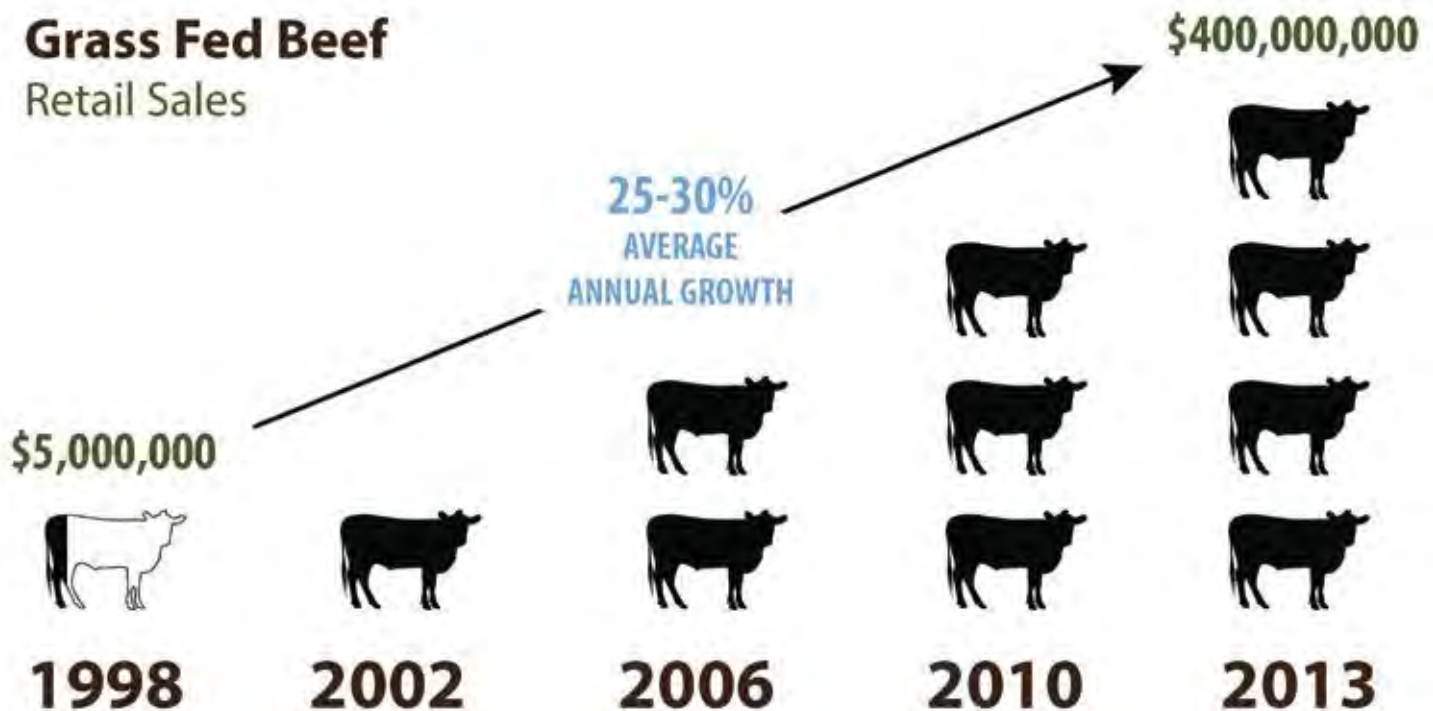
¹⁰ <https://www.suny.edu/suny-news/press-releases/october-2013/10-16-13-suny-commits-to-support-new-york-state-/>

Local Foods Ready to Take Off

Grass Fed Beef

According to data compiled by the Wallace Center of the Winrock Foundation, retail sales of domestically produced grass-fed beef topped \$400 million in 2013, compared to less than \$5 million in 1998 when only about 100 beef producers were seriously involved in grass-fed beef production. In the past 10 years, the demand for grass-fed beef has grown at an annual rate of 25-30%. Recent consumer research indicates that this pace will not slow down significantly any time in the near future. A recent study conducted by Wellspring Management and LMC, LLC determined that grass-fed beef demand in several major metro markets in the U.S. was 3.0% to slightly over 6.0% of the total beef market share (keeping in mind that current grass fed beef sales in major stores are sourced internationally). However, the prospects for market growth look promising nonetheless.

The market for grass-fed beef has grown about 25% annually for 10 years, and shows no signs of slowing.¹¹



Organics

A number of producers in the STW region are growing organically, although some are not certified. This growing demand presents a sales opportunity that indicates a need to certify more processors in the region as organic handlers. This certification can be done through NOFA NY and is explored in the feasibility section of the report.

The market for US organic foods are anticipated to grow 14% from 2013-2018¹²

¹¹ <http://mosesorganic.org/farming/farming-topics/livestock/grass-fed-beef-is-good-for-producers/>
By Stephen DANIELLS, 03-Jan-2014

¹² <http://www.foodnavigator-usa.com/Markets/US-organic-food-market-to-grow-14-from-2013-18>

Demand Model & Explanation

The next step in evaluating processing resources for farmers in the region was to address demand for locally raised sustainable meats. Given the higher margins involved with selling direct to consumer (DTC), we were not surprised to find that almost 100% of the farms were selling DTC. Very few of them were selling to restaurants or specialty/grocery stores, and if they were, it was the fringe of their businesses. Therefore, much of our research on demand is based around the statistics available for DTC sales from the NASS. We did reach out to the local NASS office to discuss the availability of census data on pasture-raised meats or grass-fed meats, and there was no data available. We also chose to avoid data on grass-fed meat purchases in grocery channels, as most of it is not local, and those stores (Whole Foods, Wegmans, Trader Joes, and natural foods stores) serve a very small segment of the population in this region.

Sizing the Market In General

Are STW Farmers Able to Meet Their Demand?

During our survey, we asked the farmers "Are you currently able to produce enough to meet the demand for your product?" 9 out of 16 (56%) farmers said no, they could not produce enough product, and that they are selling out. The other seven said that they could use some help with marketing their product.

In looking at the Southern Tier West region, we created a tiered system based on distance from the three counties. We defined the hyper-local market as the three counties in the region, and the 1st radius as the surrounding counties, including the Buffalo-Niagara area, because many of the farmers interviewed told us they were selling their meat via pickups in Buffalo. The 1st radius includes the seven counties surrounding the STW region: Niagara, Erie, Orleans, Genesee, Wyoming, Livingston, and Steuben. We also defined a 2nd and 3rd radius for marketing purposes but realize that DTC sales are unlikely in this area unless drop points were arranged to serve a critical mass of customers and due to sheer distance and travel time. We can see from this data that 1.7 million potential customers, plus students and tourists, are within the hyper-local market and 1st radius.

NYS County Data for local food market as applied to the STW region:

County	Population 2014	County	Population 2014
<i>Hyper-local Market</i>	258,388	<i>2nd radius:</i>	991,021
Chautauqua	132,052	Monroe	749,857
Cattaraugus	78,600	Ontario	109,707
Allegany	47,736	Yates	25,208
		Schuyler	18,479
		Chemung	87,770
<i>1st radius</i>	1,441,674		
Niagara	213,525	<i>3rd radius</i>	360,319
Erie	922,835	Wayne	92,051
Orleans	41,984	Seneca	34,884
Genesee	59,162	Cayuga	78,823
Wyoming	41,188	Tompkins	104,691
Livingston	64,586	Tioga	49,870
Steuben	98,394		

Applying the Numbers to Local Livestock Products

Looking deeper at the hyper-local market and the 1st radius, we can dive deeper into the number of farms selling DTC and the change factor over the last five years.¹³

County	Total Number of Farms	Percent of Farms Selling DTC	Number of Farms Selling DTC	Direct to Consumer Sales Reported	Growth of DTC Sales Dollars from '07-'12 (\$)
Hyper-local Market:					
Chautauqua	1515	13%	204	\$ 1,307,000	-20%
Cattaraugus	1038	14%	141	\$ 823,000	-18%
Allegany	784	13%	98	\$ 787,000	144%
1st radius					
Niagara	760	23%	177	\$ 3,030,000	17%
Erie	1044	20%	211	\$ 3,468,000	104%
Orleans	487	20%	99	\$ 1,564,000	21%
Genesee	549	13%	72	\$ 5,090,000	-5%
Wyoming	713	19%	138	\$ 687,000	31%
Livingston	661	16%	105	\$ 1,172,000	83%
Steuben	1667	14%	230	\$ 986,000	75%

Overall, we can see DTC sales are slowing in the two westernmost STW counties, but accelerating in Allegany County. There is also competition from farms in the 1st radius, but a healthy market demand with over \$15M in reported DTC sales in that area.

*The national average of farms selling DTC is 7.8%.
The average in the STW region is almost double!*



¹³ The number of farms in DTC sales is sources from the USDA and NASS 2012 census of Agriculture. The information on Americans' food consumption is from the USDA Agriculture Fact Book Chapter 2, "Profiling Food Consumption in America". The percentage of local dollars spent on livestock is from the USDA's "Trends in US Local and Regional Food Systems: A report to Congress". The local food price per pound averages are from our field expert, Julie Hurst and were held up against local prices from the farms we surveyed. Therefore the demand data is a synthetic estimated based on various USDA data sources sewn together, as there is no prior data on STW regional demand for local livestock.

NASS data tells us that 28% of all DTC local food dollars go to livestock and livestock products. Livestock and livestock products as defined by NASS technically include meat, poultry, eggs, dairy, equine, and aquaculture.

County	Livestock Products (all) as 28% of DTC Sales Reported
<i>Hyper-local Market</i>	
Chautauqua	\$ 365,960.00
Cattaraugus	\$ 230,440.00
Allegany	\$ 220,360.00
	\$ 816,760.00
<i>1st radius</i>	
Niagara	\$ 848,400.00
Erie	\$ 971,040.00
Orleans	\$ 437,920.00
Genesee	\$ 1,425,200.00
Wyoming	\$ 192,360.00
Livingston	\$ 328,160.00
Steuben	\$ 276,080.00
	\$ 4,479,160.00



As we have observed at farmers markets and on the product lists of the farms surveyed, the farmers are selling beef, pork, chicken, turkey, lamb, sheep, goat, alpaca, bison, rabbit, duck, goose, eggs, milk, and cheese. The national averages for per capita consumption of those products are listed below, and held up against local food pricing. If an average American consumer purchased all of these livestock products locally, they would spend \$2,000 annually. That would be \$4,000 for a household of 2 adults.

Appendix C hosts a chart of local meat pricing by livestock type, from a sampling of STW region farms.

Livestock Products Sold via DTC Channels, Sales Unit	Per Capita Consumption, US Average	Valued as Local Food Dollars by the Unit	Per Capita Consumption, Valued as Local Food Dollars	Percent of Local DTC Food Dollars
Beef, Pounds	64.4	\$ 10.00	\$ 644.00	32.2%
Pork, Pounds	47.7	\$ 9.00	\$ 429.30	21.5%
Lamb, Pounds	1.4	\$ 11.00	\$ 15.40	0.8%
Chicken, Pounds	52.9	\$ 5.00	\$ 264.50	13.2%
Turkey, Pounds	13.6	\$ 5.50	\$ 74.80	3.7%
Eggs, Dozen	20.8	\$ 5.00	\$ 104.17	5.2%
Milk, Gallon	22.6	\$ 7.50	\$ 169.50	8.5%
Cheese, Pound	29.8	\$ 10.00	\$ 298.00	14.9%
			\$ 1,999.67	

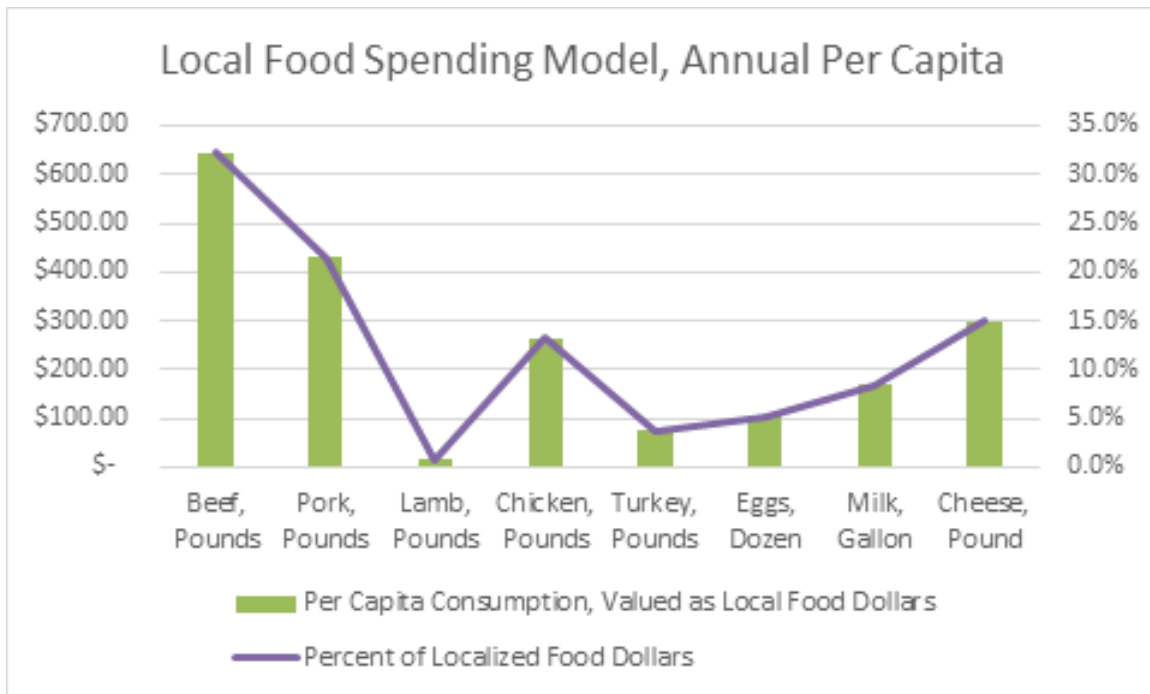
The next table applies the percentage of localized DTC food dollars (previous chart, right) to the DTC spending on livestock products:

County	Livestock (all) as 28% of local food dollars	Beef as 32% of local livestock \$	Pork as 21% of local livestock \$	Lamb/goat as 1% of local livestock \$	Chicken as 13% of local livestock \$
Hyper-local Market					
Chautauqua	\$ 365,960	\$ 117,107	\$ 80,511	\$ 3,660	\$ 47,575
Cattaraugus	\$ 230,440	\$ 73,741	\$ 50,697	\$ 2,304	\$ 29,957
Allegany	\$ 220,360	\$ 70,515	\$ 48,479	\$ 2,204	\$ 28,647
	\$ 816,760	\$ 261,363	\$ 179,687	\$ 8,168	\$ 106,179
1st radius					
Niagara	\$ 848,400	\$ 271,488	\$ 186,648	\$ 8,484	\$ 110,292
Erie	\$ 971,040	\$ 310,733	\$ 213,629	\$ 9,710	\$ 126,235
Orleans	\$ 437,920	\$ 140,134	\$ 96,342	\$ 4,379	\$ 56,930
Genesee	\$ 1,425,200	\$ 456,064	\$ 313,544	\$ 14,252	\$ 185,276
Wyoming	\$ 192,360	\$ 61,555	\$ 42,319	\$ 1,924	\$ 25,007
Livingston	\$ 328,160	\$ 105,011	\$ 72,195	\$ 3,282	\$ 42,661
Steuben	\$ 276,080	\$ 88,346	\$ 60,738	\$ 2,761	\$ 35,890
	\$ 4,479,160	\$ 1,433,331	\$ 985,415	\$ 44,792	\$ 582,291

County	Turkey as 4% of local livestock \$	Eggs as 5% of local livestock \$	Milk as 8% of local livestock \$	Cheese as 15% of local livestock \$
Hyper-local Market				
Chautauqua	\$ 14,638	\$ 18,298	\$ 29,277	\$ 54,894
Cattaraugus	\$ 9,218	\$ 11,522	\$ 18,435	\$ 34,566
Allegany	\$ 8,814	\$ 11,018	\$ 17,629	\$ 33,054
	\$ 32,670	\$ 40,838	\$ 65,341	\$ 122,514
1st radius				
Niagara	\$ 33,936	\$ 42,420	\$ 67,872	\$ 127,260
Erie	\$ 38,842	\$ 48,552	\$ 77,683	\$ 145,656
Orleans	\$ 17,517	\$ 21,896	\$ 35,034	\$ 65,688
Genesee	\$ 57,008	\$ 71,260	\$ 114,016	\$ 213,780
Wyoming	\$ 7,694	\$ 9,618	\$ 15,389	\$ 28,854
Livingston	\$ 13,126	\$ 16,408	\$ 26,253	\$ 49,224
Steuben	\$ 11,043	\$ 13,804	\$ 22,086	\$ 41,412
	\$ 179,166	\$ 223,958	\$ 358,333	\$ 671,874

We can learn from this data that farmers can certainly get creative and drive demand for a product where there was previously none. STW has farmers selling alpaca meat, rabbit, and a surprising volume of goat meat, all of which are so small on a national scale that they don't make it onto the Census of Agriculture.

When done well, marketing and product sampling can encourage purchases over the statistical expectations.



As the chart shows, there is a \$1.5M local market for DTC beef, just under \$1M local market for pork, and so on. Our survey shows that the STW region's farmers that we surveyed are in place to raise and process \$881,405 of local meat in the following categories (as market value).

We interviewed about 1/3 of the locally focused farms in the region, so what can be extrapolated is that the STW farms will be pushing \$2.6M worth of local meat products into the marketplace.

Livestock planned for slaughter in 2015, from 16 farms surveyed:

	Cattle	Lamb	Goats	Pigs	Chickens
Total Heads	154	65	27	137	3,805
Total Pounds Yield	53,900	2,275	810	23,975	19,025
Market Value	\$ 539,000	\$ 25,025	\$ 6,480	\$ 215,775	\$ 95,125
Average per pound price	\$ 10	\$ 11	\$ 8	\$ 9	\$ 5
Average Yield per head	350	35	30	175	5

Therefore we can extrapolate that either (1) the STW farmers are already owning a good chunk of the market in the 1st radius, (2) DTC livestock sales are either higher than reported, or the region is selling well above the national average due to its rural nature, which readily integrates farms and farm markets more closely with the general population than urban areas, or (3) ***new market pathways need to be opened quickly to ensure the farmers are able to sell their product in DTC channels, such as new farmers markets or a freezer trade meat promotion program.***

Regional Land Analysis

As a regional planning entity, STW RPDB wants to understand what more processing resources could mean in terms of growth in the farming industry relative to the land in the region. If the demand for local, pasture raised meats increases, is there enough land to meet the need?

There are two ways to look at that question: (1) Are we trying to understand what land could potentially be converted from forest lands to farmland, and is there enough? (2) Are we trying to understand what farmlands that are producing grains for feed could potentially be converted to pasture, and is there enough?

Regional Farmland Maps

Cropscape is a system of maps and data within the National Agricultural Statistics Service (NASS) that provides county maps color coded by use and corresponding information on usage within the county. The appendix of this document contains the Cropscape maps for the three counties in the STW region as follows:

- **Appendix A1:** Allegany County, non-agricultural
- **Appendix A2:** Allegany County, agricultural
- **Appendix A3:** Cattaraugus County, non-agricultural
- **Appendix A4:** Cattaraugus County, agricultural
- **Appendix A5:** Chautauqua County, non-agricultural
- **Appendix A6:** Chautauqua County, agricultural

The following chart¹⁴ shows land usage as relevant to our farm growth question, by county, and by acre.

County	Total Acreage	Pasture	Convertible	Forest
Allegany	662,004	236,554 (36%)	22,641 (3%)	450,162 (68%)
Cattaraugus	846,392	126,874 (15%)	34,617 (4%)	575,208 (74%)
Chautauqua	694,176	149,942 (22%)	55,256 (8%)	388,738 (56%)

Table Terms	Table Definitions
Total Acreage	The number of acres of total land in the county
Pasture	Land reported in use as pasture for grazing or in production of hay or alfalfa, which is used for “grass-fed” livestock in the off-season.
Convertible	Land reported in use for corn (not sweet corn), soy, wheat, or as fallow land, which could potentially be converted to pasture. These agricultural products are used for animal feed, which is why they are considered as convertible
Forest	Land reported as evergreen or deciduous forest, non-agricultural use. This does not include developed land, open space or wetlands.



¹⁴ NASS Cropscape Database

Of the 16 farms that were surveyed for this study on “Values-Based Livestock”, our average farm acreage was 188, and the 16 farms together represented the use of 3015 acres across the three counties. It is also our understanding from the data that STW RPDB provided that this represents about 1/3 of those types of farms in the region. Even if we doubled that production, requiring another 10,000 acres across the three counties, there would only be a 10% impact on the convertible farmland, or a 0.7% impact on the forestlands in the counties.

We can conclude from these numbers that demand would likely be the primary concern long before land availability.

In many cases farms can also expand their capacity via pasture management techniques as opposed to acquiring more land.



Pastured Livestock and Land Use

Stocking Rate	basic relationship between livestock and forage resources: livestock/acre/grazing season or live weight/acre/grazing season.
Carrying Capacity	the number of animals a pasture will support year after year while achieving an acceptable level of performance.
Stocking Density	a specific number of animals in a specific area for a specific amount of time. Strategy used to increase stocking rate over time. (Highly dependent on good management) ¹⁵

The carrying capacity of a livestock farm is not an exactly predictable model, as it is dependent on conditions that are somewhat variable, although it is less variable than stocking density. The influencing factors include soil type, topography, and climate – so within a certain region it can have significant variability.

There are three significant variables to determining carrying capacity – thus the range. They are:

1. **Climate** – variable and expected
2. **Soil type and forage quality** - which are tied together on pasture
3. **Pasture management** - which is producer dependent

Land Resource Areas

The USDA and NRCS have divided the country into Land Resource Areas based on soil type, geography, and climate. The Southern Tier West Region of New York State falls in the Northeast Forest and Forage Region. The Northeast Forest and Forage Region extends over all of New England, most of New York (the exception being the Oswego/Oneida Valley in Central NY) and about a quarter of Pennsylvania. This region has a wide range of annual rainfall, average across the region being between 34–60 inches annually. The mean average temperature is between 40–48 degrees (F). Most of the area is forested, especially the steeper slopes. It has within it several glaciated regions with their own unique characteristics.

¹⁵ Gerrish, Jim. “Stocking Rate vs. Stock Density” Beef Magazine. 2006

The Northeast Forest and Forage Region is segmented into several glaciated regions. Of these the Southern Tier West is divided, almost by county, into two of the regions. Chautauqua County lies almost entirely in the Lake Erie Glaciated Plateau Region. Average rainfall in this region is 34–50 in. annually, most during the freeze–free period. In addition, the region averages about 40 in. snowfall annually. The mean average temperature is 48-51 degrees (F). Soils in the area are very deep, but range from well drained to heavy clay. About three quarters of this region is in farmland. The eastern end of this region, where Chautauqua County is located (it runs west along Lake Erie into PA and OH) is a mix of crops, forage crops, and saw timber. Soil quality and topography is more conducive to crop farming than in the thinner soiled, hilly region that define both Cattaraugus and Allegany Counties.

The Glaciated Allegany and Catskill Plateau Region that most of Cattaraugus and Allegany Counties are located in have an average precipitation of 30–45 inches. Most of the precipitation comes as snowfall. Average temperatures are 40–50 degrees (F). Most of this region is forested. The soil is thinner and the topography steeper, thus there are fewer acres dedicated to crop farming than on the Erie Plateau – more farm acreage is in hay, pasture; and in the river valleys, forage crops, potatoes, fruit, and ‘truck’ crops that are shipped out of the region. ¹⁶

Carrying / Stocking Capacity

The following standard formula is applied to determine stocking capacity:

$$\text{Annual stocking capacity} = \text{seasonal forage production} \times \text{utilization rate}$$

Beef, Sheep & Goat

According to University of Maine’s Cooperative Extension Grazing Management Course, in the Northeast / New England / Mid-Atlantic Region this equals approximately 1050 lbs of livestock per acre, or as follows: ¹⁷

1 mature beef / acre or 1 AU*

2-5 feeder / steers

8-10 sheep

8-10 goats

* Animal Unit is defined as one 1000 lb. cow (with or without calf)

According to Penn State University’s Agronomy Guide¹⁸, the following guidelines are recommended, and corroborate the data from the University of Maine:

Species – Weight: AU (animal unit) per acre

Mature beef – 1000lbs: 1

Feeder beef – 400-800lbs+: 2- 3

Sheep/goats– 100-120lbs: 8 - 10

¹⁶ USDA/NRCS “Land Resource Region and Major Land Resource Areas of the United States, The Caribbean, and The Pacific Rim” USDA Handbook 296 , 2006

¹⁷ <http://umaine.edu/livestock/home/pasture-course/lesson-5/seasonal-carrying-capacity/>

¹⁸ <http://extension.psu.edu/agronomy-guide/cm/sec8/sec810l>

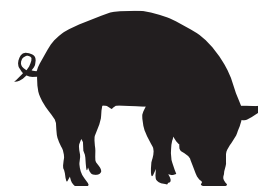
Pork

Recommended Hog Stocking Rates are as follows:

Source	Hogs per acre with supplemental feed	Hogs per acre on pasture	Notes
Sugar Mountain Farm, Vermont ¹⁹	4000 lbs or 10-15 hogs	2000 lbs or 6-8 hogs	Not all pig breeds digest forage as well
NCSU Crop Science Department ²⁰	30 hogs maximum to avoid bare ground		Bermuda grass or fescue and clover.
NC State University ²¹	15-30 finishing hogs	15 hogs maximum if using annual forage	
Iowa State University ²²		Up to 25 gilts per acre	Gilt – A young female swine, generally under 12 months of age, who has not yet farrowed, weighting between 450-500 lbs

Stocking rates will depend upon soil fertility, quality of pasture and time of year. Recommended pasture stocking rates from University of Missouri offer various weight ranges: ²³

Sows with litters	6-8 per acre
Pigs from weaning to 100 pounds	15-30 per acre
Pigs from 100 pounds to market	10-20 per acre
Gestating sows	8-12 per acre



Poultry

Almost all of the producers raising poultry in the STW region are using the Salatin Method, created by Joel Salatin of Polyface Farms in Virginia. Using the Salatin Method, farmers use small mobile pens that are 100-120 square feet, and are moved daily for 60 days.

Stocking Rate = approx. 600 broilers / acre

Carrying capacity in this scenario likely far exceeds the labor and time required for pastured poultry. Additionally, farmers can overlap with ruminant grazing, and by having animals following each other, greatly increase the output on a single piece of land.

¹⁹ <http://sugarmtnfarm.com/2007/10/12/how-much-land-per-pig/>

²⁰ a. Barker, James C. "Swine Production Systems Management: Open Dirt or Pastured Lot" - North Carolina Extension Service, 1996

²¹ Bordeaux, Chris, et al, "Nutrient Management in Pastured Swine Operations," NC State University

²² "Outdoor Pig Production: An Approach That Works", The Pig Site, Iowa State University and Leopold Center for Sustainable Agriculture. 2001.

²³ Wheaton, Howell N. and John C. Rea. "Forages for Swine", University of Missouri, Ag. Extension. 1993

Regional Summary of Carrying Capacity

Given the geography of the region, it appears the area with the most natural resources for any type of agriculture would be found in Chautauqua County. However, given that it has a higher percentage of acreage that is conducive to crop farming, higher fertility and better topography, farmers may be less inclined to grazing from a profitability standpoint if the economy favors grains and forage. As we know, many farmers choose to raise animals on pure pasture for the marketability and values set. If pasture is well managed in this region, it holds that carrying capacity in this region will be higher than in the eastern two counties with the same equally good pasture management. With the Glaciated Allegheny Region making up about 2/3 of the Southern Tier Region, a higher percentage of its agricultural land is already in hay and pasture. The potential for greater pasture-based agriculture is likely higher in this region than the more fertile Chautauqua County region.

The wild card in the mix with carrying capacity of any piece of land is always the farm management.

Environmental Spillover Factors to Consider

While working to encourage a stronger market for local and sustainable meats in the region, STW RPDB must consider what spillover factors may occur when expanding livestock production. The following information is distilled from an interview with the Natural Resources Conservation Service (NRCS) in Ellicottville, NY; the local USDA NRCS station for the region.

"In general, small local farms don't plan for growth", was the kick off to our discussion on environmental factors in farming livestock. ***The following growing pains are to be considered:***

Lack of planning for water sources – A cow-calf pair requires 15 gallons of water a day, a yearling cattle ten gallons, and a sheep two gallons. Therefore a farm with 40 head of cattle is going to need 600 gallons of water per day, just for the livestock.²⁴ Finishing pigs require 3-5 gallons per day.²⁵

Overgrazing – Issues occur most often in winter housing areas, feeding areas, and other heavy use areas, leading to bare ground and heavy manure areas. In a situation of overgrazing there may also be an overcrowding problem.

Poor Positioning – If animals are grazing too close to streams and road ditches it could lead to water contamination, or expose animals to pesticide and herbicide runoff from other farms that wind up in the same waterway. In addition, the livestock manure can create a nutrient loading environment for the streams or waterways that receive the farm's runoff, impacting the native fish and wildlife population.

NRCS can help landowners identify concerns related to their resources including: (1) soil erosion, (2) water quality, and (3) wildlife habitat. There are government programs in place to provide financial assistance via cost sharing to farms and property owners to help create buffer zones and move barnyard areas if necessary.

The three channels where NRCS would work with livestock farmers on developing plans and management practices include, (1) Livestock Waste – how, when, and why to spread it, (2) Grazing – paddock sizes, forage quality, supplementation, carrying capacity, and (3) Soil Health. There are competitive programs that grant funding for NRCS assistance.

The NRCS agent for contact in Ellicottville, NY at the USDA office is Angie Perkins – Angela.perkins@ny.usda.gov.

²⁴ Source: Watering Systems for Grazing Livestock, Great Lakes Grazing Network and MI State Univ.

²⁵ Glen W. Almond, College of Veterinary Medicine, North Carolina State University – North Carolina Healthy Hogs Seminar

Obstacles to Growth

While this study is focused on the impact of a growing market for local and sustainable meats, there are many obstacles to success including low population, long seasons of excessive freezing temperatures, rural roads and long distances between towns and cities, lack of co-ops and natural food store outlets, very few food hubs, and lack of regional brand presence. While Fresh Local WNY is developing as a local brand, it is fairly new. The rural nature of the region makes access to big cities and the associated big market populations difficult. Buffalo is the primary market in the region, technically lying outside the STW region to the north, and is a two-hour drive from the counties. While Buffalo hosts stores like Wegmans and Whole Foods that appeal to the sustainably minded buyer, showing us that the demographics for the sustainable meat products exist, our STW farmers are selling mostly direct-to-consumer, and are not built to scale for wholesale pricing or using intermediated sales channels. There is also a Wegmans in Jamestown, but compared to the population of Buffalo, the market size is about 11%.

When comparing the STW region to some of its neighbors, there are companies that are grouping and branding products from their region as a whole and providing distribution services on a small scale. One example that is geographically relevant is Finger Lakes Farms, a small distributor operating the website ilovenyfarm.com. They are serving approximately 30 grocery and restaurant locations, including Wegmans in Jamestown, and the Feel Rite Fresh Market in Hamburg, and stores around Buffalo, Rochester, Syracuse and Ithaca - picking up from 20+ farms in the Ithaca area. With only a few livestock farms on their stock list, there could be an opportunity to explore. STW farmers would certainly benefit from a local food marketing company that would push the region's sustainable livestock products to market, giving the farmers a new sales channel to pursue.

Nature's Remedy – An Example of Local Opportunity Lacking Distribution

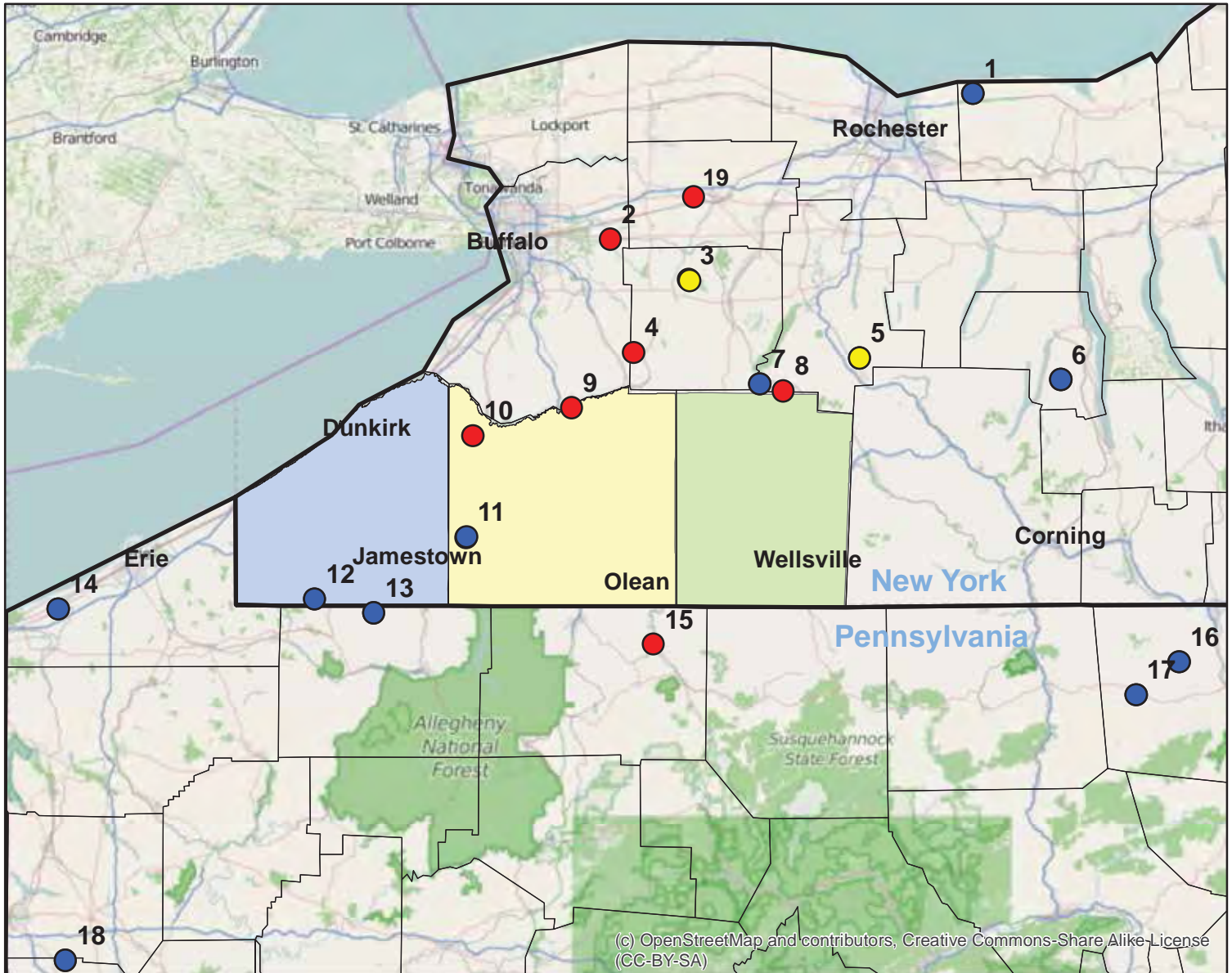
Nature's Remedy is a small and adorably curated natural food market and holistic center in Ellicottville, NY – serving the Holiday Valley area, a small town, but busy with tourists during ski and hiking season. The shop sells a variety of body products and essential oils alongside natural foods, ranging from gluten-free snack crisps to fresh fruits and vegetables and a selection of pantry items and proteins. The shop boasts some local produce, however the freezer case is full of Applegate Farms and Organic Valley products, simply because of ease of access. There is a great opportunity here for a farmer to supply frozen beef, pork, turkey, chicken, eggs and dairy. However, the store is so small that the economies of scale would not lead six different farmers to deliver here. Stores like this are a great example of how cooperative branding and distribution can open up local sales opportunities in organic and sustainable foods.

Local Meat Processing Facilities

After interviewing 17 local livestock farms in the STW region, we were able to identify and contact 16 processors. Searching USDA and NYS plant lists, Google searching, and then making phone calls to verify that they were still open and serving the public, we were able to identify four more small processors. After contacting them all, we were able to schedule interviews with 12, five of which were visited in person and toured.

The following map shows all the processors we've identified serving the region in our research. If there are other processors working, they are hard to find if you don't have a reference. The meats processed by each processor were prompted by the processors, representing their normal scope of business – they were not asked to discuss processing of rare or exotic animals.

Southern Tier West Region Meat Processors



Facility:

- USDA
- Custom Exempt
- NYS 5-A Poultry

Area Meat Processors

- | | |
|----------------------------------|----------------------------------|
| 1 - Joe's Meats | 10 - Kerr's |
| 2 - Jim Simon Meats | 11 - Kennedy Meat Market |
| 3 - HLW Acres Poultry Processing | 12 - Stevens Brothers |
| 4 - Falconer's Meats | 13 - Coffaro's Custom Butchering |
| 5 - Parker's Poultry Processing | 14 - McDonald Meats |
| 6 - Shirk's Meats | 15 - Four Seasons |
| 7 - Grizzley's | 16 - Bryan's Meat Cutting |
| 8 - Ressler's Processing | 17 - Leona Meat Plant |
| 9 - Bond's Meats | 18 - Whiting Foods |
| | 19 - M & M Meats |



This Map was Created by:
Southern Tier West RP&DB
GIS Department
July 2015

0 20 40 80 Miles

Local Meat Processing Facilities (cont.)

Of the 12 processors we interviewed, one of them is private, processing only for their farm, which is a confinement operation with high volume of 250 cattle per year. For statistical purposes they were eliminated from the following analysis.

- ***36% of facilities have excess capacity and are concerned about their ability to pay their overhead,*** actively seeking more customers. 36% are wait-list only for new customers, but claim that they are able to rotate in a majority of their waiting list as cancellations occur or existing orders downsize. One plant (9% of our sample) has no capacity available, and 27% have seasonal capacity available.
- Processors biggest challenges are staffing and regulations (each 55%). Other concerns include costs and customer satisfaction.
- On average, the processors employ 8.7 employees, with rates ranging from an average of \$8.94 per hour to an average of \$15.56 per hour. At 50% of plants wages max at \$14, with top end wages as low as \$10/hour for butchery.

Qualitatively, very few processors understand the value that nuances of their business provide to the farmer, or are able to articulate their role in the sustainable farming or local food movement when prompted. When asked “What value do you provide to your customer; what’s the most important thing that you provide your client?” a select few of the processors were certainly in touch with their ability to go above and beyond the service of butchery, citing features like (1) quality workmanship, (2) taking their time with the farmers’ bulk customers, walking them through their cut (order) sheets to make sure they are happy with the final product, (3) catering to farmers with emergencies as best they can, (4) doing anything the customer asks that is allowed – bones, organs, whatever cuts they want, and (5) knowing their customers, building relationships and taking great care of them. A few of the plants were incredibly impressive businesses, providing added value above and beyond butchery services, offering stable jobs in their community, and passionately connecting with the outcome of their work.

However, other processors expressed quite the opposite sentiment, quoting: “We cut meat and do the work no one else wants to”. There is a vein of truth to the plant owner’s statement of course, but it was no surprise that the same plant showed lower satisfaction with their profits. The truth is, local, sustainable meats can’t happen without these processors, they are a vital part of the supply chain, yet sheltered from the buzz of local and organic demand. They also lack community and educational resources – the small/sustainable/local/organic farming movements have been showered with educational resources and ways to connect, from private organizations to extension to economic development, when the meat processors have had none of it. Only a rare few of the processors had even been to visit their closest neighboring plants, an hour’s drive.

Many processors also said they couldn’t quantify the number of farmers that they serve, with guesses ranging from 30-200. 50% said they “have no idea”. A majority of local processors are working with a range of 10-30 head of beef per week, and 12-30 pigs per week; extrapolating that to mean an average of approximately 750 head of cattle per year and 800 pigs per year. All non-poultry processors also handled goat and sheep, but relatively handled “very few”.

Those processors that had retail operations on site that made up a significant portion of their business had more confidence in the survival and profitability of their business - they answered enthusiastically whether they made a profit on the business and were happy with their personal salaries, whereas some others admitted they were barely scraping by. Many processors were concerned about succession planning, having no members of the family interested in taking over the business in the foreseeable future.

History

During our farmer survey, we asked the farmers “have you always used these processors? How have things changed over time?” In response we heard a few stories of processors that have closed down, one in Olean and one in Springville, and another slaughterhouse in Allegany County that was gone. A number of farmers also used to process at Wilson’s and at Walter’s, both of which only do their own animals today. One of the farmers that we interviewed used to be part of a beef cooperative with a plant, but it also closed down because “it’s a tough business, with a lot of overhead”. This is the same commentary we hear from our STW regional processors, some of which are obviously struggling with their pricing and their business practices.

When we asked our farmers in the survey what they would need to grow their business, most said more pasture or employees. Only one said more processors.

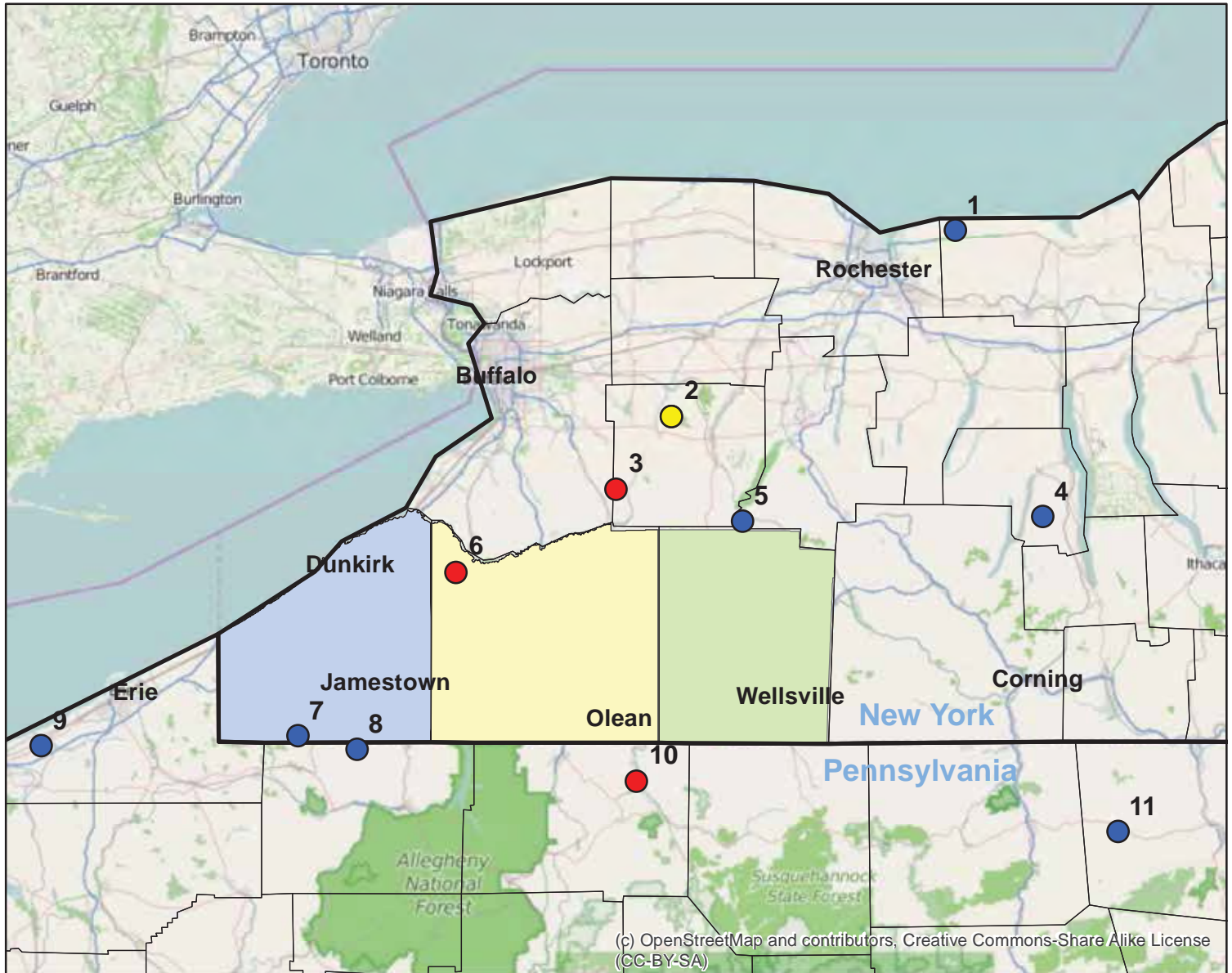


Survey Results from 12 Processing Plants and their stories

The following map shows the processing facilities that participated in our survey. Names have been removed. All questions were presented as optional, and some responses were opted-out.



Southern Tier West Region Meat Processor Survey Participants



Area Meat Processors

- | | |
|----------------------------------|--|
| 1 - Joe's Meats | 1 - Cows / Pigs / Goats / Lamb / Sheep / Rabbit / Ostrich |
| 2 - HLW Acres Poultry Processing | 2 - Chicken / Turkey / Pheasents / Venison |
| 3 - Falconer's Meats | 3 - Cows / Pigs / Goats / Lamb / Sheep / Bison / Deer / Elk / Water Buffalo / Yak |
| 4 - Shirk's Meats | 4 - Cows / Pigs / Goats / Lamb / Sheep / Veal |
| 5 - Grizzley's | 5 - Cows / Pigs / Goats / Lamb / Sheep / Rabbit / Ostrich / Emu / Ratites / Alpacas / Deer / Elk / Bison |
| 6 - Kerr's | 6 - Cows / Pigs / Goats / Lamb / Sheep |
| 7 - Stevens Brothers | 7 - Cows / Pigs / Goat / Lamb / Sheep / Deer |
| 8 - Coffaro's Custom Butchering | 8 - Cows / Pigs / Goats / Lamb / Sheep |
| 9 - McDonald Meats | 9 - Cows / Pigs / Goats / Lamb / Sheep / Bison / Deer |
| 10 - Four Seasons | 10 - Cows / Pigs / Goats / Lamb / Sheep / Deer |
| 11 - Leona Meat Plant | 11 - Cows / Pigs / Goats / Lamb / Sheep / Water Buffalo |

Facility:

- USDA
- Custom Exempt
- NYS 5-A Poultry



This Map was Created by:
Southern Tier West RP&DB
GIS Department
July 2015

0 20 40 80 Miles

Our processor survey contained about 25 questions, some open ended, but most with checkboxes to choose answers. Processors were also given an opportunity to tell their story, and make comments off the survey. Most of the processors opened up to tell their story and we were able to get to know their stories – some borrowed traditional bank loans to start their business from scratch, some financed their purchase of the plant directly from the prior plant owner who retired, others were raised in the family business. The plant owners get their experience from three major pathways; (1) taught by their family, (2) learned to butcher in another job, such as meat cutting in a grocery store when they used to get whole sides, or in the military service, or (3) started doing custom orders for deer and grew from there.

Many of the plants are 50 years old and could improve efficiency and capacity with selected upgrades to the facility or equipment. Some of the plants are open part time, working an evening shift only to keep overhead low, and others are humming six or seven days per week.

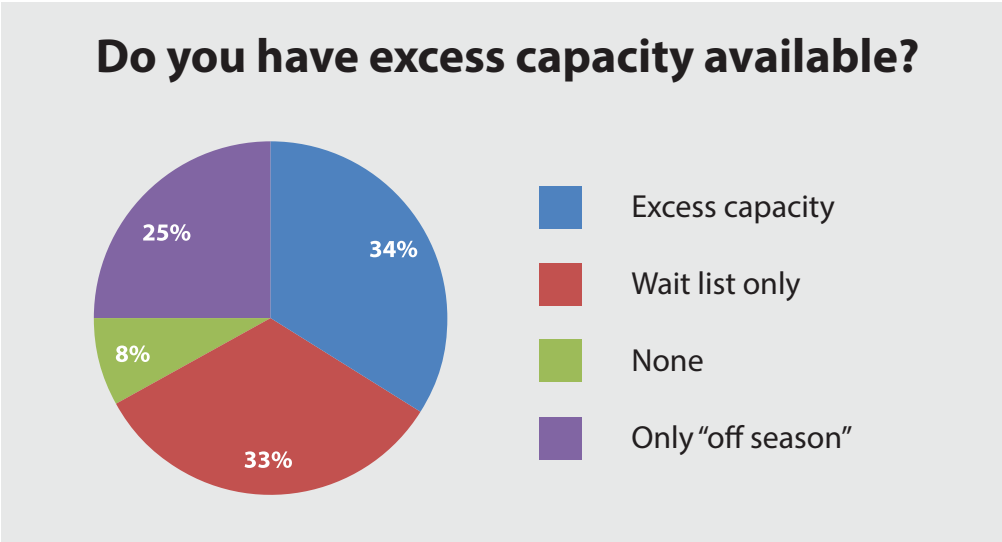
The full survey results and raw data are the property of STW RPDB. Because the processors were told that their answers would not be connected with their business, no names are included on the survey results below. The survey asked questions on a broad range of topics including customer service, services offered, volume, certifications, capacity, seasonality, pricing, challenges, and workforce.

A sample of the survey can be found in the appendix of this document.

Capacity

When prompting processors about their ability to take on more work and available capacity, they were given four options to select.

Additionally, processors with waiting lists said they were often able to work those customers in for processing, due to cancellations and reduced orders from reserved bookings.

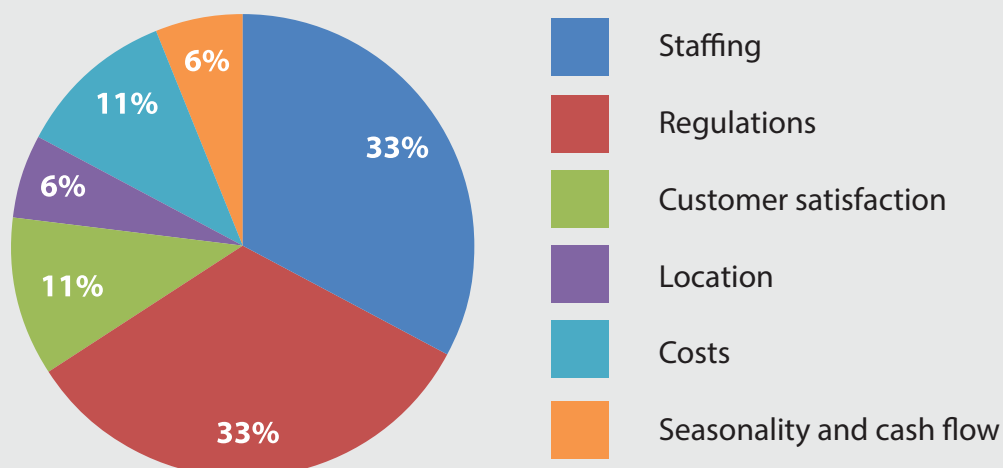


Additional capacity could also be created at plants with investment in infrastructure or equipment, by making more cold storage space or improving efficiency.

Biggest Challenges

We asked plant owners, “What’s your biggest challenge as owner of the business?” – leaving the question opened ended allowed for a range of answers.

Processors' Biggest Challenges



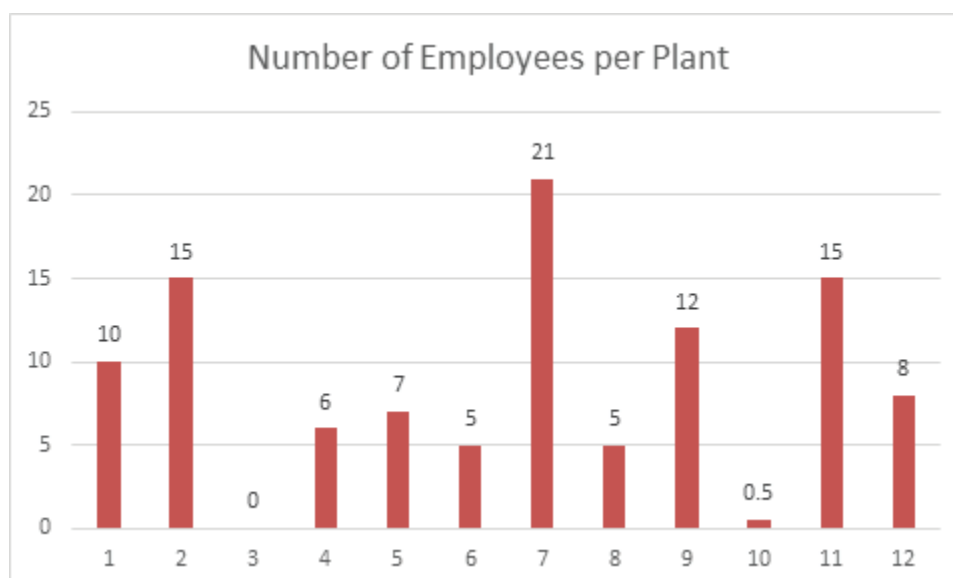
The unknown costs of annual compliance with new regulations makes budgeting extremely challenging.

The most common answers were staffing and regulations. The processors were generally pleased with their workers, but had a few key issues. When asked to articulate, staffing problems are threefold; (1) finding a good worker when there's an opening, (2) concern over being able to take good care of their workers and keep them employed all year, and (3) a shortage of USDA inspectors and turnover there, creating an environment with little consistency and continuity. When discussing regulations, the issues are with the burden of all the information that needs to be tracked in different required clipboards, and also with the changing costs of maintaining regulations, such as testing, facility or equipment upgrade requirements.

Workforce

The processors have a wide variety in pay rates and number of employees. *The following chart displays the number of employees, by plant surveyed.* A response of zero means that the plant owner does all the work himself. Fractional responses indicate part time employees. Two part-time employees would display as one employee in number.

Average number of employees	8.7
Median number of employees	7.5



Employees in the plants are used for a variety of tasks including slaughter, meat cutting, and pack and wrap. Operations with a retail store had a cashier that also took customer orders over the phone. In some plants, meat cutters had to leave the cutting room to answer the phone. Some plants had an employee to do all the smoking and value-added such as sausage making, and in other plants the owner specialized in the smoking and product recipes, while in other plants the owner was working on the cutting floor. When asked about business, administrative and marketing activities, most plants had an outside bookkeeper and most did very little marketing, if any.

The following chart shows the range of employee wages from the plants we interviewed, when they would share the information.



	Low end wage	High end wage
Average	\$ 8.94	\$ 15.56
Median	\$ 8.00	\$ 14.00

Hiring Methods and Challenges

Most of these plants don't have problems with high turnover, which we expected to find. The real pain point is replacing an employee with someone long-term if a staff member moves away or ages out of the job. When in need of a new worker, most use staff referrals and word of mouth. Processors state that it is hard to find people who can handle that level of physical labor and be reliable. One processor stated that they have trouble retaining employees with the natural gas companies paying \$18/hour, and another processor stated that they lost employees when Wegmans opened a store in the general area.

When the processors do need to go beyond their employees' referrals for general staff, one takes out ads in the local paper while another says that newspaper ads for slaughterhouses draw in crazy people. Another processor puts a sign in the post office. Two put a sign out front, another two go to the local workforce development office or call the unemployment office.

Finding a skilled meat cutter or butcher can be very difficult, as compared to years ago when grocery stores trained butchers and meat cutters, before the days of primal cuts and boxed meat. The Workforce Development section below shares information on butchery training programs.

A note on terms:

Boxed Beef: Industry terminology for primal and sub-primal cuts of beef that are vacuum sealed and packed into cardboard boxes for shipping.

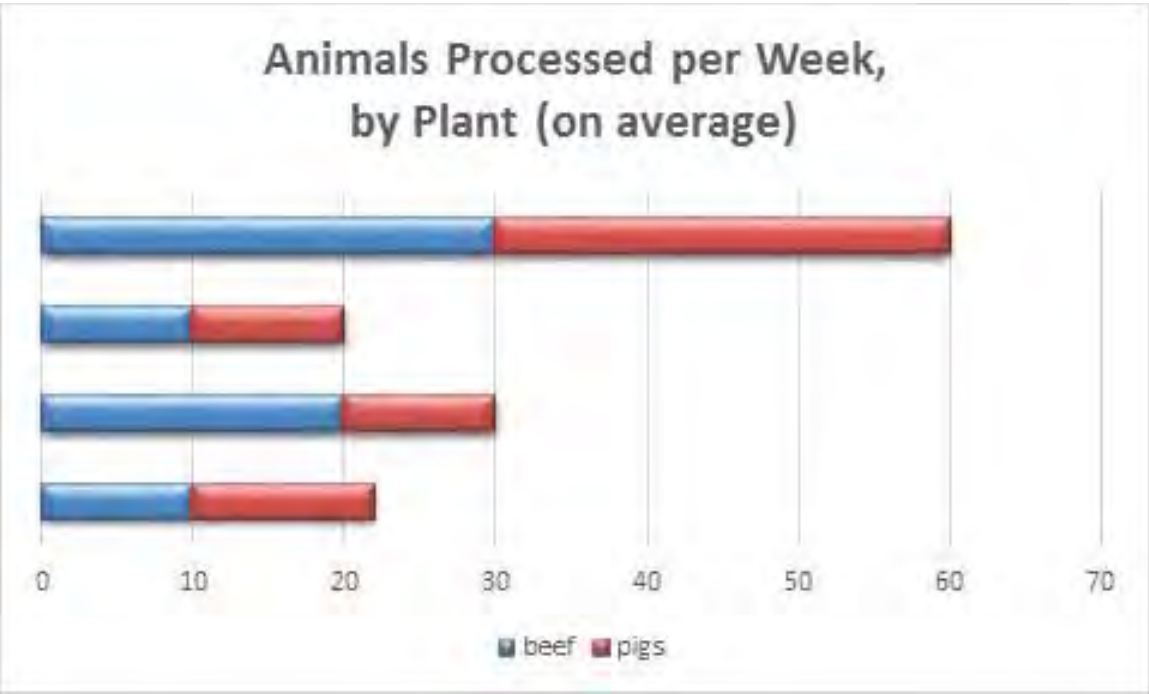
Primal Cut: A piece of meat (section of carcass) initially separated from the whole carcass of an animal during butchering. Examples of primals include the beef round, loin, rib, and chuck or the swine ham, loin, Boston butt, and picnic.

A Sub-Primal Cut (also used as “Subprimal”): A cut of meat that is an intermediate step between a primal cut and a Portion Cut. The term is used loosely and can refer to cuts of meat from many species of animals. Sub-Primals can be sold whole in the meat case as larger cuts for home consumption (like a whole rack of ribs).

Size of Customer Base

We attempted to quantify the size of the customer base and the corresponding volume with each processor, but they weren’t really sure since they weren’t engaging in any outbound marketing activities. When we asked the plants how many farmers they served, five said they had no idea and still would not offer an answer when asked to guess. The others replied that they were also not sure, but they guessed, responding with the following number of farmers: 30, 60, 75, 150, 200, 400.

Next we asked how many animals they processed per week on average, another question most were hesitant to answer. We did have four plants answer the following:



Carcass Yield Advising

We also asked the processors to tell us how they could help guide their customers to understand how the live weight would translate to hanging weight, and final yield. Our goal was to hear what formulas or resources the processors were using, since some farmers thought their orders were short of expected yields. We saw a fair amount of variability. Answers included the following, paraphrased:

- Beef Check Off Program's "Beef Cuts" document, advising the customers there can be up to 5% variation. This document is designed for a 1300 pound steer that dresses at 62%, or 806 pounds. That document can be found here:
<http://www.beefresearch.org/CMDocs/BeefResearch/PE/CarcassBreakdown.pdf>
- No formula works across the board. "We just try to make them understand that you lose half the hoof weight, best case 40% on a great animal, and you can lose 33% more if the animal isn't in good shape and depending on bone in vs. bone out cuts." [That translates as a 1000 pound animal delivering 600 pounds of finished product best case, or 400 pounds with bone-out cuts or too much fat to cut away.]
- Some processors emphasized that the farmer should know what to expect, but they try to help the "Greenhorns" understand us much as possible.
- Advising pig farmers to figure out how to deliver an animal with a higher protein to fat ratio would yield more meat.
- We walk them through the whole process step by step and advise the customer based on the animal once we see it. We always invite the farmers to come and see their animal in the cooler and have a conversation about it.
- We refer to the Cornell Extension brochures.
- We use this formula based on live weight: live weight to hanging weight is 65-72%, hanging weight to freezer weight is 50-62%. [A 1000 pound animal would hang at 650-720 pounds, and produce 325-450 pounds of product.]
- We will take up to 30 minutes going through an order with a customer. Finished weights will range from 67-50% based on fat. Average yield of hanging weight is 67-69%.
- A few processors said they had no good formula, they just try to walk the customers through it with as little confusion as possible.

The variability in the answers supports the confusion of farmers, especially beginning to intermediate farmers, in understanding what they will get for their order, and what their income potential per animal will be. Penn State Extension published a document with the tongue-in-cheek title "The Butcher Kept Your Meat?"²⁶, with yield expectations a bit higher than these regional butchers – carcass weight on beef at 60%, and product yields of 65-70% carcass weight for bone-in, and 55-60% for boneless.

The full document is in Appendix E of the report.



²⁶ <http://animalscience.psu.edu/extension/meat/pdf/The%20Butcher%20Stole%20My%20Meat.pdf>

A note on terms:

Aging: The process of holding raw meat for a period of time before processing for the purpose of tenderizing and condensing flavor.

Dry aging – performed by storing the meat exposed to air under refrigeration. Evaporation of moisture from the muscles serves to concentrate the flavor and cause significant weight loss. Natural enzymes break down connective tissue to improve tenderness.

Wet aging - performed by anaerobically packaging the meat and storing under refrigeration. Wet aging increases the tenderness of the meat, and moisture (weight) loss is minimized.

Live weight (also known as “on the hoof” or “hoof weight”) – the live weight of the animal before processing. This is the least commonly used method with direct to market meat.

Hanging weight (also known as “on the rail”) – This term refers to the weight of the beef as it hangs in the butcher’s cooler once the head, hide, feet, organs and blood are removed. Butchers generally base the processing fees on the hanging weight.

Dressed weight (also known as “carcass weight”) – refers to the weight of an animal after being partially butchered, removing all the internal organs and often the head as well as inedible (or less desirable) portions of the tail and legs, depending on the animal.

Dress percentage – refers to the hanging weight of the carcass as a percentage of the live weight. This number varies based on the breed and class of cattle. For instance, the Hereford breed has a heavier hide than say an Angus, so it will have a lower dress percentage.

Cut and wrap yield (also known as “package weight”) – refers to the actual weight of all the packages of individual cuts of meat that will be put in the freezer. When the carcass is broken down into recognizable cuts, there is some loss when cuts are deboned and fat is trimmed away. The carcass yield will also depend on the types of cuts.

Chain of Custody

Chain of custody (knowing who’s meat is who’s during processing) is a big issue for the farmers, who usually never see the animal carcass until it is returned to them packaged for sale. We asked each plant how they track carcass owners through the process. Almost every single processor said that they simply use clipboards at each pen, identifying the animals when the farmer drops them off. Then they use tags on the carcasses, and put the carcasses through the cutting room one by one, using bread racks to store trays of meat for one animal, and the bins and racks are labeled with the owner’s name. When the meat is packaged, it is done one animal at a time and then put into labeled boxes. Organic handlers also have to use lot numbers, which adds one more checkpoint into the process. Only one processor admitted that a mix up could happen.

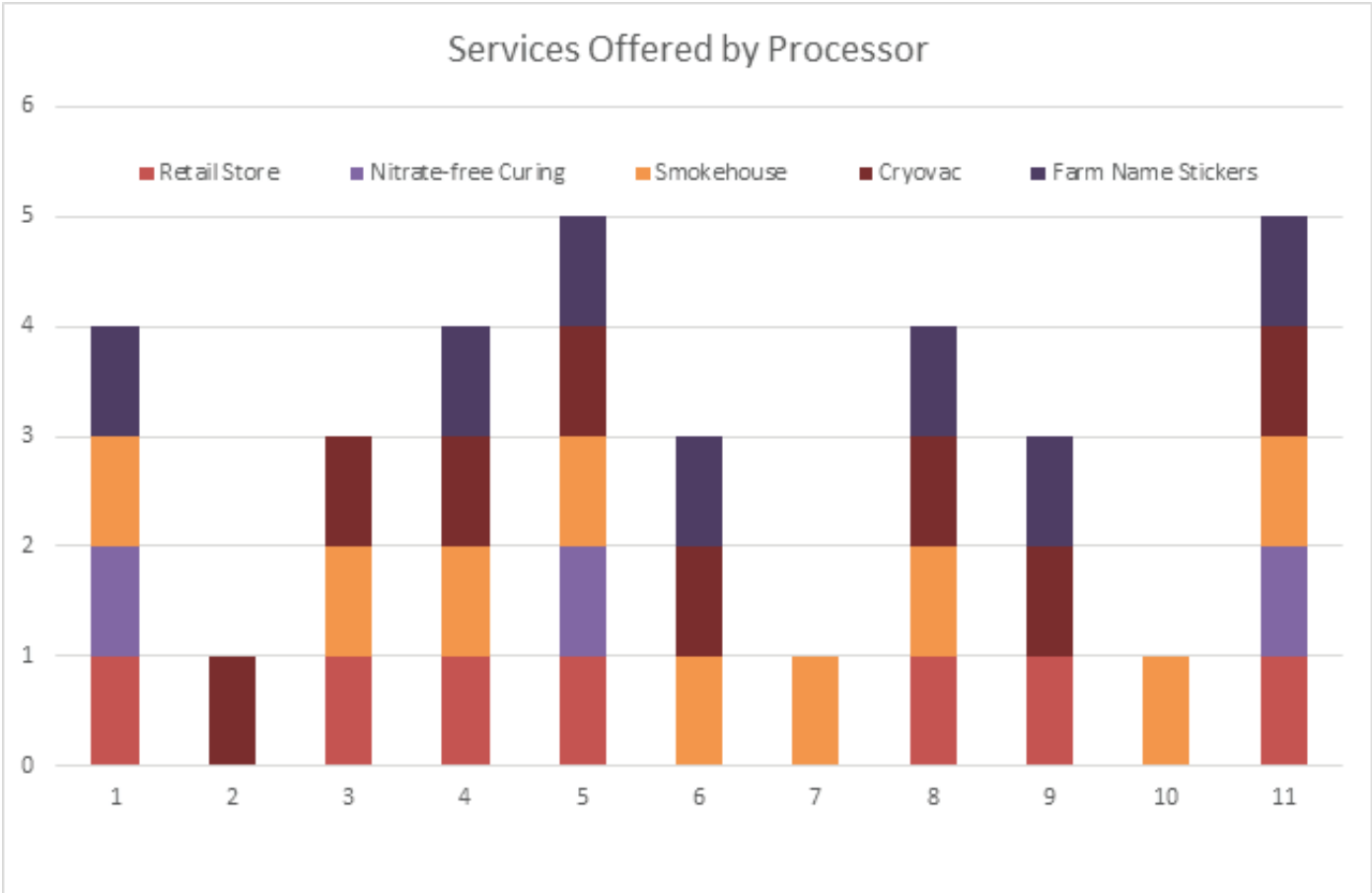
Services Offered

In some places, animals may be slaughtered at one facility, or by a mobile facility, and then butchered and packed at another facility. All of the facilities we visited had integrated holding and slaughter areas, so the whole process was done in one place.

Our questionnaire of services offered was based on services desired by the farmers, the processors' customers. 11 of our plants opted to answer this question. A few key points to understand are that a smokehouse is required to make bacon, jerky, and some sausages. The smoking process involves preserving and flavoring meat by curing it with sugar and added nitrates, traditionally. However, the same audience that is looking for chemical free foods and pastured products is often the same customer that demands nitrate-free meats. Only 27% of the plants offered a nitrate-free curing option, which directly appeals to the values-based customer. "Nitrate-free" curing often uses celery salt, which is high in naturally occurring nitrates, instead of chemical additives or nitrate curing salts. While the semantics of how natural various sources of nitrates may be could be argued, the point is that the farmers' customers want nitrate-free products, so they are in turn asking to be accommodated.

While a few different farmers were struggling with customized farm name stickers, two-thirds of the plants stated that they would work with custom stickers. Of course, the farmer still needs to get USDA approval.

Farmers didn't have strong preferences around whether or not their butcher had a retail store. There were some anecdotal comments that processors with retail stores are more likely to skim off the top of the farm's orders. However, in our visits and research we found that processors with retail stores had stronger ties to the community, more long-term employees, higher wages, and stronger businesses in general. They also often buy whole animals from their customers (the ones with the best looking carcasses).



Processor Pricing

Some of the processors had very straightforward, easy to understand pricing, while others were more confusing, with line item charges for every add-on option. Since each step takes time, labor and supplies, it is not unreasonable for processors to do this, however, some farmers prefer a simpler billing statement.

The process of breaking down the cuts of meat and packaging them is referred to as “cut and wrap”. Most processors charge a cut and wrap fee per pound of packaged meat, a slaughter fee, and then additional charges for smoking, sausage making, or other value-added products. Some processors upcharge for cryovac wrap (as opposed to butcher paper), applying custom labels, or including the weight of each package on the label.

We created a price comparison document across 5 processors, 3 USDA certified, and 2 exempt. *Each column represents a processor’s responses.*

Slaughter Fees					
	USDA	USDA	USDA	exempt	exempt
Beef	\$ 35	\$ 50	\$ 34	\$50	Included with cut/wrap
Pork	\$ 25	\$ 35	\$ 36	\$50	Included with cut/wrap
Disposal	\$ 7	\$ 3	\$ 0	\$10	Included with cut/wrap
Cut and Wrap Fees (by the pound)					
	USDA	USDA	USDA	exempt	exempt
Paper	\$ 0.55	\$ 0.55	n/a	\$0.45	\$ 0.64 *
Cryovac	n/a	\$ 0.59	\$0.71	\$0.60	n/a
Additional Fees					
	USDA	USDA	USDA	exempt	exempt
Label Application (each)	\$ 0.20	\$ 0.25	\$ -	n/a	\$ -
Sausage Making (by lb.)	\$ 0.60	n/a	\$ 0.40	\$1.00	\$ 0.60
Weights on Labels (per lb.)	\$ -	\$ 0.01	\$ 0.02	n/a	n/a
Custom Label Use	no charge	no charge	no charge	n/a	n/a
Smoking (by lb.)	\$ 0.60	n/a	\$ 0.65	no charge	\$ 0.60
Bacon Slicing (by lb.)	\$ 1.80	n/a	no charge	no charge	no charge

*Does not charge slaughter fee

Regulatory Overview

STW RPDB asked for a summary review of processing and slaughter regulations, to further clarify which types of processing can be used for which sales channels, and what basic knowledge is needed to discuss processing options within the industry.

Requirements for USDA inspected Facilities

Licensing

Under the **Federal Meat Inspection Act**, facilities are issued a “Grant of Inspection” to butcher and/or process amenable livestock or poultry. Sometimes plant operators refer to this by the term “federal grant of inspection” or “federally inspected”.

- Facility must conform to the “Code of Federal Regulations for Animals and Animal Products”, which can be accessed here: <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200309>
- Federal inspection requires that a **USDA Food Safety and Inspection Service (FSIS) inspector inspect the carcasses** and if product is to be cut and packaged for commerce anywhere, inspector must be present for cut, wrap, and inspect any value-added processes. The FSIS Inspector services are free of charge as long as they take place within the regular workday. Overtime is charged to the facility at \$80 or more per hour.
- The FSIS inspector will also verify plant conforms to their **Hazard Analysis Critical Control Point (HACCP) plan**, and the owner’s approved **Sanitation Standard Operating Procedures (SSOP)** or SPS plan.

There are various documents online that a plant operator could use to guide them through the application for and requirements of Federal inspection, which cover a range of categories.

Facilities and equipment must be validated by owner’s SSOP or SPS plan to be hygienic.

In general, a wholesome plant is required to have:

- easily cleanable equipment
- washable, nonporous walls and ceilings
- lack of condensation
- appropriate rail heights
- sufficient drains
- sufficient lighting (50 ft candle lights in the processing area)
- floor plan that keeps livestock and livestock contaminated material well separated from inspected meat
- well running and appropriate coolers, rails, drains and hooks
- sufficient septic or municipal sewage facilities,
- pest control
- potable water

Slaughtering

All amenable meat (cattle, sheep, goats, swine, and equines) processed for commerce or moved through wholesale channels must be slaughtered under USDA inspection. Livestock must be stunned prior to slaughter, unless the facility has a religious exemption, which would exempt the facility from stunning the livestock prior to slaughter – stunning is forbidden for Halal or Kosher slaughter, which are protected by New York State laws. When beef is brought to slaughter, the inspector will estimate the age of the animal if birth records are not provided. Any beef over 30 months old will have its spine removed from carcass.

Labeling & Packaging

Labels on meat that is USDA slaughtered and processed must be approved by the USDA-FSIS. Labels must include: establishment number, inspection legend, product name, name and address of the farm or distributor for whom the product is packaged, safe-handling instructions, ingredient list when more than one ingredient is in the product, and nutrition label (only if farmer / distributor makes a claim regarding nutrition). All packaging must be FDA approved food grade.

Storage & Transport

Storage for frozen products is required at 0 degrees (F), and refrigerated at or below 41 degrees (F). Freezer transport is preferred, however coolers are acceptable as long as the appropriate temperature is maintained.



Requirements for New York State Regulated Processing

Some states also have a layer of regulations around meat processing, and other states default to federal laws only. New York State has its own regulations to consider as well.

New York State Licenses and Limitations

20-C Processing

This license is granted from New York State Department of Agriculture and Marketing (NYDAM) for further processing animals already started at a USDA inspected slaughtering facility for amenable meats (cattle, bison, swine, sheep, and goats) or a New York State licensed 5-A Poultry slaughtering facility.

- A 20 – C processing facility is a commercial kitchen
- License application costs - \$400 – renewable every two years
- The application is found here: <http://www.agriculture.ny.gov/FS/license/pdfs/FSI-303.PDF>

The 20 – C license holder can sell their products to consumers including in-state restaurants, hotels, and other institutions, however cannot sell wholesale products to be re-sold (as opposed to consumed on the premises). The 20-C license is often held on top of USDA licenses for processing non-USDA products outside of USDA inspection hours.

- NYDAM may issue several licenses for each facility, at their discretion, this would allow farmers to process their own meat and meat products for sale to their own customers utilizing a shared commercial kitchen.
- With this license co-op or business entity could purchase USDA inspected carcasses from several farms to be processed and sold under a single label product.

Application for Food Processing Establishment License

The license costs \$400 and is needed for any facility that grinds and slices meat. Applicants must demonstrate an individual in a position of management has successfully completed an approved Food Safety Course.

5-A Non-Amenable Slaughter

Non-amenable meat (bison, farmed deer, rabbits, alpacas) is exempt from federal license, but facilities processing non-amenable meat require a NY state license to operate. 5-A facilities are inspected by the state inspectors. Carcasses are not. An inspector is not present fulltime like a USDA inspector.

- Non-Amenable meat processed in a 5-A facility may be sold by the farmer and/or owner of the 5-A facility, however the meat may only be sold to the end user. It may not be sold wholesale, for consumption at a restaurant or institution, or for broader distribution.
- Non-Amendable meat processed in a 5-A facility may be sold both to intrastate and interstate consumers, however only with the permission of the state where the meat is being purchased. Although, it is not clear who enforces this.
- 5-A facilities are held to higher standards than Custom Exempt facilities depending on the regional inspector, may include a HACCP plan, hotter water, or approval of blueprints of facility design/layout.

5-A Poultry Processing

5-A poultry processing facilities can process up to 20,000 annually. Most 5-A processing facilities are on-farm, and are limited to processing only birds owned by the license holder, however several exemptions are available.

- Small Enterprise Exemption: a 5-A facility granted permission to purchase birds from other farmers to process and sell. It is possible that the processor both buys from and sells to the same farmer. However, this requires proper receipts and record keeping from both the facility and the farmer. During the time of processing, the license holder technically owns the chickens, turkeys or whatever animal is being processed.
- Farmers or facilities who hold a 5-A Poultry Processing license CANNOT extend their 20,000 bird quota by taking some of their birds to another 5-A Small Enterprise Exempt facility.
- 5-A Poultry Retail Exemption: This allows the 5-A poultry processor to sell processed poultry from its own retail facility. The retail exemption is usually granted in urban locations where live birds are processed for consumers.

1000 Bird Exemption²⁷

Farmers may process and sell 1,000 birds or fewer for sale to customers in state on their own farm. Of course food safety measures such as temperature control must be taken. These birds must be raised by the farmer who is both processing and selling the birds.

- The birds have to be sold as a whole bird. They may be cut up into parts, however the entire bird, cut or whole, is to be sold as one. Farmers may not cut up and sell individual parts, i.e. bags of legs from several different birds or boneless breasts only.
- 1 turkey = 4 'birds' for purposes of the 1000 bird exemption. Farmers may raise a combination of chickens and turkeys, for example 100 turkeys (counted 400 birds) and 600 chickens per year.
- Note on the law: This is interpreted by the government as 1000/farm. If several family members or farmers operate on one farm, the 1000 bird limits applies to the farm, not the various farmers.
- Conversely, it is not clear whether a family that owns several farms in various locations can have 1000 birds per farm location.

²⁷ Goodsell, Martha, and Dr. Tatiana Stanton. A Resource Guide to Direct Marketing Livestock and Poultry. Cornell Small Farm Program. 2010

Custom Exempt

Custom exempt facilities allow for animals to be slaughtered for use by the animal's owner. This is the type of license required for the "Freezer trade". Technically in a bulk freezer sale, the buyers take ownership of the animal before it goes to slaughter – this is why customers buying sides of beef must pay deposits to the farmer, and may dictate the order of how they want their meat broken down into cuts. For example, if a steer goes to slaughter for four customers' quarter-beef orders at a custom exempt facility, technically those four individuals co-own the animal before it goes to slaughter. The farmer and processor must have the name and address of the owner on record. Ownership may be granted over the phone or in written correspondence (email), and the owner need not deliver the animal for processing.

- Slaughtering is done at these facilities without an inspector present. However, custom slaughter facilities are periodically inspected by a USDA or a NYDAM inspector (since 2010, it appears USDA inspectors do the routine inspections of custom slaughter facilities). No pre or post mortem inspection is required.
- Custom Exempt facility requirements include:
 - washable floors and walls
 - kill floor separated from processing floor
 - drains equipped with back-up flush system
 - water temp reaching 170 degrees

Enforcement

The New York State Department of Agriculture and Markets – Division of Food Safety and Inspection is responsible for regulation enforcement. They also work side by side with the New York Department of Health and the Department of Labor.

- 115 full-time inspectors conduct unannounced inspections of over 28000 food handling facilities
- Regardless of initial reason for inspection, New York state food inspectors are empowered to inspect and enforce any infractions.
- Food samples are sent to Albany-based State Food Lab for analysis and, if deemed necessary, a "traceback" process is initiated to other points in the food distribution system, i.e. food producer / farmer.
- NY State inspectors appear, at least in writing, to have broad power to seize and destroy product and seek a court order to close a facility.
- Sanitation of processing and storage facilities as well as compliance with licensing and record-keeping requirements are the focus of inspections and any infraction of New York regulations will be subject to enforcement, such as licenses suspended, or food confiscated or destroyed, until the issue is resolved to inspectors satisfaction.

Now that we've established an understanding of the challenges and regulations for meat processing plants in the region, we can conduct an analysis of regional volume of pastured meats compared to the projected output of the local processors. This is important because capacity needs to be understood before moving into programming that has an intention of growing demand for local pastured meats in the STW region.

As David Lane from Yankee Farm Credit so accurately stated to us, "What is always hard with economic development especially in agriculture is growing the supply and demand at relatively compatible pace. Developing a market and then not meeting the demand can be as detrimental to growth as a saturated market."

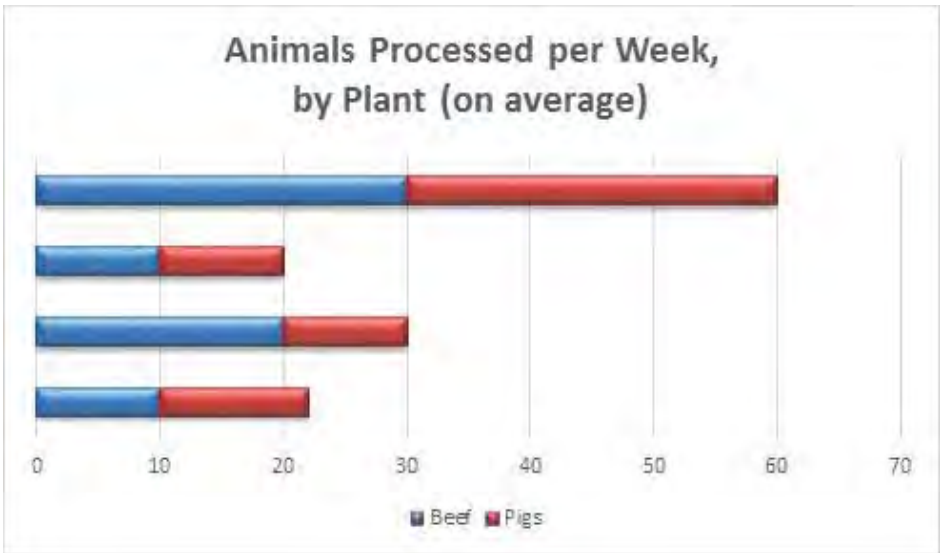
A Discussion on Regional Volume of Meat Processing

One of the reasons we are carrying out this research project is to determine if the area needs another plant to handle the local volume. Earlier in our research we identified the amount of animals going to processing this year from our 16 surveyed farmers:

Cattle	Lamb	Goats	Pigs	Chickens	Turkeys	Bison	Geese & Ducks	Rabbit	Alpaca
154	65	27	137	3,805	170	15	22	300	3

We also surveyed 12 plants out of 19, identified that some plants are only running part time, and none are running a second shift. Second shifts are an interesting situation because in order for USDA to provide an inspector for a 2nd shift, a plant operator would be required to pay overtime for that shift for 6 months, to pilot the program and prove there was enough volume to warrant the inspector being assigned to the plant. Therefore, piloting a 2nd USDA shift 3 days per week would end up costing a plant about \$40,000. However, plants could extend hours outside of USDA hours for custom processing or processing under state inspection. Some plants also said they could do more with the cutting space they had if they only had larger cooler space for holding.

Only four of the plants that we spoke with could tell us how many animals were processed per week, on average, and two of these plants were very small. In the regional analysis we identified 19 plants, one of which is very small and only does about two animals per week. Therefore we could make an extrapolation on the data and calculate that the total animals processed by these four plants may represent about 25% of the production in the region.



Sample: Four plant volume, by week	
Beef	70
Pigs	62

Estimated regional plant volume, by week	
Beef	280
Pigs	248

We also have to remember that 1/3 of the processors told us that they have excess capacity.

When we compare our estimated volume in processing capacity to the estimated volume from our surveyed farms, there does not look to be a shortage, not even close. The estimates above are by week and the farmers' estimates are by year. When we look at estimated regional output, the numbers still show enough capacity. This is why we recommend that STW RPDB consider assisting with methods to keep current plants in business and growing, instead of building a new plant.

If we presume that these plants have a heavy downturn in volume in their slow season, and process at this rate just half the year, the plants should be able to easily process over 7,000 beef and 6,000 hogs annually. We can assume that our information on farms in the region is incomplete, since this process was opt-in based on the lists of two organizations that assist farmers: STW and Extension.

Surveyed farms predicted combined 2015 output for processing (annual):

Cattle	Lamb	Goats	Pigs	Chickens	Turkeys	Bison	Geese & Ducks	Rabbit	Alpaca
154	65	27	137	3,805	170	15	22	300	3

*This does not count Wilson Beef Farms because they do their own processing.

Estimated regional farms’ output (x3) for processing (annual):

Cattle	Lamb	Goats	Pigs	Chickens	Turkeys	Bison	Geese & Ducks	Rabbit	Alpaca
462	195	81	411	11,415	510	45	66	900	9

Modeling Increases in Meat Production and Processing

Modeling Output of Values-Based Livestock Practices in the STW Region (annual)										
	Cattle	Lamb	Goats	Pigs	Chickens	Turkeys	Bison	Geese & Ducks	Rabbit	Alpaca
Output of Surveyed Farms	154	65	27	137	3,805	170	15	22	300	3
Estimated Output of Regional Farms (x3)	462	195	81	411	11,415	510	45	66	900	9
Estimated increase of 10%	508.2	215	89.1	452	12,557	561	49.5	72.6	990	9.9
Estimated Increase of 15%	531.3	224	93.15	473	13,127	587	51.8	75.9	1035	10.4
Estimated Increase of 20%	554.4	234	97.2	493	13,698	612	54	79.2	1080	10.8

Even these estimates of 20% increases and beyond are do-able for our forecasted production capacity of the processors in the region. Of course, it is difficult to judge because these processors are often serving multiple regions. Nonetheless, should the local industry continue to grow, alongside local demand for meats raised under certain values, some processors will be looking for ways to increase their capacity, whether it be through increased hanging space in the cooler, or improved equipment to process animals faster; pigs don't need to age like beef.

Looking at capacity increases for meat processing does not address the poultry issue, however. Processors are limited by the 20,000-bird exemption or the 1,000-bird on-farm exemption, and improvements in processing availability won't lift the ceiling. What could help poultry farmers grow is to work on raising the numbers on those exemptions with the state government, or seeking value-added grant funding for equipment that will make the job faster and easier. Another solution is to look for other farmers who would join together to share a facility for 20,000 birds. It is very difficult for a plant owner to create a highly profitable business with these exemptions, and the processors tell me that USDA regulations for a chicken plant would be too burdensome, as they are the same regulations that were built to control the environment in a very large operation processing 1000 birds per hour.



Increasing Demand Along with Output

As we address the issue with increasing capacity for processing in the region as the farmers grow their livestock herds, it is important to address the issue of demand. When talking about opening up new market pathways for a local product or industry, it is often a “chicken and egg” situation – which one comes first? If we grow capacity first, the processors could have a big challenge with efficient return on investment, waiting for the farmers to grow business enough to support their new payments on equipment. If we grow demand before we grow capacity, and not be able to supply the demand that's been created, all the effort could be for naught. The inability to fulfill orders is a huge turnoff to buyers and they will likely fill the order from elsewhere, possibly closing down the relationship permanently. However, if we are growing demand in direct to consumer channels, sometimes selling out of a product can create more demand the following year, incentivizing people to order early.

In this section, we will share information gathered through a series of interviews. These examples illuminate how other organizations have increased demand for local meats to grow local sales in the marketplace.

Our first interview was with Matt LeRoux of the Finger Lakes Meat Project. This case outlines how relatively small investments in infrastructure and marketing tools can create a particular opportunity to build new customers in a targeted geographic area.

Finger Lakes Meat Project

<https://www.facebook.com/MeatLockerPilotProject>

<http://meatsuite.com/>

contact@meatsuite.com

Matt LeRoux from Cornell Extension offered his time to discuss the Finger Lakes Meat Project and Meat Suite Website with us. He has also created some really useful spreadsheet tools for farmers (available via email request) to use for calculating profits based on livestock yields with specific cuts.

Based on his profit calculator tool, Matt has shown that the freezer trade offers the highest profits to the farmer. Freezer trade is the sale of quarters, halves, or whole animals, directly to the customer, before the animal is taken to slaughter. Obviously the profitability depends on individual farm pricing, but after running the numbers in various scenarios, he is confident that this is the best option for net profits. When selling via freezer trade, the farmers don't need to spend ten-hour days hauling product to market, making marketing costs lower. Of course they still need to spend customer service time on the phone, but the number of orders for the same revenues is far less.

After uncovering this knowledge, Matt worked on grant funding with SARE to launch his website – meatsuite.com. This website educates consumers on how to buy local meat, and then connects individuals wanting to purchase quarters, sides or whole beef via freezer trade to local farmers. This venture initially focused on 9 counties in the Ithaca area, but recently acquired NY Farm Viability funding to take the meat suite website state-wide.

Matt was also able to raise funding via the FMPP (Farmers Market Promotion Program) to build a community meat locker in downtown Ithaca, so that storing a bulk meat purchase wouldn't be a barrier to entry for new, meat-curious customers. Once the buyer contacts a farmer to make a purchase, they have the option to rent a space in the downtown Ithaca Meat Locker. The Locker is grant subsidized and charges lower-than-cost rates for storage so that renters can easily say "yes". The Ithaca Meat Locker is 100% full after a year in operations, hosting 50 renters and a waiting list. It is open 3 hours per week for renters to pick up their goods, operated by extension staff. The locker is located in a downtown office building for convenience and is a 10x14 walk in freezer.

Lessons Learned:

While the Ithaca Meat Locker is doing well, and the website project is growing, Matt will need to continue to seek out grant funding to support his model, which was established with a lower-than-cost price structure. Eventually, there could be a fee for farmers to list with meatsuite.com, or sponsorship revenues, but the goal would be to keep program participation at zero cost for farmers. Extension has also learned that once a project like this is built, it requires continued time and marketing effort to manage participation.

Lastly, although Matt's research points to freezer trade sales as a good moneymaker, he carefully points out that each farmer needs to consider their own sales channel analysis that takes dollars, time and enjoyment into account. He encourages farmers to ask "What channels work best for me?", and figure out what pricing is needed in each channel to make it worth the time.

The existence of a frozen storage facility in an accessible urban area for freezer trade customers overcomes a barrier to purchase. STW RPDB could consider creating something like this in Olean or Jamestown, where there is a population density to support something similar. The lesson in this case is that it is possible to create demand around the sales channels that produce the best results for the farmers. An additional point here is that freezer trade does not require USDA processing (because the customer technically buys the animal when it's still on the farm, before slaughter), and growth in that channel would create more demand across all facilities, not just USDA facilities.

In another example, we look at cooperative branding programs for building demand and sales for a specific regional product – grass fed beef. The Adirondack Grazers Cooperative, also located in NYS, agreed to participate in a discovery interview so that we could share their experience. The Cooperative has been able to partner with one large supplier to build demand for grass fed beef, which continues to grow. In this example, it is important for participating farmers to understand that margins are smaller in a wholesale pool than margins with freezer trade. With wholesale in the mix, farms often use multiple sales channels to create a blended margin that meets their goals. The solution must always fit the participating farms and the buyer's needs. This case also shares a lesson in what happens when demand is built before supply is available.

Adirondack Grazers Cooperative

<http://adkgrazers.com/>

The AGC was originally started with the goal of pooling small volumes from multiple farms to meet larger wholesale demand, in a group where all of the original eight growers were new to wholesale. Today, the cooperative includes 38 farms. With a goal of creating inventory for wholesale, they used their own networks to recruit other farmers raising grass-based beef.

While the coop was successful at building volume, they did not understand how to maintain consistent inventory, and realized they needed to develop two critical pieces for growth; a sales strategy and quality standards for all members to create product consistency across farms. AGC uses a specific processor - Black River Meats in Vermont - that they've built a relationship with to have consistent product.

The AGC success story is due to their relationship with one customer that is a perfect fit for grass fed beef – Fresh Direct (FD). Last year they sold 450 head of beef, and will grow to 500+ this year, and 700 next year. The customer demand is up to 1000 head, and as AGC farmers grow, the sales will grow. Elizabeth Collins, the Executive Director of AGC, says that it's a great partnership, and FD is "in it for the long haul," according to Elizabeth. The meat buyer from FD has become a non-voting member of the board, which improves communication and understanding, especially since he's an advocate of the "Value Chain Concept" – where the supplier and the buyer work together on mutually beneficial operating procedures and policies.

When it comes to pricing, FD pays market price plus a premium for AGC beef. This deal structure helped accelerate the growth of the supply because many farmers in the area were interested in a "market +" arrangement.

Growing Pains

AGC was able to grow quickly because they had a customer who was solid and steady, taking 100% of inventory, and giving farmers the cost model they wanted. However, Elizabeth quickly learned that this model lacked strategy, and that market+ pricing was not sustainable in the long-term because of market fluctuations.

Elizabeth is now pursuing a “Value Chain model” with Fresh Direct. Instead of paying market-plus (a fixed amount over published market prices), the price would be based on a percent over cost of production. However, the challenge here is that some farmers may not be comfortable with the change, and the cooperative may lose some members. In the end, the cooperative must choose the most economically sustainable solution; continue to look to grow its membership as new, quality producers come online. They must also look to diversify its customer base once there is enough supply. This is a work-in-progress for AGC, and we will stay tuned for results.

In addition to pricing and inventory challenges, as the AGC has grown, they’ve had to build out logistics. The group now uses a few different farms as aggregation points, and rents some space at auction to hold animals for hired hauling, so the trailers are full. The longest run to the processing for the AGC is 250 miles – this is a full load aggregated at one of AGC’s larger farms.

Lessons Learned in Demand Before Supply

Last year, prior to Elizabeth taking over the operations of AGC, the cooperative brought on Fleisher’s as a new customer; demand was two beef per week. At the time, the coop had no inventory, no forecasting, no coordination with processors, and not enough volume for profitable logistics. They also failed to communicate with the customer when there were problems and bought beef from outside the cooperative to fill orders.

When Elizabeth took over, she foresaw a six-week gap in inventory, primarily due to the farmers’ poor forecasting. Her recommendation was to go to the customer to explain the situation. “Be transparent”, she said, and hope to keep the relationship open once the co-op had their supply in order. This created misunderstanding between the cooperative management and the farmers, and led to an ultimatum. Elizabeth would not find a new customer until farmers could assure 12-month supply. This led to growing the co-op, which led to taking on Fresh Direct.

Once they reached 12-month supply, AGC went back to Fleisher’s to try to negotiate a new deal. The door was still open. However, because the customer was having volume and consistency issues with all of their suppliers, not just AGC, Fleisher changed their business model. Instead of buying finished beef, they now planned to purchase animals at six-months, and purchase the feed, and pay growers to finish the animals under their specifications. This was not a good fit for the AGC members, although the transparency with the customer did prove to keep the relationship open.

Lessons Learned in the Value Chain Process

AGC also learned that relationship breakdown occurs when one part of chain doesn’t know enough about the other part of the chain, or doesn’t want to know enough. There’s too much space in between the farmer and the buyer for things to go well without deep understanding of each other’s challenges. AGC also learned about branding and unique selling features. Originally the AGC had two product lines – 100% grass fed and grain-finished – but dropped the grain-finished line because it was too difficult to differentiate from commodity beef. Additionally, each product line required the same amount of marketing effort so it was double the work to have two brands.

In a third interview, we focused on getting a better understanding of the logistics in transportation and volume required to serve a region like STW with wholesale distribution. This knowledge is relevant and valuable, because according to our examples throughout this study, farmers or producers have had to engage in sales at the wholesale level in order to make major leaps in sales volume for local meat. We interviewed Dana Stafford, President of Regional Access, a food distributor and freight service provider based in Ithaca that is focused on quality, local brands. The company handles up to 10,000 pounds of natural and grass fed meats (among other product lines) in their warehouse weekly, and their mission is tied to improving food economies in NYS.

Dana also shared with us some helpful tips for success in wholesale sales, a few words of caution, and a perspective on developing a regional brand or private label.

Regional Access

<http://regionalaccess.net/>

At the outset of our interview, we asked Dana to share his impressions of the STW region. He candidly shared with us that “STW is a pretty challenging territory for us to serve.” RA is a small distributor without a ton of resources to do sales, so the producers would also need to do some serious footwork on sales efforts to build accounts. However, Dana shared with us that they are serving so many other territories across many states, and due to the remoteness of the area and threshold for lower numbers of accounts simply due to the rural nature of the region, it’s not a priority for RA to build this area. They used to deliver in the STW region, pulled out a few years ago for economic reasons because they were burning a lot of miles for a small customer base, although their die-hard customers were disappointed.

We asked RA if they were currently working with any growers in the STW region, but they said no, they do have some in northern WNY. Dana adds, “I know there are some fantastic growers but I have not connected with them directly.” He was contacted about 18 months ago regarding service in the Buffalo region for a feasibility study on food hubs or other delivery pathways, but did not ever receive follow up information.

On Developing a Regional Brand

In terms of meat producers, Dana thought there could be value in regionally branded product. Especially because it helps with the “conundrum of being small and needing to drive volume,” although a volume even larger than AGC would be required for the best prices. He would be interested in exploring this with STW RPDB, as long as all of the participants were on the same page from the beginning, it would require careful planning with packaging/branding, pricing, and inventory availability, and hard numbers on demand in the market. When it comes to developing a private label, the infrastructure needs to be in place, and developing a meat brand is something that RA has considered but has not yet executed.

A Few Words of Caution

He openly states that “it’s complicated to make it work” and farmers have to take a blended approach. Working with a distributor can’t be expected to be a cure-all solution on volume, pricing and logistics; the distributor has costs of logistics and there has to be room in the pricing to meet market appropriate prices.

General Advice to Growers for Successful Sales

In Dana’s experience, farms that are successful have developed multiple strong sales programs, and understand that high volume accounts can leverage smaller programs. They also know how to differentiate themselves and do their homework.

He advises that before approaching a potential customer, have a level of readiness in place by doing research before the first meeting – know who the players are in the market and their motivations. Dana offered an example: Let’s say that a distributor is looking for 20 hogs, but doesn’t want any of the trim and wasn’t planning to budget for that purchase. Some producers would end the deal right there, thinking that the offer is not a good fit. However, there is an opportunity if that piece can be figured out by researching who might want the trim, or trying to negotiate a deal that works for everyone by explaining how that piece of the deal affects the farmer’s big picture. Dana adds, if the farm has all of their plans and numbers in order, an introduction can become a purchase order in as little as a week.

We can learn from our three regional experts, The Finger Lakes Meat Project, The Adirondack Grazers Cooperative, and Regional Access, that demand, inventory, logistics and communication are a top priority in developing new sales channels successfully. While wholesale relationships create the biggest opportunity for volume, an impact can certainly be made at higher margins in DTC sales channels like the freezer trade. The biggest lesson here is to create promotional effort behind the solution that is the best fit for the local farmer, and make sure that the right partner is selected. All of these cases have a strong leader that is dedicated to making the venture work, which is the main ingredient for a successful program.



Workforce Assessment

Our surveys revealed that STW regional plants have an average of eight to nine employees, and average wages of \$8.94 for low-end, and \$15.56 for high-end plant wages. However, we could reason that the plants we had trouble contacting had less employees and therefore less time to return phone calls. Another assumption is that they were simply uninterested in participating in our survey.

Taking an average of low and high wages over 18 plants, with employees at 30 hours per week, 50 weeks per year, would indicate that the plants provide jobs valued at an estimated \$2.9M.

A 2011 study by Dave Swenson of Iowa State's Department of Economics looks at the economic impact of meat processors on the local economy as follows:

"The impacts could be calculated on a per 1,000 animals processed basis. Processing 1,000 cattle in the small facilities would support a total of 7.4 jobs and \$257,509 in labor incomes. Processing 1,000 hogs would support 3.2 jobs and \$110,361 in labor incomes. And processing 1,000 goats or lambs would support 1.2 jobs and \$42,918 in labor incomes annually.

Small processors in Iowa require 13.3 jobs per million dollars of meat product output compared to 4.7 jobs as the statewide average (which is weighted heavily by the state's large meat processors). Consequently, the maintenance of small processor viability has a discernible job impact in areas of the state that are not dominated by Iowa's major processors²⁸."

Swenson's calculations support our hypothesis in the ballpark of 7,000 cows and 6,000 pigs per year with the wage rates we identified.

²⁸ Swenson, Dave. Exploring Small-Scale Meat Processing Expansions in Iowa - A Technical Report Submitted to the Leopold Center for Sustainable Agriculture. 2011. <http://www.iowameatprocessors.org/LeopoldExpan.pdf>

Identify Workforce Obstacles & Deficiencies

From our conversations with the local processing industry, the biggest need is for skilled butchers and knowledgeable entrepreneurs who would be interested in working with aging processors on a succession plan. There are butchery training schools in the region, and fundraising for butchery scholarships could be a solution, along with promoting succession opportunities for graduating butchers with an entrepreneurial fire.

Butcher Schools:

SUNY Cobleskill has a USDA meat processing plant on site, and offers an intensive hands-on training program designed to provide the knowledge and skills students require to begin employment in the meat processing industry. The course is a one-month, 220 hour intensive, and covers sanitation, food safety, slaughter, meat cutting and processing, along with hands on training in meat animal slaughter, primal fabrication, retail cutting, value-added products (sausage), and wrapping and storage of finished product. USDA HACCP (Hazard Analysis Critical Control Point) is part of the class as well. This course is part of their Professional and Continuing Education Programs (non-credit course) and costs \$3,500. SUNY Cobleskill has been in the process of opening a new state of the art facility, so the course is on hold until January 2016, although they are taking names on the waiting list. Linda Serdy can be reached at 518.255.5528 – she would also allow STW RPBD to make a presentation to the students to encourage entrepreneurial matchmaking with processors in need of new butchers or plant succession.

Fleisher's offers a three month, Monday through Friday, apprentice program with master butchers at Fleisher's, an organic meat purveyor. The program fee is \$7,500 and takes place in Red Hook, Brooklyn (housing not included). The plant is also currently in the process of becoming USDA certified, so the next course will not begin until the certification and construction is complete. Course fee includes student knives, one on one cutting time, family meals, and the experience of cutting a whole animal in an atmosphere with a focus on sustainable values. The company brings in 20+ lambs, 20+ pigs, and 8+ beef each week and the apprentices work on them from start to finish. One of KTC's internal sources has told us that this program may not be a complete preparation for work as a full time butcher, although his commentary is referring to the program prior to the new USDA plant status.

Extension pages also list vocational meat cutting programs, some directed at high school students: <http://www.extension.org/pages/17195/vocational-meat-cutting-programs#.VbKukbNVikq>

If the STW RPDB started working relationships with the local processors, there would be more opportunities to connect the community at large to job openings. With most farmers requiring some off the farm income, or looking to keep seasonal people employed, there could be synergies and opportunities to share workers or spread the word on job openings in the local meat industry through their personal networks. We were surprised to hear during interviews that no plant operators used their customer networks or economic development offices to post announcements when seeking to hire.

This way of thinking rounds back to the state of exclusion of the processors from activities designed to bring the local food producers together as a community, such as educational and networking events.



Financing Research and Advising

In order to identify organizations that may be able to fund projects through an economic development organization working with local businesses, we sought out some case examples where others have successfully done just that. We started with our KTC network of finance contacts, and asked them whom they thought we should talk to, and utilized contacts from the New York Agriculture and Markets list of farming organizations. We also looked into Empire State Development, and how those funds are used in the WNY region, which includes STW as a district.

We told our contacts that we were seeking information for potential future funding of a feasibility study that provides resources on two fronts; (1) intangible assets - educating and bringing together farmers and meat processors, emphasizing the need for consultants to come in and do succession planning with the aging processors, and (2) tangible assets - competitive funds for processors to build capacity, ranging from cold storage and other equipment to piloting a 2nd USDA shift, and/or equipment for the farms to use to reduce their burden such as livestock trailers or a driver to run frozen product back to the farms from the processing plants.

Any organization listed in this report with contact information offered to talk with STW RPDB once it was decided how they'd like to proceed with the project.

Empire State Development

This statewide economic development organization divides the state in to ten districts, with the three counties under the STW RPDB falling under the Western New York district office, located in Buffalo.

Contact: Diego Sirianni, diego.sirianni@esd.ny.gov

Website: <http://regionalcouncils.ny.gov/content/western-new-york>

One way to potentially fund solutions would be to aggregate the needs of various processors via competitive grant funds.

Another creative way to finance funds for processing facility upgrades (capital assets) would be for STW to seek out an agent or project manager to assemble a group of plants as a cooperative, and then by combining needs and resources, take small amounts of equity out of the business to roll back into each of these plants with a loan.

New Farmer Grant

On the production side, the New Farmers Grant Fund will be announced in the coming months. The description of the grant points to matching funds (up to \$50,000) for farmers in business for less than 10 years on less than 100 acres. These funds could be used for chicken processing equipment, freezer equipment, livestock hauling equipment; any assets that are part of a profit improvement plan.

Website: <http://esd.ny.gov/BusinessPrograms/NewFarmersGrantFund.html>

“There will be \$1 million available to provide grants for up to \$50,000 to pay for 50% of eligible project costs. Eligible projects include, but are not limited to, the purchase of machinery or the construction, or the improvement of physical farm structures. Projects must be in accordance with a business plan to improve farm profitability or advance innovative agricultural techniques, including, but not limited to, organic farming and specialty crops.”

Farm Credit East

Farm Credit is a multi-faceted provider of credit and financial services to agriculture organizations and businesses.

Contacts:

Gary Bradley, Vice President

Nathan Rudgers, Director of Business Development

Batavia Office (Business Development): (585)-815-1950

Website: <https://www.farmcrediteast.com/>

Farm Credit East has in fact worked with various producers on expansion, modernization, and development of processing and marketing business structures and facilities, some being related to the livestock sector. A typical engagement starts “when a farmer (or group of farmers) would desire a way to move their production to a format that captures value-added by being closer to the end consumer.”



USDA Rural Development Office

While we were unable to reach anyone at the rural development office for comment, the following programs are listed on their website, and look like a good fit for a program administered by STW RPDB.

RMAP: Program Basics (from NSAC website)

<http://sustainableagriculture.net/blog/rmap-nofa/>

USDA's Rural Business-Cooperative Service administers RMAP. The program provides loan capital and technical assistance funding to local and regional organizations that qualify as Microenterprise Development Organizations (MDOs), which in turn provide microloans and business development technical assistance to rural micro-entrepreneurs.

RMAP defines a "micro-entrepreneur" as a rural sole proprietorship or business with less than ten employees. Additionally, these potential borrowers are required to show that they cannot obtain funding from other lending sources due to lack of credit or limited business development experience. The microbusinesses must be located in rural areas defined as any area other than a city or town that has a population of greater than 50,000 and the urbanized area contiguous and adjacent to such a city or town according to the latest decennial census.

B&I Program (from NSAC Website)

<http://sustainableagriculture.net/publications/grassrootsguide/local-food-systems-rural-development/local-food-enterprise-loans/>

USDA's Rural Business Service administers the B&I program, which aims to develop or improve businesses and employment in rural areas by bolstering the existing private credit market through federal guarantees on business loans. Changes in the 2008 Farm Bill and reaffirmed in the 2014 Farm Bill ensure that a minimum of five percent of total B&I funding goes toward local and regional food enterprise development, including the construction of food processing, aggregation, and distribution facilities as well as food hubs. Federal loan guarantees are available through the program year-round. The guarantee helps banks, credit unions, community development financial institutions, and other lenders provide loans to businesses that might not otherwise meet their underwriting standards because, for instance, it is an emerging and not fully tested market or the entrepreneur has a limited previous track record.

Priority within the Local and Regional Food Enterprise set-aside is given to projects that in some way benefit communities that have limited access to affordable and healthy foods and that have a high rate of hunger, food insecurity, or poverty. The recipient of the loan guarantee is required to inform consumers in some way of the locally - or regionally - produced attribute of the food products.

The maximum B&I loan guarantee is 80 percent for loans of \$5 million or less, 70% for loans between \$5 and \$10 million, and 60% for loans exceeding \$10 million. Generally loans to a single borrower are capped at \$10 million, though several exceptions apply.

SARE – Sustainable Agriculture Research and Education

SARE offers partnership grants for \$15,000 that could be applied to the processor roundtables, facilitated tours, or consultative needs such as succession planning for processors.

Contact: Violet Stone, vws@cornell.edu

Website: <http://www.nesare.org/Grants/Get-a-Grant/Partnership-Grant>

In our experience, SARE strongly recommends letters of support from the farmers that will benefit from or be a part of the grant work. Following this practice will put STW RPDB in a stronger position for a successful grant award.



Private Lenders

Private lenders present a variety of options for funding projects. They come in many colors, ranging from social venture capitalists, private philanthropists, and creative financing solutions.

We spoke with CEO Joan Snyder of Frog Hollow Inc., a consulting group that connects projects like this with sources of funding, either philanthropic, grant or investor capital, depending on the fit for the project. Joan has worked on funding for other meat processing industry related projects and has a small group of full-time finance and project management professionals to work on client opportunities. Joan recommends STW RPDB reach out to her and discuss the possibilities.

Contact: Joan Snyder, CEO, (518)-758-7214

Website: www.froghollow.us

We also talked to Cutting Edge Capital in San Francisco about Direct Public Offering (DPO) – a fundraising technique that offers business securities in exchange for investment.

DPO Defined: A Direct Public Offering (DPO) is a term that refers to a public offering of securities by a business or nonprofit to both accredited and non-accredited investors in one or more states. Using a DPO (also known as investment crowdfunding), a business or nonprofit can market and advertise its offering publicly by any means it chooses; through advertising in newspapers and magazines, at public events and private meetings, and on the internet through social media channels.²⁹

Companies like Cutting Edge specialize in raising capital and ensuring the process is legally sound. The company's President offers a few words of advice: "We've done a lot of work with both for-profits and non-profits, including partnerships between them. In terms of lessons learned, we would say that, aside from the obvious restrictions that a non-profit always needs to consider when dealing with for-profits (so as not to violate any of the tax status aspects) the issues are not all so unique as to be that different from partnerships in general. The key is to make sure the fit is right, and to then paper it well, so that there are no misunderstandings."

The only drawback to DPO is that it can take a long time, with three stages to the process. However, it can be a great solution, opening up the business to a much larger pool of lenders, especially if loans from banks are not an option for the business.

²⁹ www.Cuttingedgecapital.com

A Case Study on Private-Public Partnership in Meat Processing: The Piggery

Heather Sandford and Brad Marshall started processing meat seven years ago, and started farming before that. The couple met at Cornell, and after earning degrees in Engineering and Genetics, took their careers down a different path. Brad was a trained chef, and after buying their first whole hog, took many twists and turns down a path that led them to farming pigs in Traumansberg, NY, with sustainable values. Their goal is to make New York State pastured meats affordable and accessible. Their full meat case at the Green Star Co-op in Ithaca displays that they have done just that.

“We’re doing everything we can to create pork that is good for the people, good for the land and good for the pigs, with a focus on minimizing our carbon footprint. We raise heirloom breeds of pigs on pasture and woodland, supplemented with locally-raised, GMO-free, small grains (barley, wheat, triticale, peas).”

The couple started out raising pigs and taking them to Shirk’s Meats in Dundee, NY. However, with their passion for creative chef-made products, processing at local facilities left something to be desired. They wanted different sausage recipes, and to control the texture of their ground meat, for starters. They also wanted to sell meat at farmers markets that wasn’t frozen.

Seven years ago, the couple obtained a 20-C License, and started bringing primal cuts back to their own kitchen facility where they could pack the retail cuts, and decide what product should be frozen or immediately sold. The couple is mostly self-taught in butchery, although Brad did study at The French Culinary Institute and knew his way around a cut of meat.

Today, the couple has built a powerhouse brand called “The Piggery”. Their facility is a USDA certified cut and wrap plant (no slaughter) with a full time USDA inspector from 7am - 3:30pm, Monday through Friday, and they are cutting about 30 pigs per week. They decided to go USDA about a year ago, because they needed to build a wholesale business for volume, to have more revenues to cover their fixed costs than they could achieve through solely direct sales. Their products are distributed across New York State and also in other surrounding states, at over 50 locations, and their equipment and facility allows them a broad product line - their meat menu features fresh cuts of pork as well a full line of charcuterie, thick sliced bacon, deli ham, pastrami, piggery paté, kielbasa, andouille, bierwurst, and much, much more.

Before you get too excited about The Piggery as a processor - they do not do co-packing. While they get many calls, they just don’t have enough capacity. Heather has considered adding a 2nd shift, but can’t imagine taking on the cost of \$86/hour for 6 months for USDA overtime to pilot the project - about \$800 per day - while they’re paying back their loans. While they have good relationships with their inspectors, that’s just a lot of money. In order to best manage their time, they still process their direct-to-customer (retail exempt) processing after USDA hours, so they can fit in their entire wholesale product under USDA inspection.

How did they raise the money? And are they paying it back?

First of all, Heather and Brad were able to show that they had successfully done meat processing, and had a farm business with a history of solid revenues and a dedicated customer base. They also had a business plan with clear financials.

The project was a bit daunting at first, a \$1.25M build out - coolers, rails, packaging equipment and more. Just the packing machine was \$125,000. They could have gone bigger, or built on a slaughter facility, but they needed to see how much they could raise. First they needed to create a business plan with projected financial statements, and they were able to work with a student in economics at Cornell to help them with their start-up costs, breakeven plan, and projected financials.

After pitching their project to a number of sources, Tompkins County Economic Development raised \$200,000 through guaranteed loans for the project. Then Southern Tier Regional Economic Development (not to be confused with STW RPDB, ST RED is part of Empire State Development) loaned The Piggery \$300,000 at 1% interest with a guarantee for a certain number of full time jobs to be created. With half a million dollars of investment under their belts, Heather and Brad were able to do the remainder of the loan with M&T bank and, as Heather says, they have “signed their lives away!” This was about a year ago when they decided to grow their wholesale business and go big.

Once they explored their options for wholesale they knew they could build a new layer on to their business, researching distributors that they would work with. Today the business sells \$85,000-\$100,000 in wholesale product monthly, and they’ve built their cost structure to make enough margin in this sales channel, which is key for success. Their biggest distributors include Regional Access, Albert’s Organics, Finger Lakes Family Farms, and Four Seasons. They also engage in some direct sales to CSAs and grocery delivery services.

What about their workforce?

The Piggery today boasts 19 employees. Heather reports that luckily there are no big problems with turnover. As we’re on the phone, she takes a few quick holds to converse with her staff about this or that, and I can hear just enough to tell that she manages her staff with respect and laughter and gratitude; the atmosphere sounds more like that of a bustling restaurant than a typical plant. Granted, some staff will leave if they have a big opportunity - like a dream job or moving to a new town, but that doesn’t happen too often. Wages at the plant for the cutting team are \$12.17 per hour, and they work four ten-hour shifts, and receive an additional meat stipend along with their wage, which Heather says they seem to enjoy.

Heather manages the sales, and her husband manages the farm part-time, and serves as the plant’s CFO part-time. They do have a facility manager on staff that runs the cutting room and work orders each day, with a very livable salary of \$45,000.

This sounds too good to be true - what are The Piggery’s biggest challenges?

Heather candidly offered that her biggest challenge is personal responsibility, or the “constant challenge of how to do a better job.”

Another challenge is the time and resources that it takes to be USDA compliant - she spends a lot of time and money keeping the plant up with new regulations.

While the Piggery is only in their infancy of the new USDA facility status and loan payback, they have been able to meet all of their expenses, including loan payments, and expect to be profitable in the future. While it is still very early in their business life cycle, The Piggery is showing a promising model for success.



Recommended Action Steps and Feasibility Report

After all of our primary research had been completed, we held a strategy session with STW RPDB to decide how we should proceed with a plan of action to assess feasibility. Initially, STW thought we were going to be working on a feasibility study for a processing plant, because the feedback from the farmers was that they needed a new plant to meet demand. However, the volume that a new plant would require to be successful was not proven needed by our research, and the expertise that is required to manage a plant is not the strength of a non-profit economic development organization. If all of our plants had been at capacity, or there were far fewer plants, the outcome may have been different.

Matt LeRoux of Cornell Extension shared with us that he has worked on four feasibility studies for new processors, and he stands firmly against the notion of new slaughterhouse start-ups as a cure-all. As a subject matter expert, he further explains that common complaints about the state of processing are abundant in many regions, but new plants aren't always the answer. "When complaints start snowballing it manipulates the marketplace."

The truth of the matter, as Lauren Gwin from Niche Meat Processor Assistance Network (NMPAN) pointed out, is that the processors are in the business for the long term in a different way than the farmers – they've invested heavily in assets, facility, and equipment in a way that is different from the local livestock farmer. If the farmers can't make their business work, they can sell off their animals and their land and start over again, although with the long length of their business cycle they don't have as many opportunities to get it right. The processors don't have that ability, and there wouldn't be any pieces to pick up and sell off to start over if they failed in business. This is why assistance to processors is the best way to help the farmers improve the outcomes of their processing activities, as opposed to pouring millions of dollars into a new facility designed to take business away from our processors to solve problems that may not be solve-able in one facility.

Why Not Mobile Processing?

A look at the pop-up slaughterhouse model, and stories of failed MPUs.

When we interviewed and surveyed the farmers in the STW region, five out of 12 were interested in mobile processing units (MPUs) – some for chicken and some for meat – which would technically be two different MPUs. Our first step was to look for examples of MPUs operating in NYS.

Our first discussion was with Lynn Bliven of Cornell Extension and owner of Wild Geese Farm. She told us a story of an old MPU that was developed with a grant from SARE as a MPU learning lab, which would be rented out to farms for poultry processing with an under 20,000 birds exemption. At first this seemed like a great idea, but it didn't work out so well. The various farm sites for slaughter needed to meet USDA rules for water quality and cleanliness, which was challenging. That meant water testing in advance, and that any piles of debris would need to be eliminated. It was also challenging to drive the unit given the climate of the region – very muddy areas some times of year, and too much snow and ice other times of year. Once they were able to find some farms that met the criteria, because the unit wasn't operated by hired staff, equipment often was returned broken, or farmers complained equipment wasn't functional. Eventually the unit was parked and is no longer in operation.

Joan Snyder of Frog Hollow Inc. shared her thoughts on mobile processing as well, "the logistics and legalities are fairly complicated for any entity other than a sophisticated commercial group."

Next, we began searching for other mobile processing units in NYS that were being used on multiple farms. Google searches led us to two, but upon deeper searching and attempted phone calls, alongside Facebook pages that hadn't been updated in over two years, we can only assume that they are now defunct. If they are still in operation, we could conclude that they only process on the farm that built the units, because there is no information on hiring the unit available. There is another story of a failed mobile unit; unable to produce processing services at a price farmers would pay in the Hudson Valley.

Someone in the course of our research had suggested that Glynwood had a mobile unit, so we asked them about it. It turns out that Glynwood did acquire a red meat processing mobile unit for cattle and small ruminants (not poultry) in response to the call for "not enough processing" from local farms. A task force working with Glynwood identified a mobile unit as the solution, and at the time a unit used in California was for sale, so they worked with a USDA grant alongside private fundraising to acquire it and get it to NYS. However, it wasn't mobile in the way people expect, although it was "moveable" – more of a pop-up slaughterhouse as opposed to an on farm unit. The unit consisted of a couple of trucks that needed to be docked with power, water and waste collection.

Their concept was that it was to be owned by an affiliated non-profit, and they would lease it to operators or potentially multiple operators to make a circuit, docking in areas where there was a strong need for short period of time. It was successfully leased to one user who incubated a slaughter business with this unit on their farm, next to their cut and wrap facility - and they did open a brick and mortar facility eventually, so their pilot was successful. However, the unit has not been leased by any other operators since.

Glynwood learned that the business model wasn't viable because there was too much of an "if we build it they will come" approach; there were not multiple operators who were skilled business people who could or wanted to lease the unit. Eventually a farmer in Saratoga County wanted the unit and bought it to use on their farm since it was USDA certified, but their area had a stronger need for poultry processing, so now they are partnering with a distributor to fund the project that set that up. Sara Grady, Vice President of Programs shared with us that the constraints of not offering cut and wrap make the mobile slaughter business difficult, and the space and equipment limitations on a MPU make it so difficult to make all of those services work. The model of slaughter-only was not profitable enough to develop a business around it. "The essential missing ingredient was the entrepreneur."

Key takeaways were that successful MPUs require a passionate entrepreneur/operator, on-unit slaughter staff to maintain equipment, knowledge of what makes a farm site pass inspection for use, and a solid understanding of whether demand for local mobile processing would make for a profitable business with a 20,000 bird maximum.

When the time came to make the big decision – to build or not to build – STW & KTC decided that the best thing we could do was to keep the plants that were operating in business, and help them grow alongside our farmers. KTC asked,

"How can we assist processors and farmers by guaranteeing the processing capacity for the future of the farms in the region, and what resources do we need to get farmers and processors establishing common, mutually beneficial goals for product output?"

³⁰ <http://www.extension.org/pages/25528/hudson-valley-poultry-processing#.VbVwTflVikp>

How would we create an impactful program to reach that goal? With the following programming activities, STW RPDB could investigate their options and select the best fit for their budget and preferences:

- Offer consulting to farmers that would opt-in to a competitive program that would teach them the skills to profitably finish animals at different times of year, to avoid the processing bottleneck.
- Bring the farmers and processors together via roundtable discussions and facilitated tours moderated by STW RPDB. Roundtable discussions would be designed and moderated by a 3rd party in order to ensure that relevant topics are covered, and the discussions are productive and on pace, and address how both parties can meet the others' needs. These discussions would potentially uncover more needs for education and programming in the future as well. Facilitated tours would allow farmers to familiarize themselves with the facilities in the area, and get a better understanding of the processors challenges, contributing to improved working relationships.
- Create a competitive opt-in program for processors that includes a fundraising phase. Processors would be able to apply for funds as long as they agreed to participate in a working group that would be designed to inform solutions to the meat processing issues in the region. Funding could be used for facility upgrades that would improve capacity.
- Create a competitive opt-in program with funding for processors to receive assistance in organic handling certification through NOFA, or Animal Welfare Approved Certification, or both.
- Create a fund and matching program for succession planning or business advising. This program would allow subsidized consulting for succession planning, or butchery training, and also hire a 3rd party consultant to work on processor-entrepreneur matchmaking for retiring plant owners where no one inside the organization was interested in taking over.
- Shared livestock resources for farmers, including livestock trailers and hired drivers to take full loads to the processor from a group of farms, on a schedule.

Our next step was to reach out to the major organizations addressing local meat processing nationwide and in NYS, and see what their response was to our work, if they had any similar stories, and ask for their expert recommendations.

High Quality Forage & Animal Finishing Schedules

We reached out to Glynwood after one of our funding contacts suggested that they would have some insights to share on the state of the local meat industry in NYS. Glynwood's mission is to ensure that farming thrives in the Hudson Valley. They operate a farm incubator, train farmers, promote regional food and collaborate to realize that vision. We made contact with Sara Grady, their Vice President of programs. As it turns out, Glynwood is also in the process of a status report on meat processing in the Hudson Valley, and we had much to share.

We both found similar issues in our research, as Mr. Rudgers from Farm Credit corroborated. There is a strong demand for pastured and sustainably raised meats, but there is a bottleneck at a certain time of year. This leads to an idea that we are lacking in processing resources, but this may not be entirely correct. For example, high quality forage to overwinter the animals would support other aspects of production and relieve the burden on the timing. We asked Sara if their organization could provide expertise on consulting with farmers to modify their forage production to finish animals off at different times of year – she said they could not, but would be interested in finding a partner who could do so.

Next Steps: Lauren Gwin from NMPAN offered to assist STW RPDB in finding a subject matter expert for hire in this area when the time arises. Create an RFP and reach out to various SME's to determine the cost. Apply for a grant to offer general education, or partner with specific farms and approach Farm Credit for funding solutions.

Meat Processor Working Group & Facilitated Tours

Lauren Gwin is the Executive Director of NMPAN, the Niche Meat Processors Assistance Network, a network and info hub for people and organizations that want small meat processors to thrive. She is one of the foremost authorities on the industry, and was able to help inform this study on comparative scenarios in other regions.

When we told Lauren that we were working on the idea of a roundtable group for processors and farmers to open a dialogue and offer training and education, she informed me that she thought this was the right direction (as opposed to building a new plant). There has been a similar initiative in Vermont, called The Meat Processing Task Force, which facilitates collaboration between livestock slaughter and processing stakeholder organizations to coordinate technical assistance and build Vermont's meat industry. The task force is made up of organizations and industry groups that provide technical assistance or support commercial meat processors, including government, financial and industry organizations. It is chaired by Chelsea Bardot Lewis from the Vermont Agency of Agriculture, Food and Markets Division. Their monthly meetings address a specific current issue (like succession planning, or service pricing) and share information about the industry. Lauren shared with us that "Chelsea did lots of research with processors and farmers and found similar results - processors have excess capacity, need help with facility upgrades, have trouble holding onto labor, and need more business." This is the same story we keep hearing.

Sara Grady of Glynwood also commented on this subject, indicating that a level of programming between farmers and processors would uplift the region as a whole. They offer a program with some similar characteristics called The Cider Project, bringing cider makers in a rich apple production region together with local chefs, creating a collaborative network to lift up sales for all parties, which has been successful. A program between producers and processors of livestock that would serve the goal of expanding and promoting the availability and benefits of values-based livestock would certainly be a source of supportive dialogue at the very least.

The Story Behind Vermont's Meat Processing Task Force:

An Interview with Chelsea Lewis, Business Development Administrator of Vermont Agency of Agriculture, Food and Markets

<http://www.vtfarmtoplate.com/network/meat-processing>

Chelsea Lewis came to the Vermont Agency of Ag in 2010, and having a background in the meat industry, she dove into the value chain facilitation role. Her master's thesis assessed the capacity of New England's large animal slaughter facilities relative to the meat production in the regional food system, providing a foundation of knowledge to build upon. At the same time, Sam Fuller, Technical Assistance Administrator NOFA-VT, was doing specific research around VT meat processing, and their conclusions on pinch points in the system connected their work.

Formation of the Task Force

The livestock producer's business model was changing to meet the demand of the "more advanced retail and wholesale market". However, the processors business model was not changing – they had made investments in infrastructure 20 years ago for dairy and the direct-to-consumer freezer trade, and needed to catch up. Value chain coordination (VCC) was needed for producers/farmers and processors to understand one another's business models. The solution was to create the Vermont Meat Processing Task Force (VMPTF), which developed in coordination with Vermont's Farm to Plate Initiative's Working Group Program. The development of this task force is a shining example of passionate leaders taking charge of a process to invoke change.

The Task Force had engagement from a number of industry groups, and funders, ranging from government to non-profits. Funders in the area were hearing the same thing (not enough processing infrastructure) and wanted to know what was really happening. Today's task force includes participation from Vermont Agency of Agriculture, NOFA-VT, Farm Viability (VHCB), Vermont Ag Credit Corp, Extension, Rural Vermont, Castanea Foundation, Meat and Poultry Processors Association, Grass Farmers Association, Sheep and Goat Association, and the Beef Producers Association.

Programs and Investments

The VMPTF offers (1) technical assistance to owners of existing facilities, (2) a grant program, (3) learning journeys, and (4) consulting.

(1) Technical assistance helps owners of plants understand their costs, communicate their costs to their farmer customers, improve their systems to ameliorate customer complaints, and empowers the processor as educators via a workshop series covering cut sheets to yields.

(2) The grant program used \$50,000 in grant funds to make small investments in existing facilities, focusing on professionalizing and improving management systems as opposed to opening up new services.

(3) The series of learning journeys facilitated tours of farms and plants to people at all points on the value chain, and included trips to the North Carolina Meat Conference, Meat Processors Association Conference, and plants from Vermont to Italy.

(4) One of the tours was to Lorentz Meats in Minnesota, and the Farm Viability Program ended up hiring the founder to work with local plants in Vermont.

Funding

The program was funded by piecing together funds from various sources, such as state designated funds from USDA, Ag Innovation Center, and cost sharing from the companies involved. NMPAN proved to be a key partner, because it was impactful to share their work in VT with people experiencing the same issues in California, Iowa, Minnesota, etc. and receive feedback and lessons learned.

A Success Story with Learning Journeys

When the owner and manager of Black River Produce took the learning journey to Lorentz Meats in Minnesota, the team was inspired. Later, Lorentz came to Vermont to work with processors, and they continued to discuss what they'd learned. Eventually, Lorentz partnered with Black River Produce to open Black River Meats. In this case, a company that already had expertise in aggregation, sales and distribution of produce wanted to move into local meats, which means that they already did their homework on the demand side. They found a partner with processing expertise, and having already been in business in the Vermont agricultural space, looked for the right farmers to grow their inventory. The lesson here is that when opening a new plant, a partner on the sales side makes an equation for more likely success because the sales channels are already there, and the costing becomes part of the process to sell in a wholesale environment.

Winding Down the Program

The VMPTF programming ended in 2014, Chelsea's position changed and she was assigned to a new initiative. Sam Fuller's role shifted as well, focusing on beginning farmers. During the four years they made significant impact in local processing capacity, and provided technical assistance that had been integrated into the local plants. They weren't hearing so much noise about processing challenges anymore. Chelsea states that in Vermont "the story about lack of infrastructure has gone away," other than occasional complaint. Therefore, the organization made the decision to let go of the reins and allow the private sector to do business. The program had touched all of the processors in the state with some level of business planning and systems improvement.

Lessons Learned

Chelsea shared that processors felt they weren't being brought along in the Farm-to-Table movement, and rightly so. The farmers were getting a lot of attention but processors were still in the shadow, and not receiving the same level respect. Both sides had their challenges, but the story also needed to include the processors. Some big victories include better working relationships and respect between processors and farmers.

The processors' biggest challenge in Vermont were similar to everywhere else; seasonality. All of the producers want to process at the same time. Other challenges included workman's compensation insurance, aging infrastructure, new audits from regulatory agencies, and understanding their costs. Understanding costs and profits also comes down to primitive record keeping methods.

Chelsea's Recommendations for STW in Value Chain Coordination

When it comes to VCC, the processors either need to already have some trust established with the program leader, or it needs someone willing to learn, "willing to spend a year listening". Chelsea herself came in as an outsider when researching her master's thesis and got a 95% response rate, so it is the respectful approach and communication that is more important.

The next question leads to "how does a region enhance local processing assets and fill out excess capacity, essentially catching up with Vermont, where everyone has had the technical assistance they need to uplift working relationships and improve the supply chain?" They have organized educational workshops with producers and processors covering the supply chain from production to cutting orders to merchandising, and worked with farmers to see their processors as a resource as opposed to a hindrance. They (Vermont Meat Processing Task Force) were able to raise some government funds for the upgrades and offered matching grants to purchase machinery. This "professionalizing" of the processors has increased output and sales for all, eventually creating market space for new processors to open successfully

However, Gwin warns: technical assistance is a two way street.

Do processors want the input?

***Do farmers want to hear that there's not
enough output to support a new plant?***

***Will processors want to compete for funds to improve their
capacity and play a part in lifting up the value chain?***

When asking NMPAN to describe their challenges in the working group process, they suggested we get a good feel for whether or not the processors were willing to listen to outside influences, as this would vary from plant to plant, depending on the management style. It would also be important to align the content with their goals. For example, if the goal was to fill out the slow season, would they be willing to create a pricing structure that would incentivize farmers to fill out their empty spring dates? If the goal is to maximize cooler usage, what about charging penalties for farmers not picking up their meat on time? After all, cooler space is a bottleneck in most plants. If they aren't open to ideas it will be hard to experiment with solutions.



Next steps: In order to replicate this model, target organizations would be invited, specifically from NYS Agriculture and Markets, NOFA, or associations related to pastured livestock.

A project lead for the first year would be required, as moderation of these discussions is a key role, especially in the first year while the group is developing cohesion. This project lead could be from STW RPDB or another consultant that has proven relationships with the farmers and processors.

With facilitated tours, STW RPDB would need to take on a fundraising role, or look to grant funds. This is a relatively low cost way to build industry relationships, and would require the following:

(1) appointing a project manager to identify the plants that would be visited, (2) gathering questions in advance from farmers/other processors and having a prep session with the processors to be visited so that the session is productive, (3) hiring a bus to take the farmers/processors from a meeting point to the various plants on the schedule, and (4) moderating the tour schedule and Q&A sessions the days of the tours.

Another piece of this working group would be to widen the lens and get some input from processors around the country by sending select local processors to the national AAMP (American Association of Meat Processors) conference. Membership in the organization is \$200 annually, and STW RPDB could send a processor to the conference, which costs \$150 plus another \$50 for the pre-conference bus tour to see other local processors. A \$500 travel stipend could potentially be offered as well. Another conference that is popular among niche meat processors is the Carolina Meat Conference, which costs \$175. The New England Meat Conference also launched in 2014, but there is no information available at this time on the next event. However, we recommend STW RPDB keep an eye on this developing new conference.

Farmer-Processor Matchmaking: The Story of NELPSC

Contact: *NELPSC Executive Director Jim Hayes*

Email: *sapbush@midtel.net*

The Northeast Livestock Processing Service Company (NELPSC) is a one-of-a-kind organization matching farmers with processors, and so much more. This organization was developed through the efforts of a producer group that was spearheaded by the Hudson Mohawk Resource Conservation and Development Council (RC&D). It's development and success can also be attributed to support and funding from the New York Farm Viability Institute, NYS Department of Agriculture and Markets, Rensselaer County Economic Development Office, New York State Assembly, David Rockefeller Foundation, Heifer Project International, USDA and NRCS. Funding and support for this website comes from the New York Farm Viability Institute and the Hudson Mohawk RC&D. NELPSC helps farmers source the right processor in the area, and also works hands on with processors to align the farmer's needs and the processor's final product. They take and transfer cutting orders, ensuring that the processor understands exactly what the farmer wants, and that the farmer is asking correctly.

They are currently in their 10th year, and have been grant-funding free since 2010. The company was born out of a similar feasibility study that addressed the Mohawk Valley's needs for a new plant, which turned into the birth of the service company to assist farmers. They originally anticipated replicating the model in other regions, but it has not developed that way. The model is not sustainable as just a processing facilitation program because you can't charge enough to cover an expert's time, and once a farmer-processor match is made, there is often no further service needed. Therefore the work is done at a subsidized loss. NELPSC charges \$20/head per beef, plus a one-time \$50 sign-up fee, for the pairing, scheduling and cutting order.

NELPSC also mediates institutional sales of local meats and offers a meat buyer matchmaking service. They chose this channel because it does not compete with the farmers' major sales channels, and their company values prevent NELPSC from competing directly with farmers. They center that business on cull cows for ground meat for school programs, and they cater to large butcher shops in NYC. However, their reach is geographically self-limiting because farmers who want to work with NELPSC as a supplier need to bring their livestock to Oneida, NY.

NELPSC boasts over 160 members and over 15 plants cooperating.

Funding Facility Upgrades for Capacity Building

Many of the processing plants in the region are old. The facilities were built over 50 years ago, and are operating on old floor plans without enough cooler space for future growth. When talking with David Lane from Yankee Farm Credit, he agreed that improving efficiency was "the way to go", and that in his experience, a high rail system and refrigeration were often the bottlenecks in production needed to overcome for capacity growth. Aside from being a farm lender, he is a prior Deputy Secretary of Agriculture in the state of Vermont.

Heeding NMPAN's warning that assistance has to be a two way street, meaning that processors must want to participate in the program, we recommend that STW RPDB have further conversations with the processors that we've identified, and test the interest in a program that would offer funding for specific capacity building upgrades. Then the next step would be to develop an application process, and a format for ongoing dialogue such as a working group, to ensure that the funds will serve their purpose and actually build capacity. Depending on the level of fundraising that STW RPDB could execute, program dollars would likely be highly competitive and create a need for STW RPDB to carefully evaluate applications by a committee.

The potential needs of each processing plant will vary widely from location to location, due to existing structures and assets. We looked closer at a few types of equipment that are the most likely needs.

Carcass Chiller Options

When we talked to some processors about aging beef, they told me they would need a different type of cooler to hang beef longer – or have two different cooler spaces – one for hot carcasses, and one for aging carcasses. Dry aging, according to Brooks Miller of North Mountain Pastures, occurs at 90-95% humidity, so the cooler temperature must always stay strictly below 41 degrees (F); therefore, a butcher would NOT want to overload an aging box with hot carcasses. One of the reasons that processors may not want to age beef for 14+ days could be their cooler equipment limiting their ability to do it well.

Usually, plants have a cold room for the first phase of cooling. For example, hot carcasses might go into a 52 degree room for a day, then be moved into the 35 degree walk in. The other solution is to run two different types of coolers: a blast cooler to cool down the animals (using turbulent air flow) and then move into the aging cooler (using laminar flow, which slows moving air). This second option actually would offer better yield, the benefit of laminar flow units is minimal air movement to maintain carcass temperature while minimizing evaporative loss.

This leaves an older processing facility with two options – they could install a drip room (a box that drops hot carcass temperatures) and a laminar flow cooler, using their current chiller as backup or finished product storage, or they could convert their chiller into a drip box and add on a laminar flow cooler. Both options would increase their capacity by adding space. With laminar air flow coolers just right for aged beef, processors could charge based on number of days dry aged.

We attempted to price out these units for STW RPDB but contactors were very hesitant to discuss pricing for a feasibility study, without looking at a particular facility because of the installation. We were looking for prices on a 300 square foot blast chiller (drip box), laminar flow unit to fit an existing 600 square foot box, and a laminar flow unit plus an 800 square foot aging cooler. We reached out to local refrigeration and contractor companies in the STW region, and were unable to get pricing, although we do have some names to share with STW RPDB off the record.

These units would increase a plant capacity by the following one head of beef per 16 square feet. Pigs take up less room and don't require aging, so they don't require more than a night in the blast chiller.

Cooler Size	Head of Beef
300 square feet	20 head
600 square feet	40 head
800 square feet	50 head

Other Equipment

If local processors were looking to upgrade their facilities to make them more efficient and process higher volumes of product, they may be looking at equipment other than coolers. Such equipment includes:

- **Hydraulic splitting elevator** – \$10,000 - Processors can benefit from a carcass splitting band saw, which can be seen in action in the video from Larry's Custom Meats³¹. If this were combined with a pneumatic lift the meat cutters will not have to lift the saw overhead, which is much safer. We were able to get an estimate on a splitting band saw at \$5340 for small plants, plus a \$2004 balancer³², which installs with the saw to make it essentially weightless. The splitting pillar (elevator) needs to be custom designed. Splitting saws with elevators are hard to get a price over the phone, companies want to do a quote with installation and need to see the setup. Our best estimate on the hydraulic cylinder with a platform is \$3,000 installed. The elevator/splitter combo is a safer way to increase capacity, making the splitting step much faster, and allowing for up to 40 head per hour (so it will never be a bottleneck). Since most small plants use small, overhead reciprocating saws, increasing capacity will likely result in more fatigue and a dangerous situations for workers.

³¹ <https://www.youtube.com/watch?v=3pq5MWLZyII>

³² Quotes from Jeff Summers for a Buster IV Saw from Jarvis Omaha

- **Scalder** - \$40,000³³ - if plants are currently scalding by hand, this will dramatically lower manpower needed for scalding hogs. Horst Meats in Hagerstown, MD easily scalds 20 pigs per hour with a crew of five (killing and sticking, scalding, flaming to further de-hair, gutting and splitting). Employees will also be much happier not having to manually scrape hogs (at a temp of 150 degrees (F) it gets hot and uncomfortable). If they currently skin animals, scalding will give about a 15% increase in carcass weight, and yield more edible products - the head, skin, hooves, and many cuts with skin on that are desirable products in the marketplace. Value is added in additional saleable product.
- **Commercial Smoker** - \$15,000 to \$20,000 depending on size. This allows the processor to make a variety of products, from jerky to bacon to smoked sausages. Most of the processors that we talked to have a smoker on site, but some do not, and this would be a big win for them provided they had the space, along with the desire to learn the recipes and make the product. Most processors in the region charge 60-65 cents per pound of smoked meat. In order to re-coup the pure cost, the processor would need 500 orders of 50 pounds of smoked product.
- **Rollstock Machine** - \$30,000 to \$40,000 depending on model, as quoted from dealers. The benefits include increased capacity for wrapping, which can be a bottleneck, and value-added packaging. The challenge with Rollstock is that the plant has to have enough volume to keep the machine running, in order to recoup investment.
- **Data Logging Software** - \$100 - with a scale that has a serial output. This page has pricing (<http://www.dataloggersuite.com/buy.htm>), and the standard package of software (\$100, one time) would be a great place to start. The Datalogging software provides is a value added service because it will spit out all the information of each cutting order to the carcass owner. This will help the customer track inventory, and make production decisions (if a carcass yields 72% versus 65%, those are the genetics a farmer wants to develop). It also ensures the customer is getting everything they asked for, so it also helps to verify all of the cutting instructions. This would certainly professionalize the customer service relationship between farmer and processor, and potentially deflect the distrust about receiving the right meat and the right order. For \$100 and some training, this could save a lot of headaches.

Data entry is also a basic component of every other manufacturing business, so why do the processors still do orders on paper guest checks?

Next steps: Reach out to processors and find out if they are interested in participating in a program offering competitive matching funds for capacity improvement. If response is positive, develop a framework for the application and management process, then reach out to the financing resources in this report to identify a funding partner. Appoint an application committee and a project manager, and start inviting plants to apply.



³³ Koch JWE Baumann BM 20 S Combination Hog Scalder & Dehairer

Funding New Certifications for Processors in Organic and Animal Welfare

When we asked STW farmers, “Please describe the ideal facility in which you would like to have your livestock slaughtered...”, responses included:

• Clean	• Mobile
• Low stress for the animals, easy unloading and intake	• Clear turnaround times
• Humane treatment	• Farmer owned cooperative
• Organic / NOFA Certified	• Charcuterie maker
• Nitrate free processing	• Closer to the farm
• Face time with the butcher and cutting floor	• More hang time

We heard a desire for more organic certified processing from 36% of farmers surveyed. Leona Meats was the only plant that we could identify with an organic handling certification near the region. Many farmers were also concerned about the way that their animals were handled and mentioned humane treatment as an ideal.

Another opportunity to use a competitive funding program would be in Organic Handling and Animal Welfare Certifications. STW RPDB could create a competitive opt-in program with funding for processors to receive assistance in organic handling certification through NOFA, or Animal Welfare Approved Certification, or both. While it wouldn’t increase capacity, it could increase revenues for farmers who could command a higher price.

We reached out to NOFA NY (Northeast Organic Farming Association of New York), which certifies processors with an organic handling certificate. Processors do not need to be exclusively organic, but it does require separation of time and space. Ashleigh Knecht is the coordinator for handling certifications, and is reachable at: handling@nofany.org

We asked Ashleigh to discuss how the application process works. She said that the initial application can be tough just because it’s so in depth. However, she assures it gets easier year after year because they (NOFA-NY) know about the facility already. She also let us know that there are reimbursement programs available and it takes away the challenge of the fees.

The USDA is providing financial assistance to handlers to help pay their costs for organic certification: Payments are currently limited to 75% of an individual producer’s certification costs, up to a maximum of \$750. Funds are distributed from NYS Agriculture & Markets.

A processor can become certified in as little as two months, as long as the initial application is complete. Once the application is filed, an inspection date is scheduled. The paperwork requires the processor to keep copies of the organic supplier certificate from each farmer and keep it on hand.

The application can be found here:

<http://www.nofany.org/sites/default/files/certforms/New%20Handler%20Packet%20Combined%20PDF.pdf>

Organic Handler Certification includes large and small scale processors, repackagers restaurants and more.

Handler Certification Requirements³⁴

Certification is an annual process. Updated paperwork must be submitted and inspections must be conducted every year.

In Handling Certification, areas addressed include all sources of raw materials, storage of materials and the actual process used to produce a finished product.

In operations producing both certified and non-certified product, complete and total separation of raw materials, processing and storage are required.

All handling operations must develop an Organic Handling Plan for their facility. This written document must detail the complete process from receipt of raw material through production and packaging of the finished product. This includes, but is not limited to, the following:

- Process for ordering raw materials
- Process used at receiving of organic product
- Production process
- Cleaning process
- Finished product storage
- Pest control practices
- Shipping
- Identification of organic control points

Complete audit trail documentation must be maintained.

Facility diagrams are required, including a schematic diagram of the facility, production flow chart and location of pest control measures if used.

Handler Certification Fees

Fees are based on projected gross organic sales.

A base fee of \$300, plus a \$350 inspection fee deposit must be submitted with application. If inspection costs exceed this deposit, they will be billed; if less, the difference will be refunded.

A fee of 1/2 of 1% of organic sales, up to a maximum fee of \$10,000 per calendar year, is assessed.

Additional fees may be charged based on the complexity of the Organic Handling Plan.

Complexity of the operation includes number of facilities to be inspected, number of products, labels, ingredients and material suppliers.

Multiple locations may require separate inspections.

Interest will be charged on past due accounts at a rate of 1.5% per month.

Certification will be suspended on accounts more than 60 days past due.

Our next contact was Katie Yanchuk from Animal Welfare Approved (AWA), a third party organization that has set the standard for the ethical treatment of animals with a no-cost approval program that monitors practices from birth to slaughter. AWA certification is granted to farmers, not processors, but AWA farmers can only use processors that are approved by the AWA team. Therefore, processors do get reviewed by the AWA team, but only when a farmer requests their own certification. However, once a processor gets reviewed and approved by AWA, they become a resource for other AWA farms.

³⁴ NOFA NY website

AWA would not tell us what processors are approved in the region, because they do not inform the public, which is the role of their members. However, farmers can ask if their processor has been reviewed if they are AWA members.

The AWA standards can be found here:

<http://animalwelfareapproved.org/standards/slaughter-redmeat/>

Next steps: We recommend STW RPDB talk to NYS Ag & Markets about the reimbursement funds and get copies of the forms out to local processors, and notify them that there is a perceived need for more certification. STW RPDB should also gather a list of farmers interested in certified processing, and share that with the local processors with permission. Additionally, local farmers should be notified that AWA certification is zero cost, and those that are interested in humane treatment should get certified (a seminar on the subject would be beneficial). The farmers were interested in humane treatment but didn't know that AWA is free, and that the process of certification will include review of the local processors.

Funding Consulting Services for Processors in Business & Succession Planning

After surveying processors in the region, it is clear that the biggest red flag concern is the need for technical assistance for processing plants. There are three plants that were in urgent need of professional succession plan development. There were others that stated that they struggle with profitability but are terrified to raise their prices. While roundtable discussions would create a forum for peer support, idea sharing and problem solving, there is a deeper need for professional advising.

STW RPDB could look to create a grant fund for succession planning or business advising for processors that would allow subsidized consulting or subsidized fee reimbursement for succession planning, or butchery training. There may also be a need to hire a third party consultant to work on processor/entrepreneur matchmaking for retiring plant owners where no one inside the organization was interested in taking over. Of course, it would also be important for processors to have some skin in the game, and therefore require a competitive application process or base the program around matching funds.

After our discussion with NMPAN about similar programs in other areas, we were informed about NC Choices, a Center for Environmental Farming Systems Initiative that promotes the advancement of local, niche and pasture-based meat supply chains by facilitating educational experiences, offering technical and business assistance, assisting with regulatory challenges, and developing market opportunities for the region as a whole. This sounds very similar to the needs of the STW region. NC choices worked with processors to create customer manuals, which allowed for better working relations between farmers and processors. As Gwin stated, this is "low hanging fruit" that can be highly impactful.

NC Choices developed a training manual for processors that should be shared with STW regional processors, offering solid information on best practices and business analysis. This is now a free resource that can give processors an edge in business planning.³⁵

³⁵ <http://www.extension.org/sites/default/files/NC%20Choices%20Training%20Manual%2011.3.14%20FINAL.pdf>

NC Choices is a great example of a similar situation in another region; they created a program offering competitive funds to processors for upgrading their facilities. If they participated in the working group program from start to finish, they would be granted \$5,000 for investment or education. What they found was that processors needed some help with cost analysis, and bookkeeping technical assistance to get a true understanding of where they make money and lose money in the process, before they could even decide what types of new equipment they could afford to purchase and maintain.

When it comes to succession planning, professional development may be a needed first step, which would require the value of the business to be clearly understood. This would also help to determine if the processing plant was a good target for funding from a risk and creditworthiness perspective. Gwin advises technical assistance over plant upgrades, to teach the processors to maximize their profits and manage their costs before going bigger. She says, “It’s hard to find people to take over as the business becomes more complicated. The processors don’t know how to pay themselves enough to make it [a takeover] appealing. There’s not enough equity in the business because it’s fully depreciated out, and that’s not a great environment for a young person to come in and take over.”

Next steps: STW RPDB should talk to NMPAN and NC Choices about their experiences firsthand, and continue discussion with KTC for recommendations around business advising and succession planning.

Next, STW RPDB should look to create a grant fund to assist the processors. Once the funds are in place, the roundtable forum could be used to inform the group, and begin matching plants with the appropriate advisors.

A Deeper Look at NC Choices

Q&A with Executive Director, Sarah Blacklin

Contact: sarah@ncchoices.com

NC Choices (NCC) is a program in its 13th year under the Center for Environmental Farming Systems (CEFS) in partnership with two land grants and the North Carolina Department of Agriculture. The program started as farmer-focused but evolved into a broader focus on the supply chain for niche meat, to complement the producer-focused programs that extension is already running. All its programs are independently grant funded. The partnership creates space for working with academic experts, such as Dr. Rebecca Dunning, Senior Research Scholar at North Carolina State University, who contributes to NCC’s work by managing and conducting social science research, including design and oversight of research projects, data analysis, and evaluation.

NCC has created relationships all along the value chain, which puts them in a unique position of deep relationships with local producers and processors. These relationships are built over time, as Blacklin states it’s important to “get that time in their plant” to build trust. Because of that, technical assistance funds are often allocated for NCC staff to personally visit and connect with processors in their plants. The result is that processors and farmers call NCC (not the government offices) for help with regulations, and the regulators also call on NCC for support, creating a looped system of trust and assistance.

Collaboration with NMPAN

NCC undertook a three-year project with NMPAN that provided technical assistance to meat processors, and was funded by the North Carolina Rural Center. This venture was successful in funding and in outcomes because of (1) NCC's strong relationships with farmers and processors in NC, (2) NMPAN's profound experience with small processors on a national level, and (3) ability for NCC to pilot case studies on a local level and then compare to national findings.

How They Work with Processors

NCC was able to encourage cooperation with their meat processor working group by offering a financial opportunity at the end of the program; a \$5,000 cost share that could be spent on anything, operating expenses or equipment. NCC found that Niche meat processors will invest their own money for smaller improvements but they will look for grants for bigger projects. However, now NCC is connecting processors to lenders because their "grant environment has been shot" for equipment assistance. On the other side of the coin, more loans are opening up because of national attention to the niche meat industry.

Throughout their program, they helped processors evaluate their bottlenecks and business decisions with training on opportunity assessment by the numbers. Their role was to enable "slowing down and helping processors understand their need." Blacklin told stories of processors that wanted "this fancy machine" but they didn't understand what impact that equipment investment would have on their business bottom line.

NCC's program also took processors through a risk management decision tree training to help them with understanding steps to succession planning. In the end, processors now more engaged with each other and NCC, and continue call on NCC to match them with technical assistance and services.

Challenges and Lessons Learned

As a grant funded project, NCC is under pressure to show economic outputs quickly, but working with processors is very slow and requires a lot of relationship building. The stated goal of the project was for NCC processors to see savings based on creating efficiencies, and for these saving to eventually trickle down to the local farmers. Sometimes NCC saw potential where the processors did not, but the processors weren't always interested in receiving the advice.

The funder of the program wanted to serve that broader group of processors and farmers together. However, when the processor's perspective is serving only their business, their savings don't trickle down to the farmers. On the other hand, NCC was indeed able to show an increase of service to the farmers, and the processor efficiencies realized did translate to better service and more capacity to the farmers in the end.

Since this NMPAN collaboration, NCC has been approached by many organizations that want to improve meat processing in their region, but don't have an organization like NCC at home. Michigan State University is asking the same question, and is creating a Livestock Working Group (LWG) that they are hiring a consultant to manage. Organizations from Vermont and Maryland have also reached out to NCC looking at their model.

STW RPDB is asking a similar question and would also need management resources. Blacklin offered to put STW RPDB in touch with board members of LWG for further brainstorming and sharing of resources. She also shared a copy of their processor application for the competitive funding program. While not included in this study, the application has been shared with STW RPDB.

Shared Resources to Reduce the Burden of Travel to Processing Facilities

The chief burden on time for the farmers in processing is the delivery of the livestock to the processor and the return trip, along with the second round-trip to pick up their product. We searched for local livestock hauling companies to discover if this could be an alternative, however, we were unable to find a hauler for hire in the area. The farmers that we surveyed told us that they often rent or borrow haulers from other farmers nearby, but do their own delivery of animals to the processor. Other small farms that we talked to here in Pennsylvania will use livestock hauling services and arrange trips on the backhaul when the trailers are empty, for \$1.25 per mile round-trip. During this process, the haulers have to schedule time to get the animals loaded. The size of those trailers ranges from double decker trailers with up to 250 large hogs, to pickup truck pulled trailers carrying 40 hogs.

Our next step was to research other potential resources to assist with this burden of time on the farmers. The idea would be to subsidize shared livestock transport resources for farmers, including livestock trailers and hired drivers to take full loads to the processor from a group of farms, on a schedule.

First we reached out to Chris Wilson, from Wilson Beef Farms, figuring that since he was buying feeders he might know of a local hauler. He did not, he said his suppliers haul to his farm and don't haul for hire. We also reached out to Empire Livestock Market in Bath, which did not have any leads either. The next call was to Finger Lakes Livestock Market near Canandaigua, and the owner of the auction took some time to talk and shared the following information. The Livestock Market does some hauling for some of the farmers who bring their livestock in for sale, but most haul themselves. The tractor trailer loads that we see in Pennsylvania would not be feasible because each farm would have to have loading systems to get to the higher door, and the processors wouldn't have the facilities there for unloading either. Farmers pay \$3/mile loaded with their service, although they are not interested in becoming a hauler for hire for STW area farmers. He recommended that if STW RPDB were to purchase a trailer for farmers to use, the best size for the purpose would be a 24-foot gooseneck trailer with three dividers.

Vehicle and Trailer Cost

A 24' gooseneck trailer will hold up to 40 finished hogs or 12-14 finished beef. Most have a single divider, but they can be bought with two dividers to create three separate spaces for sorting animals into the front while you load into the back. The most reasonable vehicle to pull that trailer would be a Dodge 3500 with Cummins diesel engine. This is a very common motor, easy to repair, and is known to last up to 500,000 miles. It also holds its resale value, which is important for a pilot project that depends on opt-in participation. The cost of this vehicle would be \$16,000 to 20,000 for one in decent shape that is 10+ years used, which is the most budget-friendly option with enough life left in the vehicle. The gooseneck trailer would cost \$15-16,000 brand new. Actual users reported MPG around 16 unloaded and 12 loaded.³⁶

In order to backhaul the finished product, STW RPDB would have to hire a freezer truck, or own one with a driver for hire to run the routes. Depending on the size of the loads to be hauled, it may be more economical for the truck operator above to build an insulated trailer and install a freezer box on top. A 16-foot cargo trailer can be had locally, brand new, for \$4,000. Add to that around \$1,000 for spray foam insulation, wall and floor covering, and \$5,000 for a Thermoking freezer unit. This would allow STW RPDB or a group of farmers to have live animal and frozen meat hauling, with only one truck to maintain. The cost of maintaining a trailer would be much cheaper than a freezer truck. Technically, the USDA doesn't require frozen transport – coolers are allowed as long as temperatures are maintained. However a broken down truck without a freezer unit would be a disaster.

³⁶ fuelly.com

An insulated box full of frozen meat would keep itself at temperature with some dry ice, however, the down side of any potential breakdown with multiple farms' product on board would be an insurmountable loss. Freezer trucks online can be found for about \$29,000 used.³⁷ If delivery fees were \$1.25 per mile (round trip) with an average of a farm-to-processor distance of 45 miles (each way), it would take about 250 deliveries to break even. That would be 50 farms going to the processor five times per year to break even on the investment, but there would also be ongoing costs of maintenance, fuel, driver, and insurance. Dodge Sprinter makes a Freezer Truck that would be more fuel-efficient but costs much more, in the \$50,000 range, and would hold about 200 cubic feet of product at 2310 pounds, about seven beef. Just like the example of mobile processing, the key to success is a dedicated non-profit project manager, or finding an entrepreneur to develop this as a business.

Next Steps: STW RPDB should discuss if this solution is a good fit as these assets are expensive to maintain and a manager would need to handle the scheduling and maintenance. Another issue is that the STW region is so vast, where would a livestock trailer or freezer trailer be stored so that it was the right distance from farmers? It would also require insurance and labor planning. If the vehicle had a specific schedule, for example two days per week, it could operate on efficient routes. This program does require an entrepreneur or organizer to coordinate between all of the farmers and their needs.

Summary of Conclusions

When evaluating solutions and creating plans for the local food economy, it is important to remember that there are four distinct segments to its supply chain. All 4 pieces of the supply chain are part of the farmers' business plans, and contribute to the farmer's (producer's) costs.



The feasibility study we embarked upon asked the following questions:

Is the manufacturing (processing) part of the supply chain in New York State's Western Southern Tier creating a bottleneck for the growth of the local meat industry?

Do those processors have the capacity and appropriate skills and facilities to process this valuable and growing segment of the food economy in this region of New York State?

If not, what can we do to improve their capacity and skills?

³⁷ <http://harrisburg.craigslist.org/cto/5069655608.html>

In our exploration of answers, it is important to remember that the marketplace is highly fragmented, both for the producer/farmer and processor. None of these businesses are large enough to create industry wide change on their own, but together make a more significant impact. Therefore, the industry is more interesting to investors and economic development efforts as a whole.

While there is no “right” way to grow or process meats, we took a deeper dive in the niche industry of local or pasture raised meats, which sell at a higher price point than conventionally raised meats. There is tremendous regulatory oversight from a food safety standpoint and these regulations have a major impact on the processors’ daily operations and the farmers’ sales opportunities.

Considering the aforementioned limitations, the following answers to the feasibility question apply:

There is excess processing capacity in this region, however there are bottlenecks as a result of lack of alignment between farmer and processors, different processing needs of local meat producers, and seasonal trends. **The bottleneck should be addressed in 2 ways:**

- There is an opportunity for processors to incentivize farmers to finish animals at various times of year, just like many seasonal business alter their pricing during the slow season.
- There is also an opportunity to educate farmers on techniques to shift their seasonal cycle.

The main issues facing the growth of locally produced meat in the STW region are quality and consistency of product, scalability, and efficiency that results from leveraging shared knowledge and resources. The quality and consistency issue relates back to the fragmented industry, and the final product coming from so many farms and processors with a range operating procedures, and varying quality levels with regards to packaging.

- Each small farmer must handle a range of challenges from birth to slaughter with their livestock, and the tendency is to use multiple processors as well, due to scheduling. This is contributing to product variance on multiple levels. The variance in product hinders scalability, as well as the fact that most small farm business models are not built for pricing that allows a distributor/wholesaler. However, there are many programs in existence to help farmers address problem solving as a community, from marketing to networking to technical assistance.
- Each processor shares similar issues in their individual operations; they have to learn the same skills, train their team, and deal with complicated regulations and manufacturing processes; and because they are fragmented they lack opportunities for increasing efficiency and improving processing to meet the needs of their farmer clients changing market-based demands.

In the end, a successful farmer needs knowledgeable, efficient, aligned processors that can and will customize their businesses to the needs of the rapidly growing local meat marketplace. On the other hand, processors need to understand their costs and how to appropriately price add-on services in relationship to market prices. The farmer must also be willing to pay a premium for results that are more demanding on the processor’s budget.

The farmers and processors both need business planning and technical assistance resources to understand their expected yields, revenues and best marketing opportunities, as well as a feedback mechanism to communicate with each other and drive towards common goals of success.

- Processors need business processes and support that allow them to operate their business in a manner that addresses future needs and profit planning to keep the business operating successfully. These include:
 - Support for streamlining their operations and planning for succession.
 - Building additional capacity through creative and efficient manufacturing techniques.
 - Appropriate capital to build capacity, without the level of capital required to build a completely new facility.
- Farmers need business and technical assistance to help them scale their business as their herds grow, and create marketing opportunities that are a match for their cost structure and competition. These include:
 - Technical assistance for both greenhorn and experienced farmers to understand where they can maximize efficiency in their operations, including the seasonal bottlenecks.
 - Shared resources to de-fragment the industry when it comes to purchasing and logistics.
 - Business assistance to determine pure cost of their production from birth to processing, where they have more control of management, as well as structures to determine fit and cost of their marketing strategy.

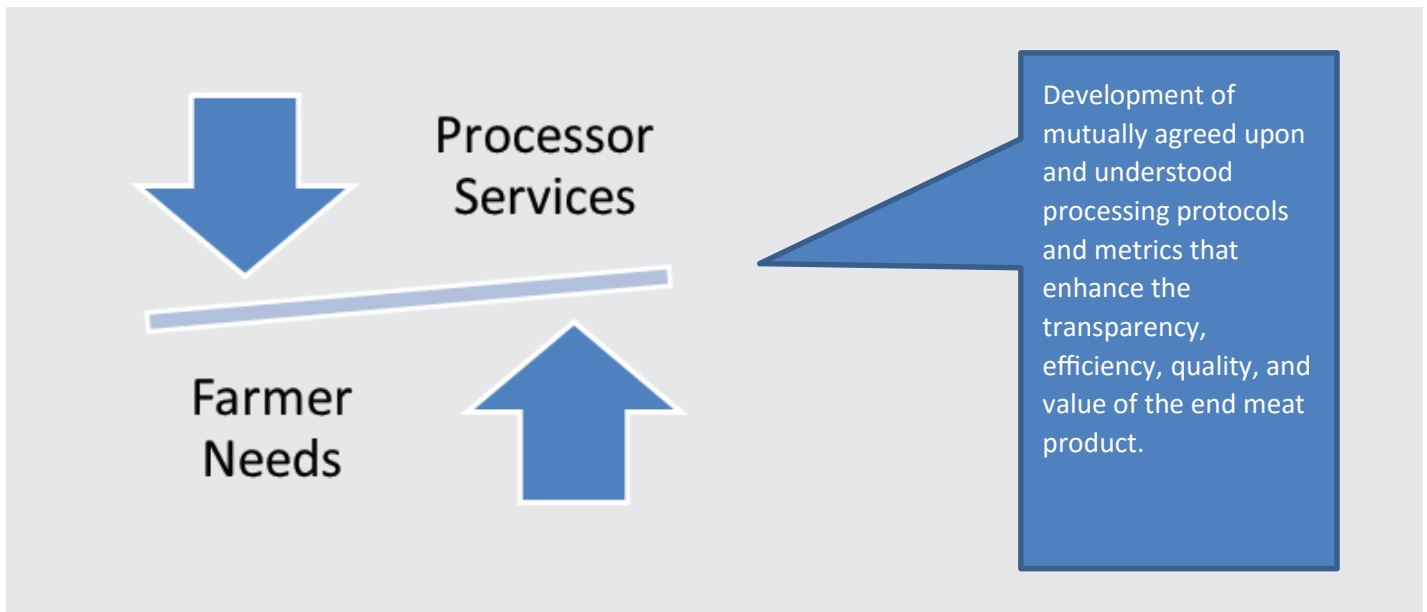
We have confidence that the establishment of publicly managed resources for assisting private businesses will be a force of change. With a goal of creating efficient and marketable processing of meats in the STW Region of New York State, everyone wins in the local industry. STW RPDB will see tremendous impact by managing solutions that build, cultivate and generate a return on investment by leveraging the existing people, facilities and relationships that are the foundation of this growing local industry and community.

The Goals for a Funded Program Should Include:

- Best practices education and implementation support

Building a Processor Network	Technical Assistance	Business Assistance	Farmer Resources
<ul style="list-style-type: none"> •Roundtable Discussions •Facilitated Tours •Sponsored Conference Attendance 	<ul style="list-style-type: none"> •Certifications in Organics or Welfare •Workforce Development for Skilled Butchers •Process Improvement 	<ul style="list-style-type: none"> •Succession Planning •Competitive Funding for Facility Growth •Profit Analysis 	<ul style="list-style-type: none"> •Development of Hauling Services •Expert Advisor for Varying Finishing Times for Seasonal Bottleneck Reduction

- Pathways to clear actionable two-way communication between Farmer and Processor



- Business support for the processor around growing and expanding their business with local meat; including but not limited to



Implementation Plan

Before STW RPDB is ready to start implementing action plans from this feasibility study, a budget needs to be created for fundraising. This budget must include a consultant or project manager with experience in the industry to do this work side by side with the planning board staff. As the examples in this study have illustrated, the key to success of any program or business is a passionate leader that will dedicate themselves to achieving the required outcomes.

While KTC has presented a menu of offerings to invigorate the local livestock industry, STW RPDB must decide on a system of tiered goals. For example, a program of competitive funding for capacity building assets in the processing plants may not be as impactful unless the roundtable program addressing needs has been rolled out first. The recommended layers would be to execute the farmer and processor roundtable and facilitated tours first, to build communication and common goals. In the second phase, STW RPDB would work to launch a program for succession planning and business advising, so that each plant understands its costs, opportunities and bottlenecks before investing in equipment. Succession planning is a hot button issue for the region, considering we identified a number of plants that are less than 10 years to retirement. Lastly, STW RPDB could roll out a competitive funding program for building capacity and certifications, after the farmers and processors have knocked out some of the barriers to successfully utilizing that funding.

The most important part of whatever strategy STW RPDB decides to take involves dedicated leadership. In order for the roundtable and competitive funding programs to be most effective, subject matter experts must be coaching the participants through the process. The leaders of the program must have a frame of reference for this work and an understanding of the industry and value chain. STW RPDB would also need to dedicate staff time to continue to play a major role and be involved with that consultant so that after the launch and development phase, they can take over the process.

Through this research process, STW RPDB has become linked with experts in this field. Many of them have graciously offered to make connections to the right people to fit the roles needed. KTC will be happy to make introductions to any relevant contacts that we have made before and during this study. Lauren Gwin of NMPAN has offered to help STW RPDB identify the right experts once project implementation goals have been defined. Kathleen Harris of NELPSC (Northeast Livestock Processing Service Company) has also offered to speak on the phone and offer input along with their Executive Director Jim Hayes. Elizabeth Collins of NCC has offered to share their application process used for their competitive funding programs for meat processors in North Carolina.

As STW RPDB considers which aspects of this plan to implement, it is also important to remember who their audience is, and the size of that audience. Successful programs will need a critical mass of interest and participation to be successful. Our research points to these programs as solutions to problems, but phone calls, alongside a meeting of farmers and processors, would be necessary to determine the actual level of interest in participating when the timing is on the table. Technical assistance is a two way street, and in order for results to be achieved, all parties must be engaged in the process and driving towards the same goals. The first step is to invite the farmers and processors to join together in a constructive, facilitated discussion of their needs to find common ground before taking action.

KITCHEN TABLE CONSULTANTS



Appendix A: Cropscape Maps



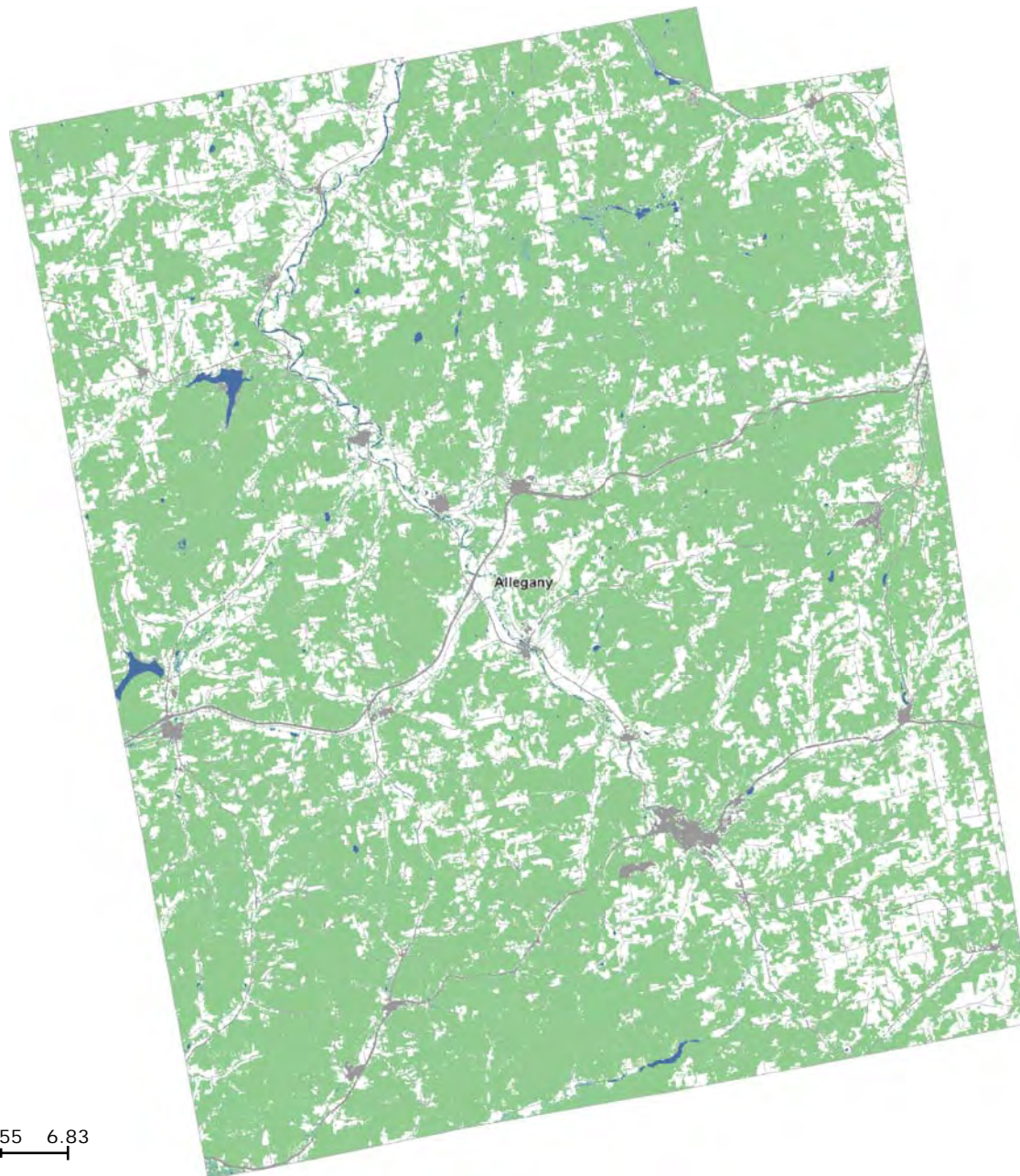
2014 CDL, Allegany County, New York



Land Cover Categories
(by decreasing acreage)

NON-AGRICULTURE*

-  Deciduous Forest
-  Evergreen Forest
-  Mixed Forest
-  Developed/Open Space
-  Shrubland
-  Woody Wetlands



0 2.28 4.55 6.83
miles



















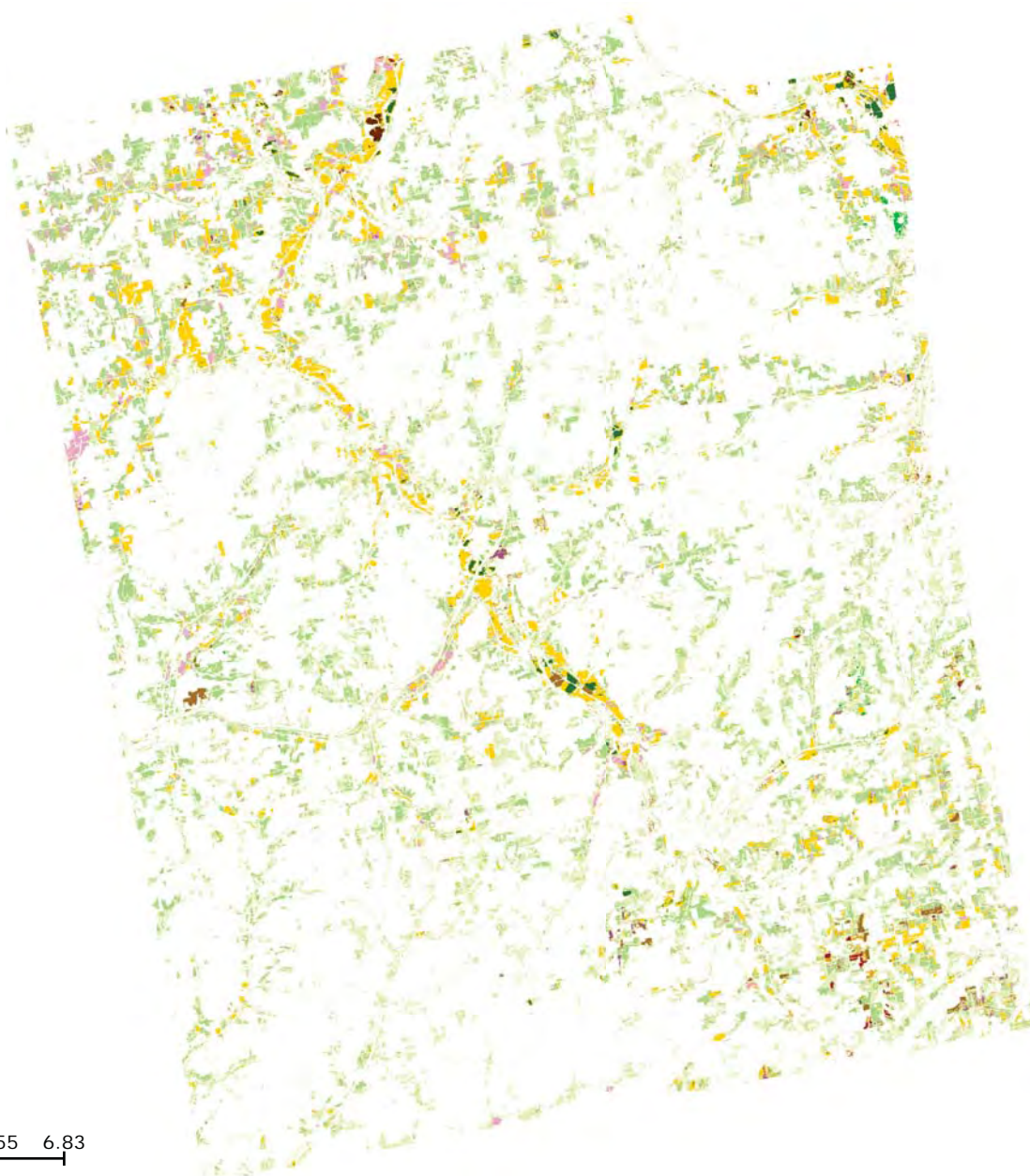
2014 CDL, Allegany County, New York



Land Cover Categories
(by decreasing acreage)

AGRICULTURE*

-  Grass/Pasture
-  Other Hay/Non Alfalfa
-  Corn
-  Alfalfa
-  Soybeans
-  Winter Wheat
-  Oats
-  Fallow/Idle Cropland
-  Clover/Wildflowers
-  Dry Beans
-  Other Crops
-  Potatoes
-  Sweet Corn
-  Dbl Crop WinWht/Corn
-  Peas
-  Sorghum



0 2.28 4.55 6.83
miles








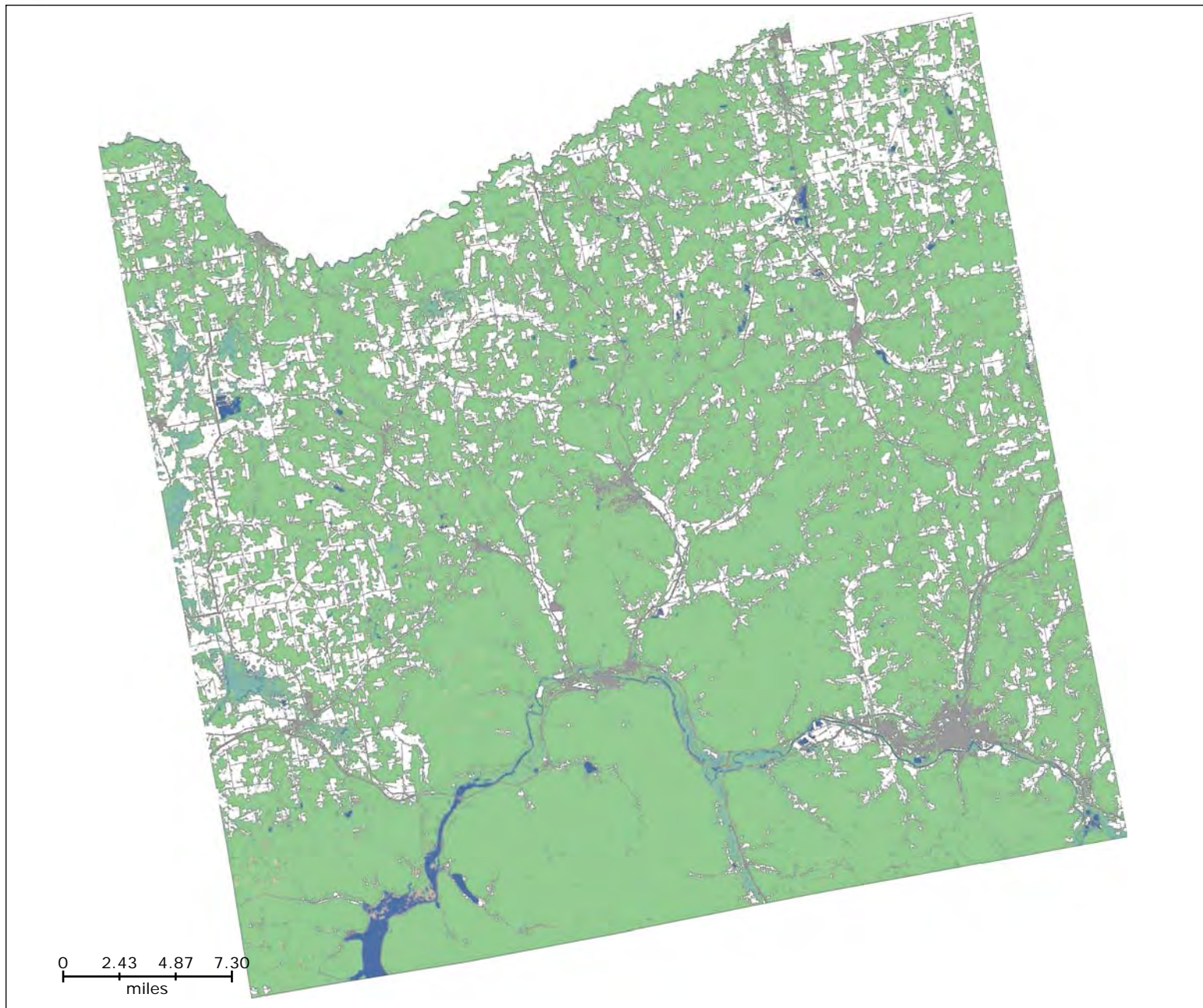
2014 CDL, Cattaraugus County, New York



Land Cover Categories
(by decreasing acreage)

NON-AGRICULTURE*

-  Deciduous Forest
-  Evergreen Forest
-  Developed/Open Space
-  Woody Wetlands
-  Open Water
-  Mixed Forest





















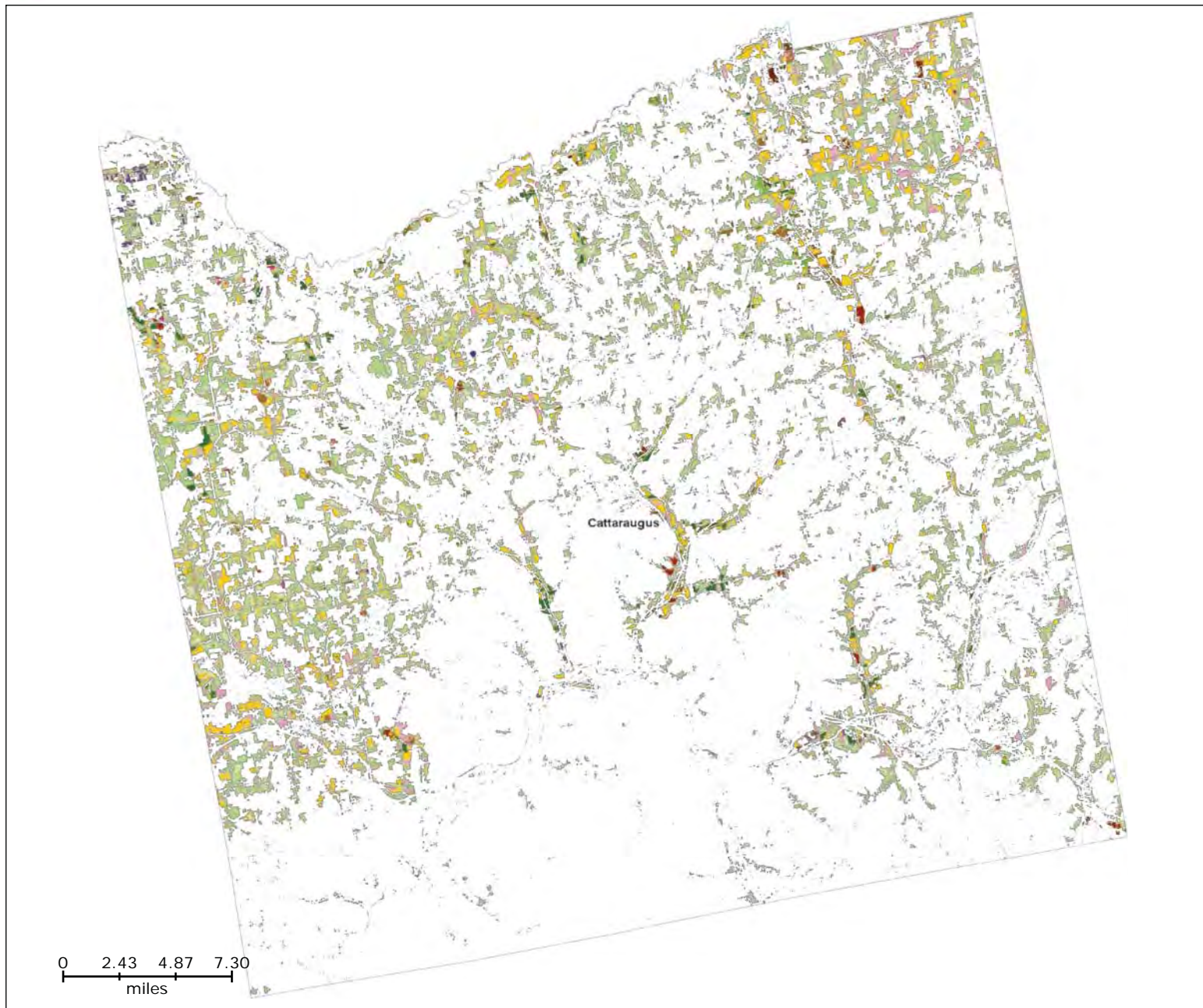
2014 CDL, Cattaraugus County, New York



Land Cover Categories
(by decreasing acreage)

AGRICULTURE*

-  Grass/Pasture
-  Other Hay/Non Alfalfa
-  Corn
-  Alfalfa
-  Soybeans
-  Fallow/Idle Cropland
-  Winter Wheat
-  Dry Beans
-  Oats
-  Grapes
-  Peas
-  Potatoes
-  Other Crops
-  Barley
-  Rye
-  Clover/Wildflowers






2014 CDL, Chautauqua County, New York



Land Cover Categories
(by decreasing acreage)

NON-AGRICULTURE*

-  Deciduous Forest
-  Developed/Open Space
-  Woody Wetlands
-  Evergreen Forest
-  Open Water
-  Developed/Low Intensity



0 2.91 5.82 8.74
miles









2014 CDL, Chautauqua County, New York



Land Cover Categories
(by decreasing acreage)

AGRICULTURE*

-  Grass/Pasture
-  Other Hay/Non Alfalfa
-  Corn
-  Grapes
-  Soybeans
-  Fallow/Idle Cropland
-  Alfalfa
-  Dry Beans
-  Winter Wheat
-  Cabbage
-  Oats
-  Rye
-  Triticale
-  Other Crops
-  Dbl Crop WinWht/Corn
-  Barley



0 2.91 5.82 8.74
miles

Appendix B: Surveys

Farmer Survey

Name of Farm

Name

Address

Phone #

Email

Types of Livestock Raised?

Chicken

Turkey

Other Birds

Cows

Pigs

Goats

Lamb/Sheep

Rabbit

Other:

What are the unique selling features of your product?
such as grass fed, soy free, organic, etc?

Please tell me a brief history of your farm business
highlighting changes in size, practices, and how you sell.

Do you grow your own feed? If so, what portion (%)

How and where do you sell your products?

Farmers Markets (off farm)

On farm store

Direct to consumer via ordering or buying clubs

CSA (mine)

CSA (other farmer)

Wholesale to specialty store / co-ops

Wholesale to supermarkets

Wholesale to restaurants

Other:

Describe your ideal customer or tell me about your best
customer type and volume

Are you currently able produce enough to meet
your demand for product?

If you aren't able to meet demand, what would
you need to do to meet the perceived demand?
Examples: raise more animals on my land, grow
more feed, have access to more land, more
frequent processing

Do you sell your product fresh or frozen?

Would you be willing to share your product
pricing sheet?

Yes / No

Do you have any marketing activities on your
farm? If so, what are they?

print materials

advertising

sales calls

online store

email marketing

specials and promotions

in-store materials

demos

facebook

instagram

other social media

distributors pushing product

referral marketing

community marketing (flyers, bulletins)

Other:

Please share the results of your marketing
activities.

Do you slaughter and process at the same
facility?

How many animals do you slaughter per year,
by type?

Where do you slaughter and/or process?

Rate your satisfaction with your slaughterhouse
1/5 (unsatisfied/satisfied)

Rate your satisfaction with your processor (#1)
1/5 (unsatisfied/satisfied)

Rate your satisfaction with your processor (#2)
1/5 (unsatisfied/satisfied)

What are your cutting & packaging requirements?

What do you like about your processor?

What are your biggest challenges with your processor?

How far do you travel for slaughter and processing?

Have you always used these processors? How have things changed over time?

How would you describe "missed opportunities" in relation to your processing resources.

What challenges do you have to work with in regards to geography and location?

Please describe the ideal facility in which you would like to have your livestock slaughtered:
Provide as much detail as you would like

Please select YOUR ideal best scenarios for processing:
Include your ideal wants and needs under "other"
Optimal travel time
More packaging options
Retail store on site
Traditional curing
Nitrate free curing
Smokehouse on site
Better selection of finished products
Slaughter on site
Other:

How many employees do you have?

Please describe how employees are used in your operation

Please describe your hiring process.

What are your biggest challenges with hiring and recruiting employees?

What are your biggest challenges with retaining and training employees?

Processor Survey

Name of Facility

Name

Address

Phone #

Email

Types of Livestock Processed?

Chicken

Turkey

Other Birds

Cows

Pigs

Goats

Lamb/Sheep

Rabbit

Other:

How long have you been in business?

Can you share your story of how you got started in this business?

What is the most important thing that you provide your client?

What keeps your customers coming back?

Do you know what the conversion from hanging weight to sale-able weight is?

How do you explain to your customers and help guide them?

Do you primarily cater to farmers, homesteaders, hunters or another customer?

Do you have any practices that appeal to pasture based livestock farmers?
such as separate timing for processing, flexible slaughter dates, hang time, etc?

How do you track chain of custody?

How many different farmers meats do you have in custody at any time?

What kinds of certifications do you offer?

Are you fully booked or could you take on new farmer customers?

How many farmer customers do you have?

How much excess capacity do you have? Is it seasonal?

Would you be willing to share your product pricing specifications?
Yes/No

What are your biggest challenges?

Do you offer any of these?

Branded packaging options / special stickers

Retail store on site

Nitrate free curing

Smokehouse on site

Value added finished products

Slaughter on site

Cryovac seal

Other:

What kinds of value added products do you offer?

How many employees do you have?

Please describe how employees are used in your operation

Please describe your hiring process.

What are the wage ranges that you pay employees?

What are your biggest challenges with hiring and recruiting employees?

What are your biggest challenges with retaining and training employees?

How many days per week are you processing?

Appendix C: Farmer Price Comparisons

Price Comparison, multi-species, from 7 STW Farms

Beef				
Ground	\$6.00	\$6.95	\$6.25	\$6.49
Whole, half or quarter, per lb		\$5.75		\$4.81
Brisket	\$7.99	\$8.50	\$6.50	\$6.39
Chuck Roast	\$6.99	\$7.95	\$7.99	\$6.39
Cube Steak		\$6.50	\$6.50	\$7.39
Delmonico Steak	\$17.99	\$17.95	\$15.99	\$19.99
Flank	\$9.99	\$15.95		\$7.19
Flat Iron		\$15.95		
Hanger	\$8.99	\$15.95		
Heart & Liver	\$2.99/3.99	\$4.50	\$3.00	\$1.00
Porterhouse	\$17.99	\$16.95	\$14.99	\$15.39
Rib Roast		\$14.95		\$15.99
Rolled Rump Roast	\$6.99	\$7.95	\$6.99	\$6.69
Skirt	\$8.99	\$11.95		\$7.29
Short Ribs	\$4.50	\$5.95	\$6.25	\$6.39
Sirloin - bone in	\$10.99	\$9.95		\$12.89
Sirloin - bone out		\$12.95	\$12.99	\$12.89
Sirloin Tip Roast	\$7.99	\$8.95	\$9.50	\$7.19
Soup Bones (shank w/ meat)	\$1.59	\$4.95	\$3.50	\$3.09
Soup Bones (big ones for broth)		\$3.00		
Stew Beef	\$6.99	\$7.95	\$6.50	\$6.59
T-Bone	\$17.99	\$14.95	\$14.50	\$15.09
Filet Mignon		\$21.95		\$22.99
Tenderloin Roast		\$21.95		\$2.99
Ox Tail	\$3.59	\$6.95		
Tongue	\$2.99	\$9.95	\$3.00	
Top Round			\$7.99	\$7.19
London Broil	\$7.99		\$7.25	\$7.39
Sandwich			\$9.99	\$9.19
Arm			\$6.25	\$6.39
Tri-Tip				\$7.99
Strip (boneless)	\$17.99			\$17.99



Pork

Bacon	\$8.00	\$11.50	\$7.99	\$6.39
Cottage Bacon	\$8.00	\$12.50	\$8.99	\$5.19
Canadian Bacon		\$14.00	\$10.99	\$6.69
Sweet Italian Sausage	\$7.50	\$9.00	\$6.50	\$3.89
Hot Italian Sausage	\$7.50	\$9.00	\$6.50	\$3.89
Breakfast Sausage	\$6.50	\$9.00	\$6.99	\$3.89
Ground Pork	\$6.00	\$8.50	\$6.00	\$3.59
Pork Chops	\$7.00	\$9.50	\$6.75	\$4.19 - \$5.69
Cutlets		\$8.00		
Spare Ribs	\$7.00	\$8.00	\$6.00	
Country Style Ribs	\$7.00	\$9.00	\$6.25	\$4.29
Baby Back Ribs		\$12.00		\$4.49
Ham Steaks	\$7.50	\$9.00	\$5.75	\$5.15
Ham Roasts	\$7.00	\$8.00	\$5.25	\$4.85
Smoked Hocks & Shanks		\$4.50		\$2.99
Tenderloins	\$9.00	\$17.00	\$10.00	\$6.19
Shoulder Roasts		\$8.50	\$5.00	\$3.59
Shoulder Steaks	\$7.00	\$8.50	\$6.99	\$3.09
Loin End Roasts	\$7.00	\$9.00	\$8.99	\$5.69
Liver, Kidney, Heart or Tongue		\$4.50		
Neck Bones		\$4.00		
Lard		\$3.00	\$2.00	

Chicken

Whole Chicken per lb	\$3.75	\$6.95		\$3.25	\$4.00	\$3.75	\$6.95	\$3.50
Breasts - whole				\$5.60				
Breasts - split			\$2.79					\$3.99
Breast - boneless/skinless			\$3.79					
Legs/thighs				\$3.75	\$6.50			\$3.50

Lamb

Shoulder/arm chops	Rib/loin chops	Boneless Leg Steaks	Kebab	Ground	Liver
\$10.95	\$14.65	\$12.65	\$12.65	\$8.99	\$6.99
		\$10.99			

Appendix D: Processor Price Comparisons

Processor Pricing Samples Across 5 Processors

Slaughter Fees	Processor 1	Processor 2	Processor 3	Processor 4	Processor 5
Beef	\$50.00	\$50.00	\$35.00	\$34.00	included in cut/wrap price
Pork	\$50.00	\$25.00	\$35.00	\$36.00	included in cut/wrap price
Disposal	\$10.00	\$7.00	\$3.00	\$-	included in cut/wrap price
Cut and Wrap Fees (by the pound)					
Paper	\$0.45	\$0.55	\$0.55	\$0.64	n/a
Cryovac	\$0.60	n/a	\$0.59	n/a	\$0.71
Value Added Fees					
Label Application (each)	n/a	\$0.20	\$0.25	\$-	\$-
Sausage Making (by lb.)	\$1.00	\$0.60	n/a	\$0.60	\$0.40
Weights on Labels (per lb.)	n/a \$-	\$0.01	n/a	\$0.02	
Custom Label Use	n/a	no charge	no charge	n/a	no charge
Smoking (by lb.)	no charge	\$0.60	n/a	\$0.60	\$0.65
Bacon Slicing (by lb.)	no charge	\$1.80	n/a	no charge	no charge

Appendix E: Carcass Yield Sheet (next page)

The butcher kept your meat?

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No, the butcher probably did not keep your meat. Ever since the first butcher processed a meat animal, the customer has wondered what happened to some of their meat. How could it be that a 1,200 pound steer left you with only 475 pounds of beef? Or that a 250 pound hog generated only 125 pounds of pork? What might seem like a reasonable answer - that the butcher kept your meat - is very unlikely. Take into consideration what happens during the conversion of a market animal into cut and packaged meat, and chances are the math will make more sense. **This brief guide is intended to serve as a general base for meat product return and may not fully account for slight variations that different animals and butcher orders may incur.**

Step 1: Converting an animal into a carcass

Dressing percentage (DP) relates the weight of the carcass to the weight of the live animal and is calculated as: $(\text{Carcass Weight} \div \text{Live Weight}) \times 100$. This can be affected by many things, such as gut fill, fatness, mud on the hide, or shorn versus unshorn. Very fat animals have higher dressing percentages than light very lean animals.



~70%

The average dressing percentage for hogs is about 70-72%.

Example:

Live weight = 245 lbs.
Actual DP = 72%
Carcass wt. = **176 lbs.**



~60%

The average dressing percentage for cattle is about 60-62%.

Example:

Live weight = 1312 lbs.
Actual DP = 60%
Carcass wt. = **787 lbs.**



~50%

The average dressing percentage for sheep is about 50%.

Example:

Live weight = 127 lbs.
Actual DP = 52%
Carcass wt. = **66 lbs.**

Step 2: Making cuts out of a carcass

This is where it starts to get tricky to predict just how much meat the carcass will yield because that depends largely on how you order the meat cut. **Bone-in or boneless?** Opting for boneless cuts will reduce your total pounds of meat returned. **Do you want ground meat with 10% fat or 20% fat?** Lower fat content ground meat will result in more discarded fat, thus reduced total pounds of product received. **Was the animal overly fat to begin with?** If the animal was fat from the start, more fat will need to be trimmed away, thus reducing total pounds of meat returned.

Pork

For bone-in pork, expect no more than 75-80% of the carcass weight back as meat. For boneless, 65-70%.

Example:

Carcass wt. = 176 lbs.
Boneless pork = **123 lbs.**

Beef

For bone-in beef, expect no more than 65-70% of the carcass weight back as meat. For boneless, 55-60%.

Example:

Carcass wt. = 787 lbs.
Boneless beef = **472 lbs.**

Lamb

Most lamb cuts are bone-in. Expect no more than 70-75% of carcass weight back as meat.

Example:

Carcass wt. = 66 lbs.
Lamb cuts = **50 lbs.**

Step 3: Aging and further processing (optional)



The longer a whole carcass ages (hangs), the more moisture it loses due to evaporation, thus losing weight. Instead of aging an entire carcass for > 2 weeks, ask if your butcher is willing to age just the middle meats aged.



Ordering bacon? Cured hams? Smoked sausages? Applying a heat process to meat cuts will also reduce the total yield of meat returned from an animal. Different products have different yields.

For more reading, see: D.M. Wulf, (1999). *Did the locker plant steal some of my meat?* <http://ars.sdstate.edu/MeatSci/May99-1.htm>

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