

GardenShare

PROCESSING FACILITIES FOR LOCAL MEAT & POULTRY

Feasibility Study



Respectfully submitted, July 10, 2012
Renee Smith, owner

GardenShare

FEASIBILITY STUDY

EXECUTIVE SUMMARY

GardenShare received USDA funds via a Rural Business Enterprise Grant to assess the feasibility of improving processing capacity for local meats and poultry in St. Lawrence County. The goal would be to create facilities able to award the Organic and Humane certifications, provided that producers meet the relevant conditions. This would permit the profitable harvesting of culled dairy cows for ground beef, both organic and non-organic; these culls are now generally worthless to the farmer, who must sometimes even pay for their disposal. This would enable small and medium farmers to take fuller advantage of the expanding market for local, natural, and humanely handled meat. Although our primary concern was with four-legged animals, there is potential for new opportunities for the raising of local poultry as well.

Sugar Hill Consulting was hired by GardenShare to oversee and conduct the feasibility study. Sugar Hill Consulting partnered with Clarkson University, Northwest Natural Beef, Cornell Cooperative Extension (St. Lawrence, Franklin, and Jefferson counties), and Renewable Harvest, NE. We surveyed beef, poultry, sheep, and hog farmers, as well as USDA meat processing plants. We had intended to collaborate with CADE (Center for Agricultural Development and Entrepreneurship), but this relationship unfortunately broke down due to CADE's internal dislocation. (These difficulties with CADE considerably delayed the completion of the study.) CADE did, however, carry out a useful survey of existing facilities in the North Country which appears as Section IV of this study.

An initial objective of the study was to investigate the profitability of mobile processing units for four-legged livestock and poultry. Early in the process of preparing this study, however, research by the board members of North Country Pastured, LLC, determined that a mobile four-legged unit would not be practical for St. Lawrence County at the present time, due to problems of docking and the disposal of offal. This topic was therefore dropped from the study. At the same time, the NYS Regional Council award of \$130,000 to NCP for the purchase of a mobile poultry unit resolved the question of its feasibility, at least for now. (See attached Business Plan for the poultry processing unit.)

The results of the feasibility study, available at www.GardenShare.org, demonstrate that there is substantial potential value to be captured through increasing local meat processing capacity and adding organic certification capability.

The study results show that making links with local conventional and organic dairy producers and working with them to process and market meat products from their cull cows rather than selling them at auction has the greatest economic value potential.

Likewise, there seems to be significant economic potential for raising and marketing organic rose veal. Retail prices are high for these products, and therefore organic dairy farms have a strong incentive to incorporate veal-raising into their operations.

I. INTRODUCTION

There has been an increasing interest among consumers for eating foods produced locally or regionally. This movement has been underway for more than a decade and is still gaining momentum. One indicator of this trend is the tremendous growth in direct sales from farmers to consumers over the last twenty years. This has occurred in both meat and non-meat products. Direct sales in the U.S. have grown from \$404 million in

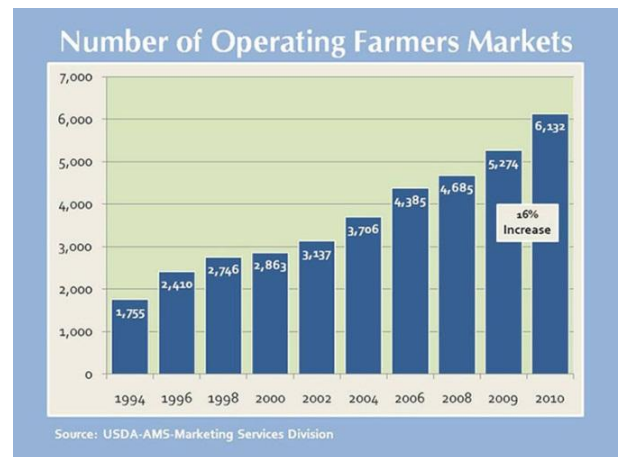
1992 to over \$1.2 billion in 2007. In New York State sales have risen from \$3.5 million to about \$5.5 million over the same time period; and in St. Lawrence County direct sales are at \$1 million up from \$477,000 (see Table 1).

TABLE 1: DIRECT SALES TO CONSUMERS, 1992-2007

CENSUS YEAR	# FARMS & SALES	UNITED STATES	NEW YORK STATE	ST. LAWRENCE COUNTY
1992	Farms	86,432	3,453	97
	Sales (\$000)	404,056	32,321	477
1997	Farms	93,140	4,038	139
	Sales (\$000)	550,947	40,088	391
2002	Farms	116,733	4,651	260
	Sales (\$000)	812,204	59,724	562
2007	Farms	136,817	5,338	200
	Sales (\$000)	1,211,270	77,464	1,011

These figures are due in part to the increase in the numbers of farmers' markets nationally, statewide and in the North Country. Farmers markets have increased in the U.S. from about 700 in 1994 to over 6000 in 2010 (see Figure 1). And Logozar and Schmitt (2009) found that there were at least 38 farmers markets in the North Country region in 2008; up from 34 in 2007. In addition, the farmers' markets in our region sell a wide variety of products including meat products. For example, in a survey of 27 northern New York farmers' markets, Logozar and Schmitt (2009) found that between 20 and 30 percent of vendors sold meat products.

FIGURE 1: U.S. FARMERS' MARKETS, 1994-2010



The increase in direct sales of meat products in our region is reflected in the growth of smaller farms raising livestock (see Table 2). For instance in 1992, 272 farms raised 3,218 beef cows in SLC, while in 2007, 359 farms raised over 5,000 beef cows. Small but growing numbers of farms also raised poultry in SLC, while sheep and swine farms have remained stable or have declined, but still operate in substantial numbers. The significant increase in beef cows raised in the area is due in large part to the growing market for locally produced grass-fed beef. The North Country region has abundant pasture land, and has a comparative advantage in raising grass-fed beef.

**TABLE 2: BEEF, SWINE, POULTRY AND SHEEP FARMS
AND NUMBERS IN ST. LAWRENCE COUNTY**

ANIMAL TYPE	FARMS & ANIMAL #S	2007	2002	1997	1992
BEEF COWS	Farms	359	321	336	272
	Number	5,092	3,827	4,176	3,218
SWINE (HOGS & PIGS)	Farms	88	80	97	139
	Number	850	1,405	1,587	1,653
POULTRY (BROILERS)	Farms	55	44	20	18
	Number	3,204	1,911	728	677
SHEEP & LAMBS	Farms	79	97	80	80
	Number	2,065	3,373	2,277	2,180

Given the current national trends and the Obama administration's support for locally and regionally produced food products, it is expected that the trends outlined in these figures will grow and accelerate. For example, Dr. Kathleen Merrigan, the Deputy Secretary of Agriculture has implemented the Know Your Farmer, Know Your Food (KYF2) Campaign to promote and support smaller-scale production with shorter supply chains between farmer and consumer (see <http://www.usda.gov/wps/portal/usda/knowyourfarmer?navid=KNOWYOURFARMER>). The mission of KYF2 is:

“...to create new economic opportunities by better connecting consumers with local producers. It is also the start of a national conversation about the importance of understanding where your food comes from and how it gets to your plate. Today, there is too much distance between the average American and their farmer and we are marshalling resources from across USDA to help create the link between local production and local consumption.”

The most important constraint on the growth of the smaller-scale locally oriented meat products industry is the lack of slaughter capacity available to smaller farms. This is true in the North Country, as well as in New York State and nationally. Figures from the U.S. Department of Agriculture’s Packers and Stockyards Administration illustrate the problem. Nationally, in 1990 over 40,000 beef cows were processed in plants that slaughtered 1000 animals or less per year, by 2006 that number had dropped to 14,000. In the next largest size plant (1000-9,999) the number decreased from 486,000 to 195,000. In addition, the total number of plants that processed up to 10,000 beef cows annually decreased from 241 in 1990 to only 84 in 2006-- the local meat packer in our region, Tri-town Packing, processes about 1300 beef cows annually. During the same time period (1990-2006) the largest plants (100,000 plus animals processed per year) increased the animals slaughtered from 9.7 million to over 18 million. And currently the eight largest meat packing firms control over 80% of the total beef cows processed in the United States. The numbers are parallel in swine, poultry and sheep processing.

Recently the U.S. Department of Agriculture’s Food Safety Inspection Service (FSIS) released a report on the *Slaughter Availability to Small Livestock and Poultry Producers*. The report identifies “areas in the U.S. with relatively high densities of small livestock and poultry producers, but without a nearby slaughter facility.” The FSIS intends to provide “assistance, through the KYF2 to increase slaughter availability in these areas, benefiting both local food systems and the public health.” This is good news for the

North Country, but only if producers, farm organizations, local economic development agencies, legislators and especially consumers interested in eating local meat products act now to take advantage of the available resources.

Large numbers of small to moderately large livestock producers will have a tremendous beneficial impact on the North Country. Increases in locally owned and operated livestock farms processing their products and selling them locally will strengthen community ties, pump money into the local economy, increase the amount of healthy and safe food available to consumers and create entrepreneurs. These types of developments have been shown to greatly benefit rural communities. In addition, the most effective method of preventing locally undesirable land uses, or LULUs, is to have land engaged in desirable and productive uses that are owned and managed by local firms.

At present, processing capacity in St. Lawrence County is severely inadequate. Tri-Town in Brasher Falls, the larger of our two USDA-approved slaughterhouses, is consistently overbooked, to the disadvantage of small and medium producers. Willard's in Heuvelton, the smaller facility, is on the verge of closing due to the owner's retirement. Moreover, neither Tri-Town nor Willard's can certify meat as either "Organic" or "Humane" (for which consumer demand is increasing), though many local growers produce meat that would qualify. Neither facility handles poultry.

Consumer demand is growing rapidly for meat that is both Certified Organic and *local*. Moreover, consumers (as well as producers) are becoming increasingly concerned with the ethical issues involved in the slaughter of animals, insisting that meat be "harvested humanely", with a minimum of fear and pain.

Environmentally, our region is well suited to take advantage of this consumer trend. St. Lawrence County leads New York State in hay production, and ranks third in the entire

nation in general suitability for dairy production. The county already has the largest number of Certified Organic and NOFA Pledge farmers in the state. An energetic marketing campaign would further increase the demand for natural/local/ethically-raised meat. Potential customers would include restaurants, supermarkets, universities, and government facilities such as Fort Drum, as well as the environmentally conscious public, which is steadily growing. The major roadblock is insufficient processing capacity.

To that end GardenShare has received USDA funds to conduct a feasibility of constructing a processing facility to produce beef, lamb and pork. The facility would be eligible for the Organic and Humane certifications, provided that it meets the relevant conditions. The former would permit the profitable harvesting of culled dairy cows for ground beef, both organic and non-organic. (These culls are now generally worthless to the farmer, who must sometimes even pay for their disposal.) The operation of the four-legged facility will enable small and medium farmers to take fuller advantage of the expanding market for local, natural, and humanely handled meat.

II. THE MARKET

Sugar Hill Consulting began this study by talking with farmers about their slaughtering needs. They completed surveys and attended workshops discussing how the slaughter facility situation in the North Country affects the way they manage their farms. Many farmers expressed frustration at their inability to get into the slaughter facilities when needed, and the resulting inability to raise as many animals as they wished. It was not unusual for a farmer to have a 3-4 year waiting period to even get on the Fall slaughter schedule. The farmers told us that this was the main thing holding their farms back. Another problem was the lack of Certified Organic processing facilities. Some of our farmers stated that they would certify organic if they could. One Certified Organic dairy

farmer from Lisbon, NY said he would keep all his bull calves for veal and start another business on his farm if there were a Certified Organic processing plant more easily accessible.

BEEF SURVEY

Farm Name	Organic (1= yes; 0 = no)	Beef herd	2011 slau	Sell2011	sell 2012	Expand (1 = yes; 0 = no)	Auctions	Direct	Rest	Natfood	Price received	Price wanted	Miles	Trips	Expandproc (1 = yes; 0 = no)	OBSTACLES															
																Distance to slaughter	Wait for opening	Lack access custom slaughter	Quality of processing	Lack of USDA	Cost of processing	Cost of feed	Lack of reg. brand	Lack of distribution	Lack of marketing options	Lack of market plan	Lack of land	Availabilty of labor	Cost of feed/labor		
X Clinton Co.	0	20	2	0	0	0	0	1	0	0	1.00/lb		20	1	0															●	
Sunset Farm LTD Essex Co.	1	60	4	2	18	1	1	1	0	0	N/A	N/A			0				●												
Downing Acres Franklin Co.	0	3	0	0	0	1	0	1	0	0	1.75-2/lb	2.00/lb	45	1	0														●		
Tony and Tania Leroux Franklin Co.	0	18	2	7	12	1	1	0	0	0	1.15/lb	1.20/lb	15		0													●			
Pike Creek Farms Franklin Co.	1	4	0	0	0	1	0	0	0	0	X	X	X	X	X	No	data														
Strock Farms Jefferson Co.	0	40	4	24	30	1	1	1	0	0	800-900	1200	30	3	1														●		
Hollow Ranch St. Lawrence Co.	0	100	20	30	40	1	1	1	0	0	2.50/lb	??	20	5	0													●			
Bittersweet Farm St. Lawrence Co.	1	6	2	1	2	1	0	1	1		3000	3000	8	15	0													●		●	
Fraley Acre St. Lawrence Co.	0	X	X	X	X	X	1	1	0	0	60	100	16	6	0	No	data														
Wolds Farm St. Lawrence Co.	0	X	50	50	65	1	0	1	0	0	1850	X	15	3 or 4	0													●		●	
Angel Acres Farm St. Lawrence Co.	0		0	0	0	1	0	0	0	0	0	0	0	0	0				●												
John Schwartz St. Lawrence Co.																													●		
Annabell Grazing Farm, ? Co.	1	0	188	188	200	1	0	0	0	0	840/head	1.40/lb	20	2	1	No	data														

The cash-flow analyses for the four-legged facility is based on measuring the potential of capturing a significant proportion of the conventional and organic cull dairy cow market combined with offering services for conventional beef, sheep and swine in St. Lawrence, Jefferson and Franklin counties. Our assumption (based on anecdotal data from local producers and knowledge of the operations of the local livestock auction market in Gouverneur, NY in St. Lawrence County) is that a significant proportion of this livestock leaves the North Country for auction markets in New Holland, PA or elsewhere. Therefore, the feasibility of establishing an additional four-legged slaughter facility in the region would in part depend on capturing part of the inventory destined for slaughtering facilities in other states or regions. The cash-flow estimates (net of operating costs) are then compared to the costs of constructing a four-legged slaughter facility.

In addition, a facility that is Certified Organic will enable local producers to raise and sell their livestock as organic. This will increase the value of the animals and enhance farm income. Since it is currently not possible to sell locally-raised meat products as Certified Organic, it is unclear how many producers would enter this market. However, the number of organic dairy farms in the region is known, though only estimates of total herd size are available. Therefore, it is possible to calculate the value of the organically-certified meat from dairy cows culled from organic dairy farms. And, estimates of the value of raising, processing and selling rose veal animals from the culled dairy bull calves are also possible to calculate.

During the preparation of this feasibility study, the ***New England Beef to Institution Marketing Study***¹ was published. The goal of this study was to assess the institutional demand for regionally grown beef; analyze the logistics and infrastructure required to

¹ New England Beef to Institution Marketing Study, October 4, 2011

support such a demand; and if feasible, propose a model that could be replicated among the New England states to source, process, market and distribute regionally grown beef to institutions. The study concluded that:

- There are opportunities for growth in the use of local beef in institutional market in all six New England States,
- The bulk need (86%) is for raw, bulk ground beef, with no additional processing required, and
- Two models are currently in use that could be replicated on a regional basis to service this demand.

For this feasibility study we looked at the Processor Model as it would fit with our research. The Processor model showed that 73.3% of the processors were not at full capacity during the “off” season. This model also shows that the cull cow industry of ground raw product sold to institutions would allow the processor to be at full capacity.

The tables in this RBEG feasibility study show the number of cull cows, both organic and non-organic in the North Country region.

As one dairy farmer stated, “If I knew that my cull cows are going to be kept here in the North Country and served to my local schools and hospitals, I’d keep them in better condition.”

III. CASH FLOW ESTIMATES

The feasibility of building a small red meat processing plant in part depends on the availability and value of locally raised animals. Establishing and operating a small plant entails construction and operating costs. To incur these costs producers and plant owners must be able to realize value from raising, processing and marketing meat

products. How the proceeds from the sales are distributed among the various participants is a product of negotiation and collaboration. In addition, investors interested in financing the raising and processing of local meat products will not do so unless the potential market value of these products is known to some degree and is sufficiently large.

Therefore, we sought to estimate, using conservative figures, the potential retail value available for conventional beef including dairy cull cows, conventional sheep and swine, organic beef from organic dairy culls and organic rose veal animals net of acquisition and processing costs. This does not take into account marketing and transportation costs related to moving the product from the processing facility to the final consumer. These costs are incredibly variable and difficult to estimate. For example, if most or all the retail products can be sold from a counter in the front of the processing plant, the marketing costs are negligible; but, if markets are far from the point of processing and of a great variety and competitive, the costs would be much higher. Therefore, the difference between the acquisition and processing costs must be sufficiently large to cover these activities- whatever they may be. *So the figures at the end of each table showing revenue less acquisition and operating costs are not profit figures. They are the value of the final products net of acquiring the livestock and processing them.*

The basis for our analysis come from a number of sources including secondary data from the 2007 U.S. Census of Agriculture (latest available, yet still the best resource for our purposes) and engineered estimates of processing and other costs from previous feasibility studies. In addition, we used actual prices charged by regional butchers and retailers of the various types of meat products considered.

Also, using interviews or published data we developed “typical” or “probable” cut-outs from the different livestock types for the cash-flow analysis. We realize that cut-outs from livestock will vary depending on time of the year and consumer demand, and that

there is not a single cut-out applicable within livestock species. However, to keep the analysis simple, but still useful, we worked with knowledgeable producers, processors and livestock scientists and educators to construct informative cut-outs for each species.

All assumptions and data sources used are documented and the methodology is transparent. Therefore, different figures and estimates can be used to measure alternative scenarios. In addition, sensitivity analyses can be employed to measure the impact of price or cost changes or increases and decreases in livestock inventories or other factors.

TABLE 3: CONVENTIONAL BEEF COW CASH FLOW ESTIMATES

BUDGET ITEMS		
HERD SIZE (2007)		SOURCES AND ASSUMPTIONS
Total Milk Cows (SLC)	31,525	U.S. Census of Agriculture
Total Milk Cows (Jefferson)	30,065	U.S. Census of Agriculture
Total Milk Cows (Franklin)	17,404	U.S. Census of Agriculture
Total Herd Size, 3 counties	78,994	
Cull rate (15%) x total herd size	11,849	
20% of total culled herd	2,370	New England Farm to Institution Study (NEFIS) estimates 1/3 of culled herd sent to PA for processing
20% of total beef cow herd for 3 counties	2,207	We assume an acquisition rate of 20% of the culled herd and 20% of the beef cow herd
Total beef herd for 3 counties available for processing	4,576	
BEEF SUPPLY	TOTAL LBS	SOURCES AND ASSUMPTIONS
Total Live weight	5,606,115	Culled herd x 1225 lbs-1225 lb average across culled dairy and beef cows
Total Hanging Weight	2,466,690	44% hanging weight (NEFIS)
Total Ground Beef	1,761,922	NEFIS estimates 385 lbs of ground beef per carcass
Total Tenderloin	36,611	NEFIS estimates 8 lbs of tenderloin per carcass
Ribeyes	64,070	NEFIS estimates 14 lbs of rib eye per carcass
Loin	28,438	NEFIS estimates 12 lbs of loin per carcass
Bones	137,293	NEFIS estimates 30 lbs of bones per carcass
Hides	4,576	1 per carcass
REVENUES – NEFIS price estimates		
Ground Beef: \$4.50/lb	\$7,928,647.65	All prices retail and from Sugar Hills Farm in DeKalb Junction, NY www.sugarhillfarms.com)
Tenderloins: \$15/lb	\$549,170.40	Average across all cuts
Ribeyes: \$12.95/lb	\$829,704.95	
Loin: \$10.98/lb	\$312,247.48	3 lbs shell steak, 3 lbs sirloin 10.975 13.63182
Bones: \$0.30 /lb	\$41,187.78	
Hides: \$35 per hide	\$160,174.70	
Total Revenue	\$9,821,132.96	
ACQUISITION & PROCESSING COSTS		
\$0.55/lb live weight (acquisition)	\$3,083,362.98	Estimated auction price in Gouverneur, NY
\$1.50/lb hanging weight operating costs	\$3,700,035.57	NEFIS estimate
Total Costs	\$6,783,398.55	
REVENUE LESS COSTS	\$3,037,734.41	

**TABLE 4: ORGANIC BEEF FROM CULLED DAIRY COW
CASH FLOW ESTIMATES**

BUDGET ITEMS		
HERD SIZE		SOURCES AND ASSUMPTIONS
Total herd size, North Country Region	4,150	83 organic dairies with an estimated average of 50 cows per farm (Cornell Organic Dairy Initiative, 2012)
Cull rate (15%) x total herd size	623	New England Farm to Institution Study (NEFIS) estimates 15% cull rate
50% of total culled herd	311	NEFIS estimates 1/3 of total dairy culled herd sent to PA for processing. Organic dairy farmers have a strong incentive to market the culls as organic meat so we assume a 50% acquisition of culls.
BEEF SUPPLY	TOTAL LBS	SOURCES AND ASSUMPTIONS
Total live weight	377,858	Culled herd x 1214 lbs- NEFIS weight estimate
Total hanging weight	166,257	1214 lb averaged culled dairy-44% hanging weight
Total ground beef	119,831	NEFIS estimates 385 lbs of ground beef per carcass
Total tenderloin	2,490	NEFIS estimates 8 lbs of tenderloin per carcass
Total ribeyes	4,358	NEFIS estimates 14 lbs of ribeyes per carcass
Total loin	3,735	NEFIS estimates 12 lbs of loin per carcass
Total bones	9,338	NEFIS estimates 30 lbs of bones per carcass
Total hides	311	1 per carcass
REVENUES		
Ground Beef: \$6.50/lb	\$778,903.13	All organic beef prices are retail and an average from Greensbury Market in Gaithersburg, MD and Grassland Organic in Skowhegan, ME
Tenderloins: \$18.50/lb	\$46,065.00	
Ribeyes: \$18/lb	\$78,435.00	
Sirloin: \$8.50/lb	\$31,747.50	
Bones: \$4.75 /lb	\$44,353.13	
Hides: \$35 per hide	\$10,893.75	
Total Revenue	\$990,397.50	
ACQUISITION & PROCESSING COSTS		
\$0.68/lb acquisition (organic dairy cull)	\$256,943.10	Price from Iowa State University extension, 2010
\$1.50/lb operating costs (hanging weight)	\$249,385.95	NEFIS estimate for conventional beef processing-assume an equivalency
Total Costs	\$506,329.05	
REVENUE LESS COSTS	\$484,068.45	

TABLE 5: CONVENTIONAL LAMB AND SHEEP CASH FLOW ESTIMATES

BUDGET ITEMS		
HERD SIZE (2007)		SOURCES AND ASSUMPTIONS
Total animals sold (SLC)	1,250	U.S. Census of Agriculture
Total animals sold (Jefferson)	815	U.S. Census of Agriculture
Total animals sold (Franklin)	380	U.S. Census of Agriculture
Total herd size, 3 counties	2,445	This number is likely an underestimate
30% of herd	734	Estimate acquisition of 30% of total sheep and lambs sold
SHEEP SUPPLY	TOTAL LBS	SOURCES AND ASSUMPTIONS
Total live weight	66,015	Culled herd x 90 lbs in good condition. Is this 180 lbs live weight?
Total dressed weight	28,386	43% of live weight. USDA, Agricultural Marketing Service (AMS)
Total ground lamb	2,934	4 lbs per carcass
Total rib roast	7,335	10 lbs per carcass
Total lamb chops	7,335	10 lbs per carcass
Total shoulder steaks	2,934	4 lbs per carcass
Total shoulder roast	8,802	12 lbs per carcass
Total leg roast	1,003	15 lbs per carcass
Total leg steaks	2,201	3 lbs per carcass
Total shanks	4,401	6 lbs per carcass
		64 lbs per carcass
REVENUES – Retail Prices		
Total ground lamb: \$5.50/lb	\$16,137.00	All prices from 8 O'Clock Ranch in DeKalb Jct., NY www.eightoclockranch.com
Total rib roasts: \$16/lb	\$117,360.00	
Total lamb chops: \$13/lb	\$95,355.00	
Total shoulder steaks: \$5.95/lb	\$17,457.30	
Total shoulder roasts: \$5.50/lb	\$48,411.00	
Total leg roasts: \$7/lb	\$76,367.39	
Total leg steaks: \$8/lb	\$17,493.98	
Total shanks: \$4/lb	\$17,383.95	
Total revenue	\$406,065.60	
ACQUISITION & PROCESSING COSTS		
\$3/lb acquisition cost	\$198,045.00	New Holland (PA auction price)
\$75/head slaughter & processing cost	\$183,375.00	USDA (estimate)
Total Costs	\$381,420.00	Northeastern Livestock Processing Service Co., LLC (plant price comparison)
REVENUE LESS COSTS	\$24,645.60	

TABLE 6: CONVENTIONAL SWINE CASH FLOW ESTIMATES

BUDGET ITEMS			
HERD SIZE (2007)		SOURCES AND ASSUMPTIONS	
Total swine sold (SLC)	850	U.S. Census of Agriculture	
Total swine sold (Jefferson)	448	U.S. Census of Agriculture	
Total swine sold (Franklin)	472	U.S. Census of Agriculture	
Total herd size, 3 counties	1,770	Estimate acquisition of 30% of total swine sold	
30% of herd	531	Estimate acquisition of 30% of total swine sold	
SWINE SUPPLY	TOTAL LBS	SOURCES AND ASSUMPTIONS	
Total live weight	119,475	Culled herd x 225 lbs	
Total hanging weight	95,580	Culled herd x 180 lbs	
Total chops	6,372	24 lbs per carcass	Breakdown of cuts from <i>Locally Produced Meat</i> by Betsy Hodge of Cornell Cooperative Extension.
Total spare ribs	1,593	6 lbs per carcass	
Total ham	9,027	32 lbs per carcass	
Total bacon	10,620	16 lbs per carcass	
Total shoulder roasts	13,806	26 lbs per carcass	
Total sausage	5,841	16 lbs per animal	
		120 lbs per carcass	
REVENUES – Retail Prices			
Total chops		\$39,825.00	All prices from 8 O’Clock Ranch and Sugar Hills Farm in DeKalb Jct., NY (www.eightoclockranch.com and www.sugarhillfarms.com)
Total spare ribs		\$25,169.40	
Total ham		\$6,372.00	
Total bacon		\$63,720.00	
Total shoulder roasts		\$57,294.90	
Total sausage		\$23,071.95	
Total revenue		\$215,453.25	
ACQUISITION & PROCESSING COSTS			
\$0.65/lb acquisition cost		\$77,658.75	Gouverneur, NY auction price (225 lb hog)
\$45/head and \$0.80/lb live weight slaughter & processing cost		\$119,475.00	USDA, 2011 (estimate), Northeastern Livestock Processing Service Co., LLC (plant price comparison)
Total Costs		\$197,133.75	
REVENUE LESS COSTS		\$18,319.50	

TABLE 7: ORGANIC ROSE VEAL CASH FLOW ESTIMATES

BUDGET ITEMS				
HERD SIZE			SOURCES AND ASSUMPTIONS	
Total organic dairy herd size North Country Region		4,150	83 organic dairies with an estimated average of 50 cows per farm (Cornell Organic Dairy Initiative, 2012)	
Bull calf herd size		2,000	Assume a bull calf herd size of 48% of total organic dairy herd size.	
50% of total available bull calves		1,000	Organic dairy farmers have a strong incentive to market the bull calves as organic veal so we assume a 50% acquisition rate.	
Beef supply: total live weight		251,550	Acquired bull calves x 252 pounds carcass hide off (weight estimate from USDA/Agricultural Marketing Service Veal Market Summary)	
VEAL CUT-OUT SAMPLE				
	Total Pounds	Price/lb	\$ Value	Sources and Assumptions
CHUCK				Cut out proportions provided by Northwest Natural Beef, Inc., Seattle WA.
Chuck roll, skinned	20.0	\$12.00	\$240.00	
XT shoulder clod	18.0	\$12.00	\$216.00	
RIB				Prices obtained from combination of Grasslandorganic.org and the Agricultural Marketing Service of the USDA.
Rack	18.0	\$20.00	\$360.00	
LOIN				
0X0 1/4" striploin	2.0	\$18.00	\$36.00	
1/4" top sirloin	2.0	\$12.00	\$24.00	
PSMO tenderloin	1.0	\$24.00	\$24.00	
ROUND				
4 pc round	47.0	\$12.00	\$564.00	
THIN MEATS				
Short ribs	2.8	\$9.00	\$25.20	
CC fore shank	8.0	\$9.00	\$72.00	
CC hind shank	8.0	\$9.00	\$72.00	
TRIM				
83%	27.6	\$12.00	\$331.20	
50%	14.4	\$0.00	\$0.00	
Inedible	82.8	\$0.00	\$0.00	
TOTAL	251.55		\$1,964.40	
TABLE CONTINUED NEXT PAGE				

CONTINUATION OF
TABLE 7: ORGANIC ROSE VEAL CASH FLOW ESTIMATES

REVENUES		
Total veal animals obtained x \$1964.00	\$1,964,400.00	Price from: www.homestead.org/AllenaJackson/DairyCalves/DairyCalves3.htm
ACQUISITION & PROCESSING COSTS		
\$650/head for grass-fed veal animal	\$650,000.00	NEFIS estimate for conventional beef processing- assume an equivalency.
\$1.50/lb carcass weight (no hide)	\$377,325.00	
Total costs	\$1,027,325.00	
REVENUE LESS COSTS	\$937,075.00	

IV. CADE'S ASSESSMENT OF PROCESSING FACILITIES OF NORTHERN NEW YORK

CADE visited three facilities in Northern NY on August 22, 2011 to assess the feasibility of a slaughter facility. Their findings are as follows:

North Country Pastured, LLC, is a recently formed four member LLC planning to open a mobile poultry processing plant at 16 Rice Road, DeKalb Junction, NY in 2012. The lack of meat processing capacity in the North Country has limited the business growth for farms in the St. Lawrence County region. In March 2011, NCP prepared a draft prospectus outlining the demand for product and services, and the type of business model that could meet the demand. Through informal surveys, NCP has determined that farmers would raise more grass-fed lamb and beef if the processing capacity was increased. As farms in this region lead the state in hay production, they can take advantage of the consumer demand for grass-fed meat. St. Lawrence County recognizes agriculture as a leading industry and has an Agricultural Development Plan. The plan as written, acknowledges the \$211,000,000 agricultural businesses contribute to the region's economy and accounts for 6,500 jobs. St. Lawrence County has a

population of 111,944 and saw negligible growth from 2000 to 2010. The plan notes 'new markets, new products, new ways of doing business and new partnerships are ever needed....to keep (agri-business) growing...'. North Country Pastured is exploring ways to grow farm businesses, create new revenues and jobs.

Willard's Meat Cutting, 4500 US Highway 812, Heuvelton, New York, 13654

Willard's Meat Cutting is an operating USDA inspected slaughterhouse. Their current capacity is approximately twenty-five beef per week and twenty-five hogs per week. This facility maintains a 20C License which gives them the ability to operate as a custom meat processing plant. Currently, they do not have a ready-to-eat USDA approved HACCP program though do produce beef and venison snack sticks in their smokehouse under their 20C License. This facility does have valuable equipment in a hog scalding/dehairer and a cryovac machine (3 single) on-site. Of note: the Willards rebuilt their hot box to handle whole beef carcasses. The carcasses then need to be properly cooled and quartered then placed in the aging cooler, which is not an efficient production practice. John Willard, owner, stated that their business experiences significant bottleneck of demand for processing during the fall season. He also provided CADE with information regarding USDA inspector issues, in particular, disagreements and lack of support for his business along with adverse behavior. The Willard's would like to sell their twenty acre property which includes the slaughterhouse, a small house and a rental property. Per the owner, this real estate has a valuation of \$500,000. Note: they are not interested in separating the sales of the business from the house and rental properties. External sources informed CADE that there have been complaints about a "particular" negative odor at this facility, to the extent that it was permeating their meat products. On the day of our visit we did not detect "negative" odors. Based on current USDA regulations the building

presents work flow challenges and is not efficient. While this building could be utilized for the NCPM project, we found the biggest challenges to be the age of the facility and the lack of building and grounds maintenance. CADE does recommend purchasing specific pieces of equipment from this facility if they decide to close their business.

Glazier's Packing Company, 7170 US Rt. 11, Potsdam, New York 13676

Glazier's Packing Company has been operating at the Potsdam facility since 1991. This facility once operated as a slaughterhouse though now only processes boxed meat. Additionally, they have another plant in Malone, NY. Their focus is to sell the Potsdam facility and move their entire business to Malone. Glazier's currently utilizes 30,000 square feet of the building, total square footage of the building was not offered at this meeting. The property is assessed at \$400,000 which includes one house, one barn and 125 acres of land. The property has a three pond aeration system. The owner stated current challenges are the significant septic issues and monthly electric bill of \$7,000. The building offers multiple loading docks and an extensive walk-in cooler system. This building is not appropriate. This recommendation is based on the negative work flow system of the building, the extensive need for renovations and equipment upgrades, outdated production standards, septic system issues, cost prohibitive utilities and overwhelming sustainability issues. The septic alone is a primary deterrent to purchasing or leasing this real estate. A proper septic system would require a long and difficult permitting process with no guarantee the project would be allowed to proceed.

Tri-Town Packing Company (Adirondack Smoked Meats), Route 53, Box 387, Winthrop, New York 13697

Tri-Town Packing Company is the primary USDA inspected slaughterhouse in the region for both New York and Vermont (many farmers travel up to three or four hours to utilize their services). Tri-town has a large processing area and three large smokers. They make summer sausages, pepperoni, hot dogs, venison sticks and other ready-to-eat products. In addition to processing livestock Tri-Town also produces pet treats from the variety meats and offal as a side business through value-added production. The building and business condition are good with the ability to expand. Without a complete tour, we were unable to determine their exact production flow. Tri-town has an eleven foot hot box to bring the carcasses down to proper temperatures. The carcasses are then quartered for hanging in the aging coolers, which is not an efficient production process. Their business also experiences a seasonal bottleneck demand for processing, the owner commented that the farmers need to learn to winter graze and slaughter throughout the year. Tri-town processing service is typically scheduled two to three years out during harvest season(s), fall and spring. The owner stated that it is his belief that there is not a need for an organic slaughterhouse. He does not believe there is the volume need in this region. The demand for an organic USDA slaughterhouse in this region will become evident through surveys and research.

Summary

The increased processing capacity would alleviate the bottleneck of demand during the fall season. The current establishments and a new facility would benefit from farmers changing current practice to a wintering over practice. The change in practice will take time. The two buildings presented during the guided tour have challenges that to be corrected may make them cost prohibitive for this project. A newly constructed building can be designed for best practices long

term. St Lawrence County has land use laws and zoning in most municipalities that includes agricultural structures. A new project will require a site plan review process. Of the three options, a newly constructed building would allow NCPM to design an efficient work flow – a key component in a sustainable slaughter and meat processing business model.

V. CONCLUSIONS / RECOMMENDATIONS

The results of the feasibility study, available at www.GardenShare.org, demonstrate that it is clear there is substantial potential value to be captured through increasing local meat processing capacity and adding organic certification capability. The key for local actors to realize this value is to gain access to local livestock herds (conventional and organic) at the highest rate possible within the volume constraints of the planned processing facility. That is, the more animals that local firms can acquire to process, the more potential economic value may be realized. Likewise, the more of the final retail dollar local actors can capture, the higher the revenue earned. Therefore, effort should be placed on outreach to local farmers and developing strategic value chain relationships with potential distributors, wholesalers and retailers.

The concept of a value chain as a collaborative effort among supply chain firms to maximize profits but also to distribute the profits along the chain with the purpose of keeping the pieces in place is critical for determining if building a small plant is feasible. If producers, processors, distributors, retailers and consumers can work in a collaborative way to maximize the quantity and quality of the products passing through the value chain; and understand that a well-functioning value chain provides benefits to all parts, the probability increases that building and operating a small red meat plant is feasible.

The study results show that making links with local conventional and organic dairy producers and working with them to process and market meat products from their cull cows rather than selling them at auction has the greatest economic value potential. For organic dairies this is probably an easier task, since conversations with organic dairy producers reveal that they understand the value they lose by selling their cull cows into the conventional auction market. Conventional producers are a more challenging audience, since the value to be realized from processing their culls is not as great, and it is relatively easy to sell their culls at auction. This behavior is firmly entrenched. For this group, significant outreach from local firms and cooperative extension will be needed; and, local non-farm firms will probably be required to undertake the bulk of the activities in the value chain beyond the farm gate.

Likewise, there seems to be significant economic potential for raising and marketing organic rose veal. Retail prices are high for these products, and therefore organic dairy farms have a strong incentive to incorporate veal-raising into their operations.

The lowest economic potential appears to be in swine and sheep and lamb processing, distributing and retailing. This is due to the relatively low numbers reported in the 2007 Census for these animals and no reliable method for estimating the potential supply of organic swine and lamb. Workshops held by cooperative extension in Jefferson, Saint Lawrence and Franklin counties indicate that local sheep, and to a lesser extent swine, numbers have increased substantially since 2007. If this is the case, and sheep and swine producers are incentivized to work with local firms to process and market the meat products from their herds, the economic potential for sheep and swine should increase.

As the data demonstrates, both the farmers and the processing plant owners are correct and the solution is either:

- 1) a small processing plant only. This would allow for the animals to be slaughtered at another plant and trucked to the new processing facility. This would permit longer hanging times, larger capacity and third party certifications.

Or:

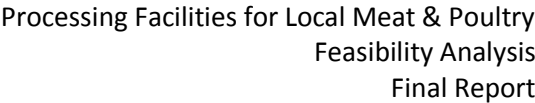
- 2) a new 5,000 sq ft., USDA slaughter facility that would focus on veal, sheep and cull-cows, both organic and non-organic. The facility would also offer custom aging, cutting, processing and packaging.

Both plants would certify products as Organic, Humanely Treated, and Animal Welfare Approved, but would produce conventional meats as well.

The surveys were conducted in four counties in Northern New York: St. Lawrence, Jefferson, Franklin, and Lewis. The data showed that farmers would double and triple their herd size, start raising Certified Organic veal and that sheep farmers would start a co-op (they did, 5/30/12 because of the potential of a USDA slaughter facility).

ATTACHMENT I. BUSINESS PLAN / CASH FLOW ANALYSIS (POULTRY)

BUSINESS PLAN CASH FLOW ANALYSIS- 5 YEARS NORTH COUNTRY PASTURED MOBILE POULTRY PROCESSING UNIT										
REVENUES					REVENUE					
Base Year 1	Fees	Unit	Units/year	Rev/year	Assumptions	Year 2	Year 3	Year 4	Year 5	
Slaughter(chicken)	\$2.50	head	25000	\$62,500	Fee = Avg. NYS custom + USDA inspected premium & flocks identified	\$63,750	\$65,000	\$66,250	\$67,500	
Slaughter(Turkey)	\$8.25	head	3500	\$28,875		\$29,453	\$30,030	\$30,608	\$31,185	
Slaughter(duck)	\$4.25	head	1000	\$4,250		\$4,335	\$4,420	\$4,505	\$4,590	
Slaughter & processing (rabbit)	\$5.75	head	10000	\$57,500	Fee = Avg. NYS custom + USDA inspected premium	\$58,650	\$59,800	\$60,950	\$62,100	
Processing(chicken)	\$0.30	pound	125000	\$37,500		\$38,250	\$39,000	\$39,750	\$40,500	
Processing(turkey)	\$0.30	pound	87500	\$26,250		\$26,775	\$27,300	\$27,825	\$28,350	
Processing(duck)	\$0.40	pound	4000	\$1,600		\$1,632	\$1,664	\$1,696	\$1,728	
Bird split charge	\$0.45	chicken	5000	\$2,250	Fee = Avg. NYS custom- assume 20% of chicken slaughter	\$2,295	\$2,340	\$2,385	\$2,430	
Travel Charge	\$60.00	farm	147	\$8,800	Fee = Avg. NYS custom. Assume 600 chickens, 200 turkeys, 20 ducks & 500 rabbits / farm	\$8,803	\$8,806	\$8,809	\$8,812	
Total Revenue/2 legged MPU				\$229,525	sub	\$233,942	\$238,360	\$242,777	\$247,195	
DIRECT COST LABOR (FTE=1225 hours/ year)										
					Labor costs					
	%FTE	#Hrs.	Rate	Annual Cost		year 2	year 3	year 4	year 5	
1 Manager	100%	1225	\$20	\$24,500		\$24,990	\$25,480	\$25,970	\$26,460	
1 assistant butcher	100%	1225	\$15	\$18,375	Assume 35 week season with 35 hour weeks	\$18,743	\$19,110	\$19,478	\$19,845	
2 Butcher/CDL drivers	200%	2450	\$18	\$44,100		\$44,982	\$45,864	\$46,746	\$47,628	
Total		4900		\$86,975.00	sub	\$88,715	\$90,454	\$92,194	\$93,933	
Employer Tax & workers comp			15%	\$9,371.25	Assumes no tax and worker comp on manager/owner	\$9,558.68	\$9,746.10	\$9,933.53	\$10,120.95	
Employee Benefits			15%	\$9,371.25	Assumes no benefits for manager/owner	\$9,558.68	\$9,746.10	\$9,933.53	\$10,120.95	
Total Annual Direct Labor Cost				\$105,717.50	sub	\$107,832	\$109,946	\$112,061	\$114,175	
TABLE CONTINUED ON NEXT PAGE										



START UP COSTS - CAPITAL				START UP COSTS – NON-CAPITAL			
Property Acquisition	# years	Amount	Depreciation				
MPPU & truck	10	\$154,000	\$15,400			Recruitment	\$1,000
Storage garage, coolers & office space		\$25,000				Training for butchers	\$5,000
Total start-up capital		\$179,000	\$15,400	Total depreciation		HACCP Expenses	\$0
						SSOP development	\$1,000
						Accounting	\$2,000
						Label set-up	\$500
Total start-up costs (Capital & Non-Capital \$192,500						Misc. small equipment	\$3,000
						Organic Certification	\$1,000
						Total Non-cap start-up	\$13,500
TOTAL REVENUES LESS COSTS – YEARS 1 – 5 (Assumptions: Each year all species numbers and costs will increase by 2%)							
	Year 1	Year 2	Year 3	Year 4	Year 5		
Revenues	\$229,525.00	\$233,942	\$238,360	\$242,777	\$247,195		
Costs	\$207,737.50	\$211,584	\$215,431	\$219,278	\$223,125		
Revenue less costs	\$21,788	\$22,358	\$22,929	\$23,500	\$24,070		