



**NICHE MEAT PROCESSOR
ASSISTANCE NETWORK**

FROM CONVENIENCE TO COMMITMENT: SECURING THE LONG-TERM VIABILITY OF LOCAL MEAT AND POULTRY PROCESSING



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ABSTRACT

Consumer demand for local food, including local meat and poultry, has risen in recent years. Meat and poultry processors are essential links in local meat supply chains. To sell meat, farmers need access to appropriately scaled processing facilities with the skills, inspection status, and other attributes to prepare these products safely, legally, and to customer specifications. Farmers and others suggest that limited processing infrastructure restricts the supply of local meat and poultry. At the same time, existing small processors often lack the steady, consistent business required for profitability. We analyze this multi-faceted problem and identify fundamental causes, drawing on a cost analysis of local processing at three scales. We use case studies of seven successful local and regional processors to illustrate strategies and solutions that may be adopted by others. We conclude that business commitments between processors and farmers are critical to mutual success: farmers commit to providing consistent throughput of livestock to process, and processors commit to providing consistent, high-quality processing services. This commitment, supported by coordination and communication between processors and their customers as well as along the entire supply chain, is essential to the persistence and expansion of local meats. We also describe five collaborative efforts around the country involving public and private sector partners who aim to expand opportunities for local meat marketing by providing support and technical assistance to meat processors and their farmer customers.

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EXECUTIVE SUMMARY

What is the Issue?

Bringing local meat and poultry to market requires access to appropriately scaled processing facilities with the skills, inspection status, and other attributes to prepare these products safely, legally, and to customer specifications. Farmers and others suggest that limited local processing infrastructure restricts the supply of local meat and poultry.

Many farmers drive multiple hours one way to their nearest inspected processing facility and bring only a few head at a time, resulting in high transportation and opportunity costs per pound of meat. Farmers may have difficulty getting slaughter dates during processors' busy seasons or they must schedule far in advance. Some small processing facilities may not offer specific services that farmers and their customers desire. At the same time, existing small processors often lack the steady, consistent business they need to be profitable while providing high quality services tailored to individual customers. They often experience significant seasonal variation in demand for their services or animals are not delivered for processing when scheduled. Expense estimates suggest that even a small processing plant providing very basic services must annually process approximately 450 head of cattle or the revenue equivalent in combinations of other livestock, spread out fairly evenly over the year. Operations that offer more sophisticated services require significantly higher volumes, making it more challenging to reach the critical mass of local livestock to support such plants. As a result, local processing is not always available when farmers want it.



What Did the Study Find?

Stabilizing and enhancing meat and poultry processing for local markets requires that farmers and processors build more established and predictable business relationships, shifting from "convenience" to longer-term "commitment." This report uses case studies of successful meat and poultry processors to illustrate what commitment can look like in practice. An essential element is that farmers commit, individually or in coordinated groups or brands, to providing the processor with a sufficient, steady supply of livestock to process. Steady business generates steady revenue, which is fundamental to long-term processor viability.

Having key "anchor" customers is an important way for processors to assure a steady volume of business; some processors are their own key customers, providing most or all of the animals they process. Brands or "aggregators" that source livestock from multiple farmers and coordinate the rest of the supply chain can be valuable partners for processors. Aggregators create a steady flow of animals and serve as a central point of communication. They are often in a better position to coordinate consistent scheduling than an individual farmer. Processors can use tools like active scheduling systems, variable pricing, or penalties to assure that throughput is steady, week by week and over the year.

This report uses case studies of successful meat and poultry processors to illustrate what commitment can look like in practice.

Commitment matters on both sides: processors must demonstrate a commitment to providing, maintaining, and improving quality services. Processors can also help their producer-customers with advice and support with marketing, distribution, and other aspects of their meat businesses. By building these business relationships, processors work more effectively with their customers, build loyalty, and ultimately increase demand for their own services.

Processing businesses are capital-intensive to start, maintain, and expand. Farmer-processor commitment deepens when farmers, individually or in groups, invest time and money into the processing business. Investment can take the form of loans, stock purchases, equipment financing, or hours of expertise and effort. Effective and continuous communication, about scheduling and services, costs and pricing, meat quality and market conditions, and other aspects of their linked businesses, is essential to developing and maintaining strong business relationships.

The report also describes examples of regional, collaborative efforts to support and enhance local processing infrastructure for local markets. These efforts provide examples of what can be done by governmental agencies, non-profits, universities, and others concerned with the role of processing in enhancing local and regional meat markets. Strategies include providing technical assistance for existing small processors to enhance availability for local farmers; facilitating farmer-processor communication and mutual education; incubating businesses important to the rest of the supply chain; engaging with public agencies toward regulatory clarity and consistency; and providing a platform for peer-to-peer learning around this issue across communities and regions.

How Was the Study Conducted?

We drew on three sources of data for this project. First, we conducted in-depth case studies of seven meat and poultry processors located around the U.S., through site visits and phone interviews during 2011-2012, supplemented with background research. Second, we conducted interviews with long-time observers and other experts on this topic, during the same time period. Third, we developed the cost analyses using data from a financial analysis of small meat plants in 2009-2011. In addition, both authors have worked on this issue for more than a decade each, as graduate students, extension professionals, academic researchers, and processing plant personnel.

INTRODUCTION

Consumer demand for local food, including local meat and poultry, has risen in recent years (Low and Vogel 2011; Martinez et al. 2010). Livestock farmers are interested in selling locally for many reasons, including the potential to receive premium prices for their products, a direct connection with consumers, and recognition for their production practices and products. Locally produced food often requires new and different supply chains than conventional food (King et al. 2012). The required structure of local supply chains depends on the product (e.g., perishable or not) and the market channel (whether farm stands, farmers markets, and Community Supported Agriculture or intermediated direct sales to restaurants, retail, and food service). As perishable products governed by a complex and evolving set of food safety regulations, meat and poultry can require equally complex supply chains involving multiple partners. Meat and poultry (hereafter “meat” unless specifically referring to poultry) processors are essential links in local meat supply chains. Local meat farmers need access to appropriately scaled processing facilities with the skills, inspection status, and other attributes to handle these products safely, legally, and to customer specifications.

Farmers and others suggest that limited processing infrastructure restricts the supply of local meat and poultry (e.g., Zezima 2010). But at the same time, existing small processors often lack the steady, consistent business they need to be profitable. New processing ventures built specifically to handle local product often do not survive (DeHaan 2011, Raines 2011). Why is this?

In this report, we analyze this situation, identify fundamental causes, and use case studies of successful local and regional processors to illustrate strategies and solutions that may be adopted by others. We conclude that improving coordination and communication between processors and their customers – as well as along the entire supply chain – is essential to the persistence and expansion of local meats. We also describe collaborative efforts around the country that involve public and private sector partners actively supporting meat processing to expand local meat marketing. These efforts harness the experience and expertise of a variety of partners, public sector and private, to provide information, guidance, and direct technical assistance.

In the first part of the report, we identify varieties of local meat and local processing, concerns about processing as expressed by farmers and processors, and the fundamental and related challenges underpinning those concerns. We then turn to a series of case studies of meat and poultry processors to illustrate how these challenges are being addressed by industry participants. We also describe the collaborations mentioned above. We conclude with a summary and considerations.

We conclude that improving coordination and communication between processors and their customers – as well as along the entire supply chain – is essential to the persistence and expansion of local meats.



A Note on Terms: Processing and Farmer

In this report, we use the term “processing” to include all the steps involved in turning a live animal into meat for sale:¹

- **Slaughter:** stunning, skinning, evisceration, and cleaning; end products are carcass halves or quarters, which go into a cooler for immediate chilling.
- **“Cut and wrap:”** cutting chilled half/quarter carcasses to desired end size (primal, subprimal, or retail cuts) and packaging as desired (e.g., vacuum-packed subprimals, “case-ready” retail packages).
- **Value-added processing:** grinding, casing, smoking, cooking, drying, and otherwise transforming meat and trimmings from the cutting step into sausage, ham, bacon, jerky, and other products; includes “portion cutting,” cutting subprimals into fixed-weight steaks, roasts, and other retail cuts.

The process is similar for poultry, though with fewer cutting configurations – largely whole carcass and carcass pieces – and different value-added options. Also, stunning is not legally required for poultry, but most processors stun birds.

One business, even a very small one, may do all of these steps in-house, in one building with a slaughter floor, a cutting room, and coolers for carcasses and finished product. Or each step may be done by a separate business. The larger the volume, the more specialized each business tends to be. For example, some plants only slaughter, producing one product: chilled half-carcasses. Some plants only break half carcasses into boxes of primal cuts, for shipment to a distributor, a retailer, a food service company, or other buyer that sells to the end user.

We also use the word “farmer” to refer to people who raise livestock. Other possible terms are “rancher” and “livestock producer” or “producer;” “rancher” is largely a western term, and some readers may consider a processor to be a “producer.” In some case studies, those profiled use these other terms.

¹ For an explanation of processing regulations and the different regulatory statuses a processor can operate under, see Johnson, Marti, and Gwin (2012).

THE SITUATION AND ITS CHALLENGES

Local Meat and Local Processing: Three Types

What we mean by “local processing” depends on what we mean by “local meat.” There is no strict geographic definition, and “local” can range from a county to a state to a multi-state region.² Recent research defines local by market channel: direct to consumer and intermediated direct-to-restaurant/grocer (Low and Vogel, 2011).

We describe three basic types of “local meat” – very local, local-independent, and regional-aggregated – to show how they vary not only by geographic scale but product format, market channel, regulatory requirements, and the roles different entities play in the supply chain. Figure 1 shows typical supply chains for the three types, with arrows depicting the flow of animals and meat along the chain; Table 1 explains how the three chains differ in geography, product format, market options, regulatory requirements, and farmer roles.

In the “very local” chain, the farmer sells a live animal directly to one or more household buyers, who buy by the whole, half, or quarter carcass. A mobile slaughterer³ may come to the farm, or the farmer may deliver the animal to a processing facility. For red meat, the household buyers place the cutting orders, pay the processor directly, and pick up their meat, typically frozen. For poultry in this chain, the farmer is also often the processor.⁴ In the “local-independent” chain, the farmer arranges and pays for processing and handles distribution and marketing through a variety of direct and local channels. In the “regional-aggregated” chain, multiple farmers sell finished animals to a central entity (e.g., brand) that arranges for processing and distribution and handles marketing, largely to wholesale accounts. The arrows indicate how livestock and meat flow from one part of the supply chain to the next.



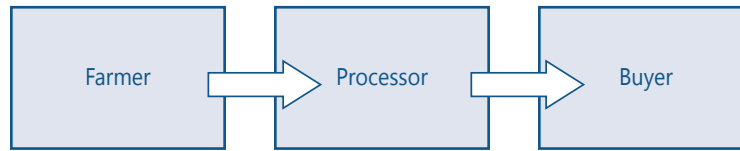
² As directed by Congress in the 2008 Farm Bill, USDA defines local as transported fewer than 400 miles from its origin or sold within the state in which it is produced.

³ In this case we refer to a custom-exempt butcher, not a state- or USDA-inspected mobile slaughter unit. They are quite different because of the far more rigorous regulatory standards applied to an inspected unit.

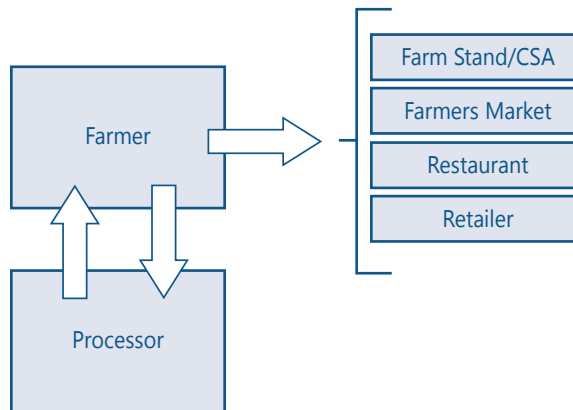
⁴ This is often done under the Producer/Grower 1000 Bird/Year Limit or Producer/Grower 20,000 Bird/Year Limit, which are two exemptions to the inspection requirement in the Federal Poultry Products Inspection Act (PPIA). Depending on the exemption, poultry processed under exemption can be sold in a much broader array of markets than red meat processed under exemption. All of the poultry processing exemptions, with associated regulatory citations, are described in USDA (2006).

Figure 1: Three Types of Local*

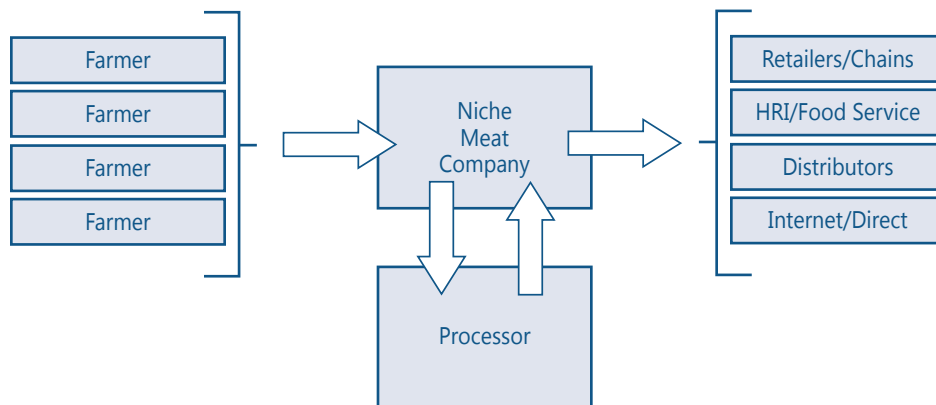
(1) Very Local



(2) Local-independent



(3) Regional-aggregated



* CSA in (2) refers to Community Supported Agriculture, or “box schemes”; HRI in (3) refers to a category of buyers: hotel, restaurant, and institution.

Table 1: Characteristics of the three types of local

Type	Geography	Product	Market	Regulatory*	Roles
Very local	Same or neighboring county	Red meat: frozen meat, whole, half, quarter carcass, paper-wrap. Poultry: whole carcass	Direct pre-sale to consumer. Poultry: sold at the farm	Red meat: any, but typically custom-exempt Poultry: 1000 bird exemption	Buyer pays farmer for live animal pre-slaughter; pays for processing, picks up meat.
Local-independent	Highly variable: from one county to multi-state	Individual cuts & cooked meats vac-packaged or paper wrapped, labeled, fresh or frozen. Poultry: whole carcass, parts	Retail (farmers markets, farm stands, CSA, restaurants) & wholesale (e.g., to retailers)	Red meat: state or Federal inspection. Poultry: 20,000 bird exemption; state or Federal inspection if crosses state lines	Farmer handles marketing and distribution
Regional-aggregated	State-wide, multi-state	Same as above plus primals, subprimals, fixed weight portion cuts, all usually fresh in formed vacuum packaging	Mostly wholesale (to retail, food service, distributors, schools)	Federal inspection, or state inspection if all sales are within that state	Multiple farmers supply regional marketing entity that manages supply chain

* We include Talmadge-Aiken⁵ plants within Federal Inspection. For poultry, 1000 bird and 20,000 bird refer to two exemptions. See footnote 4.

The three types may overlap. A farmer might sell freezer meat shares, processed under inspection, at his farmers market stand. A farmer in the “Local independent” category might sell most of her product in subprimals or whole carcasses to restaurants and also sell live animals into conventional (commodity) livestock markets. The optimal strategy for any farmer will depend on many factors, including production style, marketing skills, risk tolerance, and financial goals.

The size of an operation in each type will vary: a farmer selling through the “very local” strategy might choose to sell one animal per year or one hundred. A farmer who is part of a “regional” brand might choose to raise a few head per year for that brand. Yet there are scales at which certain strategies tend to be more or less cost-effective. For example, farmers selling cuts from only a few dozen head per year at farmers markets may struggle with inventory management – selling all parts of each carcass – and higher transaction costs (primarily time spent managing processing, distribution, marketing, and customer service) despite what may have been premium prices (Thiboumery and Lorentz, 2009). This matters to processors, who are unlikely to have steady business from farmers who pursue unprofitable sales strategies.

⁵ Talmadge-Aiken plants are inspected by State employees acting as agents for USDA's Food Safety and Inspection Service (9 CFR §321.2; USDA-FSIS 2004, p. 8-9).

Common Concerns about Local Meat Processing

Processing is often named as a critical barrier to bringing more local meats to market. Yet the difficulty is not one-sided: both farmers and processors express frustration with the current situation (Table 2).⁶

Table 2: Farmer and processor concerns about processing

What farmers say	What processors say
There are not enough processing facilities. ⁷	There aren't enough farmers bringing me enough livestock.
Processors don't have the right services or inspection status.	Farmers ask me to do new things, but they don't have enough volume to cover my costs.
I have to schedule a processing date too far in advance.	Farmers don't come when they say they will, or they bring fewer or different animals than they said they would bring.
I can't get a processing date during the fall.	I have no business in the spring.
Processing costs too much	Farmers don't want to pay what processing really costs.
Processors make cutting, packaging, and labeling mistakes.	I don't have enough year-round, steady business to hire skilled labor and pay them a good wage.
My order wasn't ready on time, and my customers are unhappy.	Farmers don't pick up their orders on time, using up valuable cooler space.

The extent to which each farmer or processor faces these real challenges varies. Yet they are largely symptoms of more fundamental constraints. By analyzing the symptoms, we can uncover those constraints, determine why they exist, and discuss options to address them.

Too Few, Too Far Away, Not Right

Many farmers have had the experience of having to drive multiple hours one way to the nearest inspected processing facility. If they only bring a few head at a time, their transportation and opportunity costs per pound of meat may be very high. Why are there “not enough” nearby facilities? Why do many existing facilities not offer all desired services? Why do many existing facilities not offer fee-for-service processing or require a minimum number of animals at a time?

The processing business is complex, high-risk, and marked by thin profit margins. Building even a very simple new facility requires hundreds of thousands of dollars. To do this, the prospective processor and funder need to feel confident about the ability of the processor

⁶ The concerns in this table were those most commonly expressed, based on the authors' experience and discussion with farmers, processors, regulators, university faculty, and non-governmental organization (NGO) staff involved with local meats/processing.

⁷ Particularly for poultry: there are far fewer inspected poultry plants than red meat plants in part because profit margins are thinner, in part because many states allow the sale of poultry processed under one of the Federal exemptions, and in part because poultry production at smaller scales is typically very seasonal. Farmers must cross state lines for federally inspected processing or be shut out of the market in states that do not allow such sales and in which there is no inspected small plant.

to service loans and other financial commitments and make a profit. This requires assurances of real demand, i.e., enough farmers who will bring enough animals on a consistent enough basis and pay for the real costs plus margin.

Expense models⁸ for meat plants operating at the three levels of 'local' indicate that even a very small processing plant requires annual volumes of hundreds of animals to break even, approximately 450 head of cattle or the revenue equivalent in combinations of other livestock (Tables 3-4). Because the average farmer participating in local meat production and marketing is producing far fewer than 400 head per year, such a plant would need at least 40 farmers each to bring at least ten head per year of beef or the equivalent number (by revenue) of other species. The end product would likely be uninspected (custom-exempt), wrapped in butcher paper, and distributed frozen, in whole or partial carcasses, due to limited production capabilities and custom-exempt inspection status.⁹ Operations that offer more sophisticated services require significantly higher volumes, making it more challenging to reach the critical mass of local livestock to support such a plant.

Table 3: Expense model features and assumptions

Very Small Custom-Exempt	Small Inspected	Regional Inspected
■ 2,000 sq. ft. facility ■ Slaughters/fabricates beef, pork, sheep, goats ■ Limited sausage making, smoking, curing services ■ All raw meats packaged in butcher paper and frozen ■ Option for some vacuum packaging for cooked sausages ■ No scale labeling (applying labels with actual, "catch" weight to individual packages or cases) ■ 4 FTE employees	■ 4,000 sq. ft. facility ■ USDA or State-inspected; may still do custom-exempt work ■ Slaughters/fabricates beef, pork, sheep and goats ■ Sausage making, smoking and curing services ■ All raw meats packaged in butcher paper and frozen ■ Vacuum pack cooked sausage, boneless cured meats ■ Very basic scale labeling ■ 10 FTE employees	■ 15,000 sq. ft. facility ■ All product USDA-inspected ■ Regular 3rd-party audits (GMPs, food safety, animal welfare, certified organic) ■ QA Department monitors sanitation, product safety, quality, shelf life via microbial testing, sensory evaluation ■ Slaughters/fabricates beef, pork ■ Sausage making, smoking & curing services, exact weight retail portions ■ Exact weight portion cutting of steaks and roasts offered ■ All raw and cooked meats are vacuum packaged fresh or frozen, usually Thermoformed roll stock for retail sale ■ Complex scale labeling for pieces, cases ■ 4-color preprinted labels applied uniformly to packages ■ Most product boxed, palletized to ship ■ 60 FTE employees ■ Offers health insurance and retirement matching benefits

⁸ These models were developed through a review of multiple existing, viable businesses within these categories. They are not meant to represent all plants in all circumstances but to provide a general sense of plant features, services provided, and the significantly different costs of operating at each of the three different scales.

⁹ A farmer who wants to sell meat must have the livestock slaughtered and processed under Federal or State inspection, per the Federal Meat Inspection Act (FMIA). There are two exemptions: the custom-exemption for on-the-hoof sales of freezer meat and the retail exemption, for retail stores, though the animals must still be slaughtered under inspection. In many states, farmers who want to sell poultry may process it themselves or have it processed under one of several "exemptions" from inspection.

Table 4: Expense models for three scales of local processing

Expenses	Very small	Small	Regional
Raw materials/ingredients/packaging	\$50,000	\$120,000	\$700,000
Labor (all inclusive)	\$110,000	\$300,000	\$2,800,000
Office-related overhead ^a	\$1,000	\$4,000	\$25,000
Processing-related overhead ^b	\$30,000	\$61,000	\$450,000
Other overhead ^c	\$20,000	\$32,000	\$150,000
Loan Interest	\$10,000	\$25,000	\$165,000
Depreciation	\$10,000	\$23,000	\$152,000
Total expenses	\$231,000	\$565,000	\$4,442,000
# Beef revenue equivalent per year for break even ^d	462	1130	8884
# Beef revenue equivalent per year for cash flow ^e	442	1084	8580

^a E.g., Office supplies and equipment, advertising, phone/postage.

^b E.g., Utilities, small tools, supplies, repairs/maintenance, vehicle expense, laundry.

^c E.g., insurance, license, property taxes, legal/accounting services, donations, dues, travel, misc.

^d Assumes average processing revenue for all plants of \$500 per beef, \$150 per hog, \$150 per sheep or goat

^e Cash flow excludes depreciation expenses.

The models also apply to poultry plants. At \$3/bird, a processor must process 167 birds for the revenue equivalent of one beef (\$500). Therefore, a very small poultry plant with annual expenses similar to a very small beef plant needs to process 77,000 birds each year to break even.

These expense models make it clear that opening a new processing facility cannot be done without commitments of significant livestock volume and significant capital, especially when more sophisticated services and certifications – such as those listed in the features/assumptions table – are desired. The models, based on averages and informed approximations, are not meant to be precise. Rather, their explanatory power is in the relative proportions of cost for services provided and the corresponding approximate number of livestock needed for viability. Individual plants at any one of the three scales could likely be viable with 10% more or less revenue/livestock, depending on the specifics of their operations.

Not Available When Needed

Many farmers have called a processor a month or two before livestock will be ready for slaughter, only to hear that the processor is already fully booked at that time. This is especially true in peak finishing seasons for livestock, when farmers in a given geographic region may all have finished animals ready for slaughter at the same time. The situation can be further exacerbated if processors tend to focus on game processing during fall hunting seasons. Processors are typically able to charge a premium for wild game processing, making it more profitable, even if for a short period, than processing livestock for farmers.

Conversely, many processors experience a “boom and bust” cycle throughout the year, depending on the seasonality of production in their region. While seasonality is fundamental to farming, it does not work for what are essentially manufacturing facilities, with year-round expenses. From employees to utilities, bills must be paid all year. Skilled employees need year-round work and a full year’s paycheck to stay on the job. Seasonality is a significant drain on processor profitability.

Similarly difficult, but on a smaller time-scale than seasonal variability, is maintaining daily consistency and throughput. Meat processors, like other manufacturers, need to keep their expensive, specialized staff and equipment as busy as possible, as steadily as possible. This means a consistent supply of animals. While large packers use contracts and other strategies to assure supply, small, local processors usually cannot coordinate incoming livestock as effectively. While most schedule incoming livestock with the goal of a steady flow, they often have no backup if plans fall through. Every small processor has had the experience of “no shows:” a farmer brings fewer livestock than originally scheduled or even cancels at the last minute. This means lost productivity and therefore lost revenue for the processor, but the processor has little or no recourse.

The challenges of inspected, fee-for-service poultry processing

Very few¹⁰ inspected poultry processors do fee-for-service processing, far fewer than for red meat, largely because it is very hard to be profitable. One solution is to be one’s own “anchor tenant,” processing primarily in-house birds for in-house sales. As a small, USDA-inspected poultry processor explains, “We have a successful plant but would be a complete failure if we were relying on processing for others.”¹¹ He is willing to process more for other farmers but needs them to bring “relatively consistent numbers for most of the growing season.”

He cites three primary challenges for fee-for-service, inspected poultry processors. First, poultry are highly seasonal, and most farmers cannot commit to bringing birds regularly. Second, poultry are far less flexible than red meat species in terms of scheduling, because they can gain so much more weight in a short period of time. Third, the cost per pound to process poultry in a small facility is very high. The technology needed to decrease costs is expensive and requires much more throughput for payback. He estimates that a poultry processor needs to process 2000 birds per day, five days per week, to gain any economies of scale. As a result, to stay in business, poultry processors typically must maintain high prices and require farmers to bring a minimum of 50 to 100 birds at a time.

“We used to do a bunch of birds for others,” he says. “Lots of times we spent all the money we made during the weeks we had birds to keep the competent help on the weeks we didn’t have birds.”

¹⁰ The actual number of FI poultry processors is unavailable because of potential confidentiality infringements due to the small number of FI poultry plants in operation.

¹¹ This processor did not wish to be named.

Processing is Too Expensive

Local meat farmers and consumers are often startled that local meats can cost more than twice as much as commodity meats, and farmers may believe this is due to what they perceive as a high cost for processing services. Why, they ask, does processing cost so much?

Fee-for-service processing of local meats does cost more on a per head basis than commodity processing. To some degree, this is due to economies and diseconomies of scale: large, specialized plants handling large volumes of similar product can operate at a lower cost per unit than small plants that offer multiple services and small-batch, artisanal production. Certain costs, such as regulatory compliance and offal disposal, may be disproportionately high for smaller plants with no dedicated staff and lower volumes over which to spread those costs.¹² Regulations related to meat and poultry processing can be complicated to understand, technically difficult to implement, and time consuming in terms of recordkeeping.¹³ While many small processors have good access to rendering services and can earn some byproduct revenue, primarily for hides, for many others “the drop” is a liability rather than a revenue source.¹⁴ They may not collect enough volume each week to offset what the renderer charges to pick it up, or they may be located in an area with limited access to rendering. In addition, plants located in very small towns with outdated wastewater treatment systems may find themselves under pressure from those towns to make expensive upgrades to their own, in-plant systems.

Yet the two types of plants cannot be compared based on what they charge for processing, because they have two completely different business models. Large-scale commodity processors are meat companies that earn most and at times all of their net revenue from byproduct sales; they may at times even lose money on the sale of meat. Large processors can earn so much for byproducts because they operate at a large enough scale to refine different parts into useable products and to sell in large enough volumes to access valuable international markets. Because of the drop revenue, the cost to process live animals into primal and subprimal cuts is offset and does not noticeably increase the price of the product; this is particularly true for the beef industry but still valid for pork and chicken. In contrast, small, fee-for-service processors sell processing services, not byproducts. They cannot cover their processing costs through drop revenue, because the drop either generates little or no revenue or is a cost (Marti, Johnson, and Mathews 2011).

Second, it is important to remember that processing is only one reason that local meat costs more than commodity meat. Local meats may be produced in ways that can cost more on a per head basis, such as no hormones/no antibiotics, certified organic, grass-

¹² Some regulations are somewhat scale-sensitive, for example, pathogenic *E. coli* sampling, yet small plants have proportionately higher product loss from sampling for those tests than larger plants

¹³ Regulatory consistency is also an ongoing challenge, as inspectors will differ in their expectations, communication style, and even their regulatory interpretations. Small processors do not always feel comfortable questioning or appealing inspector requirements or decisions: contrast this with a large plant where the head of Quality Assurance is trained to question every inspector request or requirement.

¹⁴ The drop includes heads, hides, hooves, bones, fat, blood, and offal. Even the hide market declined significantly during the recent recession, but it has since recovered.

fed, and so forth, especially in small batch production. Yet even if on-farm costs for local production are the same or lower as for commodity livestock production, post-farmgate costs are quite different. Table 6 illustrates the impact of marketing, distribution, and retail margins on final price, for local versus commodity systems for beef (the overall proportional differences and dynamics for other meats, including poultry, are similar). As explained above, processing does not increase the price of the commodity product and is not included in the calculation. At the end of the supply chain, the local product costs \$8/lb, nearly twice the price of the commodity product. Yet processing accounts only for 13% of the final price of local beef, compared with 44% for marketing, distribution, and retail.

Table 6: Beef supply chain costs, local v. commodity

Local ^a	Pounds	Cost/lb	Cost	% of Final
Beef	13200	\$2.10	\$27,720	42%
Livestock trucking			\$350	1%
Processing	13200	\$0.65	\$8,580	13%
		Sub-total	\$36,650	
20% margin for marketing, distribution			\$9,163	14%
30% margin for retailer			\$19,634	30%
		Total	\$65,446	
		Average price/lb	\$8.00	
Commodity^b				
Beef	13200	\$1.85	\$24,420	64%
Livestock trucking	13200	\$0.02	\$264	1%
Distribution	13200	\$0.15	\$1,980	5%
		Sub-total	\$26,664	
30% margin for retailer			\$11,427	30%
		Total	\$38,091	
		Average price/lb	\$4.65	

^a Assumptions: 20 grass-fed cattle, USDA Select, 660 lb carcasses, 62% carcass-to-meat yield; livestock trucking 100 miles at \$3.50/loaded mile; conventional grocery retail margin (natural foods retailers often charge 35-50%);

^b Assumptions: beef price based on 2010-2011 average meat yield price for 600-900lb Select carcasses, 62% carcass-to-meat yield; livestock trucking and meat distribution with company-owned or contracted whole truckloads. No cost for processing, as discussed above.

All of the issues and concerns described above are pressing for many farmers and processors. Whether they are, in fact, barriers to local meat processing can be traced back to whether the local processor has sufficient resources – i.e., enough revenue – to support the people and systems necessary to manage and address them.

Ultimately, these issues are all manifestations of a fundamental tension between farmer needs and processor needs. Farmers cannot grow because processing capacity is limited, but processors cannot grow or provide certain services or availability because they do not have enough steady work to provide steady revenue. In general, a lack of throughput is likely a more limiting factor for local meats than a lack of processing capacity.

What options are available for farmers and processors to grow together to become the business partners they would like each other to be?

A SHIFT FROM CONVENIENCE TO COMMITMENT

Analysis of the businesses and organizations profiled in this report, along with many others, suggests that an essential approach to overcoming the challenges defined above is to change the relationship between farmers and processors away from a series of independent transactions, conducted at arm's length, to a longer-run interdependence. Said simply, it is a shift from "convenience" to "commitment." Convenience can be thought of as "I'll call you when I have animals to process," on the farmer side and "I'll process for you if I have an opening," on the processor side. Commitment is an ongoing relationship in which each party promises to deliver for the other and consistently follows through. Commitment requires communication about needs, roles, abilities, and responsibilities – an "if you promise to do X, I will promise to do Y" approach – along with ways to measure whether promises are met.¹⁵ Our research strongly suggests that shifting toward commitment, away from convenience, is the key factor in maintaining and expanding processing for local meats.

The challenges processors face in providing services to farmers largely relate to having enough throughput to generate adequate revenue to pay for the required human capital and equipment/physical plant to provide those services. "Hard" commitments are essential. Good will and communication, while important, are not enough: processors need enough farmers to commit to bringing enough livestock on a steady basis. If farmers want processors to expand capacity or enhance services offered, processors may need to supplement processing revenue with financial capital. Farmers can be a source, in a variety of ways.



Farmers who want to sell meat and poultry into local and regional markets have a clear motivation to commit to their processors: to satisfy and grow their customer base, they need long-term access to quality processing of their meat and poultry products. At the same time, small meat processors also have an incentive to develop such business relationships: local meats represent a potentially valuable market as consumer demand grows and market channels expand.¹⁶

Figure 2 illustrates the two stages of commitment.

¹⁵ Our definition of commitment resonates with the concept of "values-based supply chains," as described by researchers with the Agriculture of the Middle project: "Values-based supply chain business models place emphasis on both the values associated with the food and on the values associated with the business relationships within the food supply chain." (Agriculture of the Middle 2011).

¹⁶ As Tropp et al. (2004) demonstrate, small processors squeezed by consolidation and low-cost competition can benefit from access to markets that value quality over cost.

Figure 2: Two stages of farmer-processor commitment



Committed business from farmer means processor can afford the human capital and plant/equipment necessary to meet farmer's needs/product specifications, consistently.



With investment from farmer, processor can add the human capital and plant/equipment necessary to deliver enhanced, expanded services to meet farmer's needs. Types of investment include contracts, cash, equity, subordinated debt, purchase of equipment to lease to processor.

The case studies that follow illustrate strategies and mechanisms that characterize commitment, at multiple levels, for actual processors and farmers. An essential element is that farmers commit, individually or in coordinated groups or brands, to providing the processor with sufficient, steady business, i.e., livestock to process. Steady business generates steady revenue, which is fundamental to long-term viability.

The case studies reveal that having key, "anchor" customers, both individual farmers and aggregated marketing entities, is an important way for processors to assure a steady volume of business. Some processors are their own key customers, providing most or all their throughput. Processors rely on tools like active scheduling systems, variable pricing, and even penalties to assure that throughput is steady, week by week and over the year.

Commitment matters on both sides: the processors profiled have committed to providing, maintaining, and improving high quality processing services. In addition, these processors help their farmer-customers with business advice, marketing and distribution services, and other support; this helps them work more effectively with farmers, builds loyalty, and ultimately increases demand for their own services.

The cases also include examples of "stage 2" commitment, in which farmers, individually or in groups, invest time and money into the processing business. Throughout, the cases show the value of ongoing communication to developing and maintaining solid working relationships.

COMMITMENT IN PRACTICE: PROCESSOR CASE STUDIES

The following case studies profile USDA-inspected meat or poultry processors that process for local markets.¹⁷ Each profile begins with a brief description and history and then explores types and levels of commitment by which the businesses have survived and thrived. Each profile ends with several key points that summarize that company's success. Table 7 provides basic data about the processors profiled. We selected processors of different sizes, in different geographic regions of the U.S. These case studies are only a representative sample; there are many other processors successfully working with local meats in the U.S.

Table 7: Basic data about the case studies

Name	Species	Employees	Head/yr	Location
Lorentz Meats	Beef/bison	70	8000 beef/bison	Cannon Falls, MN
Smucker's Meats	Red meat	30-35	3000 beef/bison 1000 hogs	Mt. Joy, PA
Heritage Meats ^a	Red meat	7	1000 beef, 1000 hogs, 270 other	Rochester, WA
TFC Poultry	Poultry	40	1.4 million birds	Ashby, MN
White Oak Pastures	Beef, poultry	55	6700 beef, 200,000 poultry	Bluffton, GA
Ranch Foods Direct	Red meat	25-30	4000 beef	Colorado Springs, CO
Island Grown Farmers Cooperative	Red meat	6-8	300K lbs meat ^b	San Juan County, WA

^a Heritage Meats is the only plant profiled that does not have its own slaughter floor, fixed or mobile.

^b Retail yield. Annual capacity was not available in number of head.

Lorentz Meats, Cannon Falls, MN

"Our major customers, who sell fresh meat every week, year-round, pay for the infrastructure so we can provide a professionally done service to the small, local producers with five beef a year." – Mike Lorentz

Lorentz Meats is a USDA-inspected processor in Cannon Falls, MN, that offers slaughter, fabrication, packaging, and value-added production (portion cutting, sausages, and cured meats) on a fee-for-service basis for niche meat brands and independent farmers. They process beef and bison and currently handle over 8000 head per year. They also co-pack pork sausages for several non-slaughter customers – including a specialty Asian sausage company and a local retail chain – made from niche pork processed at three different plants in Iowa. The business has been in the family since 1968.

¹⁷ State-inspected plants operate under very similar dynamics, with the only difference that interstate sales are not allowed, except in states participating in the Cooperative State Inspection Program, discussed in Johnson, Marti, and Gwin (2012). Therefore, profiling a State-inspected plant was unlikely to change our analysis.

Brothers Mike and Rob Lorentz took over the business from their parents in 1997 and continued to focus on processing for local direct marketers, helping area farmers expand their marketing options. "We said to our farmers, 'you do everything you can do to sell to friends and family, and we'll do everything we can do to help you,'" Mike Lorentz explains. They were still custom-exempt, so the sales were "on the hoof," in wholes, halves, and quarters, frozen. The Lorentzes standardized order forms, simplified billing and customer pick-up systems, and made other changes to help farmers expand their customer base. "We realized we needed to be able to talk and work with people who were farther and farther away from the farm."

In 2000, believing that there was enough local business to justify doing so, they built a new, USDA-inspected facility. The first five years in the new plant are referred to as "The Dark Days:" They started with a \$2 million plant, \$500,000 in equipment and \$100,000 operating capital and then lost more than \$1 million in three years. They made some headway but still could not break even and were on the brink of bankruptcy in early 2005. "We went into this with a 'build it and they will come' mentality and that was a terrible idea," explains Mike Lorentz. "You cannot base a facility of this size only on what small-scale direct marketers bring you. You need key customers that will be there every week with real volume."

The Lorentzes found their first key customer in Organic Prairie, the meat brand of Organic Valley/CROPP Cooperative, which began with a dozen cattle per week and gradually increased to the current 35-40 per week. Yet it took the addition of two other key customers – High Plains Bison and Thousand Hills Cattle Company – and the gradual growth of all three of those customers to create positive cash flow for Lorentz Meats in late 2005.

Another key turning point in 2005 was the decision to sell their retail deli and catering business. "I feel it was a very important move that focused our limited capital and personnel on the key business opportunity," Mike says. The sale also generated some cash at an important time for their business. "It is difficult to keep busy all year round as a small meat processor, so people add a deli and they do seasonal catering to keep busy," Mike explains. "But in the end, we concluded that this was only distracting us – mentally and financially – from our core business. If we wanted that to succeed, we needed to focus all our energies on it and sell off the secondary businesses."

Today, Lorentz Meats knows it will have livestock to process each week, because their three meat company customers must deliver fresh product on a weekly basis to their retail and wholesale customers. This pressure, Mike says, is "better than any contract," because "market pressure is stronger than legal pressure." Lorentz Meats has some service agreements with key customers about product failure and liability and is considering contractual rebates for delivery within consistent volume parameters, but otherwise has no



formal contracts with any of its key customers. For its part, Lorentz Meats not only delivers high quality product but goes through a number of third-party audits annually to meet the needs of those key customers. Passing audits, maintaining certifications, and meeting retailer specifications have required investments in specialized equipment (a metal detector, packaging machines) and new expertise.

The three key customers make up about 65 percent of Lorentz Meats' business volume. About 200 local direct marketers make up about 20 percent of the business volume. The other 15 percent comes from a handful of smaller brands and co-pack sausage customers. Lorentz Meats is committed to working with small-scale local farmers, yet they are very aware that they could not offer the level of service and sophistication they have without having their anchor customers, who sell in volume, regionally and nationally.

"How can you expect a regional or local processor to be technically proficient at all the categories of knowledge that they need to run this plant, from accounting to employment law to disability law to workers comp, and USDA, and knowing how to cut meat and make sausage, and argue N-60 sampling protocol with the regulatory authority?" asks Mike Lorentz. "You have to have multiple competent people. And that costs money, and that kind of money takes a certain volume."

The Lorentzes' commitment to processing for local farmers extends to helping them with marketing. Mike tries to encourage smaller farmers, with ten or fewer head per year, to focus on whole, half, and quarter carcass sales. He has seen that the inventory management and need to sell the whole carcass required for by-the-cut sales at farmers markets or to restaurants can be draining to a farmer's bottom line. "If you're going to do ten beef a year, you don't need your label on every package," Mike asserts. "If it's not driving more money back to the farm, why are we interested in local foods?"

Mike also advises farmers not to sell to grocery stores, restaurants, or other wholesale customers unless they have at least 1000 beef or beef equivalent per year or a very clear plan to reach that level, due to the staff, cash, and infrastructure needed to operate a branded program. To sell and deliver the meat from more than 100 head per year typically requires more than one person's time and skills, he says, but it is difficult to pay for an employee with sales of only a few hundred head.

Total volume is very important, but scheduling so that throughput is consistent and steady is also essential to success. Lorentz Meats and their three key customers are in constant communication about scheduling and have verbal agreements about how many head each customer will bring each week. These customers do their best to give Lorentz as much lead time as possible if there are serious changes; they understand that if they give up their weekly slots, Lorentz can give them to someone else. Thursdays are dedicated entirely to processing for local direct marketers. Lorentz asks them for a commitment, but with flexibility: six months out, they must choose the month they will bring their livestock. One month out, they must choose the specific week. Even with 200 local processing customers, "Local Thursdays" are not always full, and every February or March at least one is simply skipped.

An early pitfall that Lorentz Meats fell into was “over-believing people.” They turned away business because they thought that they were already full with existing commitments, but many of those promises from customers didn’t pan out. In response, much like an airline, Lorentz has learned to “overpromise”: “we agree to do more than you can do, and every once in a while we have to work a Saturday to keep up.” This is especially true with new customers. “One in 20 actually comes through with what he says he’ll bring. If someone says he wants to start a new program with 40 head of beef a week we tell him to bring us five head for a test run – we tell him it’s to test us, but it’s really to test him. More often than we’d care to admit the test runs don’t work out.” Even current customers, large and small, sometimes fail to bring the expected number of livestock. One of the anchor customers typically does 10,000 pounds of ground beef each week but fell to 5,000 pounds one week. Lorentz only learned about the reduction one day ahead, too late to pare back the staff, space, and supplies already set up for 10,000 pounds or prepare for another project.

In late 2011 Lorentz Meats took a major step in customer partnership. Organic Valley/CROPP, one of the three key customers, invested significantly in Lorentz Meats through a stock purchase. The investment will help finance a significant plant expansion, which Organic Valley/CROPP needed to expand its meat business. At least as significantly, Mike says, “The partnership helps us mitigate the risk of this key customer just up and walking away. It also ties into a larger entity [Organic Valley/CROPP] that has a very real stake in helping us weather just about any storm.” There is no “exit strategy”: the two companies have committed for the long term.

Prior to this, Lorentz Meats had only limited financial guarantees with any customers, other than that all customers buy their own printed labels and packaging materials. Yet this is not the first investment from a customer: one key customer financed a \$150,000 bowl chopper (for finely textured sausage making, e.g., hot dogs) because it was the only customer that needed to use it at the time, and Lorentz was then in a limited credit position and did not want to tie up additional credit.

The Future

Now that Lorentz Meats is both stable and profitable, the challenge for the company is not whether to grow but how to grow. Growing in size may require focusing on efficiency, which may reduce their flexibility and narrow the options for customers. This is particularly true with equipment: larger, more specialized machines can turn out more product per minute at a lower per unit cost, but they are more limited in what they can do. If Lorentz ran 10,000 pounds of ground beef through its existing rollstock packaging machine each run, the machine would be quite profitable. But not all customers want or can do 10,000 pounds at a time, and Lorentz allows smaller lots.

Lorentz also offers the breadth of knowledge needed to offer everything from slaughter to sausage. But that breadth can be challenging to maintain, especially for a small plant. “It comes down to having enough technical expertise to be competent in all that, and the regulatory environment, and the business and finance environment,” says Mike Lorentz. “It’s really hard to do that if you’re too small.” Yet serving local farmers remains a central priority for the company; as they scale up, they are committed to continuing to process for

farmers who have only one animal and four customers per year.

Lorentz Meats is searching for the sweet spot: large enough to be fully compliant with the rules, give customers safe product, and mitigate risk, yet small enough to support local farmers who are individually small-scale but significant as a whole. "If the goal is to get locally produced meats into major urban areas, it requires a sophistication of operation that is greater than any one person, so you need a team, and with a team comes a certain size," Mike says. "Lorentz Meats is that size."

Key points:

1. Three key customers make up 65 percent of the business volume.
2. Having that base allows Lorentz to process for small, local farmers.
3. Customers are investing in Lorentz so it can expand to meet their needs.
4. A mid-scale plant that can service wholesale, year-round, fresh markets needs to be a sophisticated operation with a broad range of expertise.

Smucker's Meats, Mount Joy, PA

"Our goal is to try and keep the pipeline full. You have to be proactive." – Mike Smucker

Smucker's Meats is a small, USDA-inspected processing facility in Mount Joy, Pennsylvania. They handle beef, bison, and pork and offer slaughter, fabrication, and vacuum-packaging to case-ready retail cuts, fresh or frozen, with customer labels. They also make a wide range of value-added products. Except for a very small line of house-made BBQ products, they process entirely on a fee-for-service basis: their customers are farmers who market their meat locally and regionally. In 2011, Smucker's had \$2 million in gross receipts.

Smucker's is run by Jay Smucker and his sons, Mike and Jason. Jay's father started the business in 1965 as a custom-exempt butcher shop with a retail store; from 1985-2003, they processed 200 to 300 head per year. In 2003, after a fire destroyed the plant, Jay relocated and renovated a USDA-inspected butcher shop but continued to slaughter and process for farmers on a custom exempt basis.



The first important outside commitment came in 2005 when a Maryland natural meat company that needed more processing capacity financed Smucker's facility upgrades to transition to USDA inspection. Demand for inspected processing from other farmers in the region jumped immediately, due to rising interest in local, sustainably-grown food. In 2006, Smucker's re-wrote their business plan to focus on USDA-inspected processing, on a "custom" (fee-for-service) basis, for local, sustainable meats. Their business has grown

steadily since. In 2006, they had six employees, including Jay, Mike, and Jason. They now have 35.

Smucker's currently has roughly 150 regular processing customers, the majority from within the county and all within a four hour drive (about 230 mi.). Of these, 20-30 are

"anchor customers" who provide steady business: they annually bring 100-400 head, 10-15 at a time on a weekly or monthly basis, and spend \$30,000 – \$200,000 on processing. The remaining customers only bring one or two head at a time, once a month or a few times a year. Smucker's customers sell through a range of direct/intermediated, local and regional marketing channels: food co-ops, small grocery stores, restaurants, farmers' markets, on-farm sales, pre-sale freezer meat (halves and quarters).

Demand for local meat is strong in the region and its urban centers: Philadelphia, Baltimore, and Washington, DC. This demand, and the fact that many farmers in the region are willing and able to provide the supply, is a large part of why Smucker's stays busy year round. While some individual processing customers have changed, the overall number of customers and livestock has held steady. Processing hogs, grain-finished beef, and dairy culls also fills out the year.

Over the years, the Smucker family has developed good working relationships with its customers in several ways. They visit each customer at least once, with free delivery of the first order, to see the farm and marketing operation. They also provide farmers with informal marketing help, at no cost: more business for their customers means more business for them. For example, when a local restaurant wanted more local beef liver, Mike introduced them to a farmer with extra. When that restaurant couldn't use all the trim from a different farmer they source from, Mike helped that farmer find another market for it. "We try to be a go-between. We keep our ears to the ground. We're not in competition, we're the processor. If you want to talk to each other, go ahead. We have everything to gain from it."

Smucker's also builds loyalty through its scheduling system, based on a waiting list. In the winter and spring, they are scheduled out for a month, and in the fall for two to three months. If a farmer calls hoping to get in quickly but no space is available, he will be scheduled in the next available slot, one to three months out, but will also go on the waiting list. Every week, Smucker's calls every farmer scheduled for the following week, to confirm that the farmer is coming and bringing the number of head originally scheduled. If one of those farmers cancels or will bring fewer head than planned – which happens regularly – Smucker's calls the next person on the waiting list to fill the hole. Making the calls takes one employee at least one morning each week, but that cost is more than paid for by having steady, uninterrupted work.

"We have proven to our customers that we can perform if they just trust us to do it," Mike explains. "Nine times out of ten, we can get them in earlier than we'd planned. It's last minute, but it works, and it works great. It buys us credibility when we can call them 2 weeks after they called, when they're on the schedule a month out, and say, you can come now."

That kind of credibility is important when tough decisions have to be made. In 2008, after analyzing their costs and margins, especially for value-added processing, the Smuckers realized they had to raise prices 25 percent to stay profitable. Yet no one called to cancel. Another price increase in 2010 had the same result. Since then they have managed

to avoid additional price increases, due to increasing efficiencies as employees gain experience as well as adding new revenue streams through additional further processing services. They have also learned to charge for specific, optional services that raise their costs: for example, they charge for dry aging more than two weeks, because longer aging ties up cooler space and the carcasses, with more hardened fat, take more time to cut and trim.

Smucker's also tries to accommodate customer requests, for different cuts, certifications, and services. They hesitate to add something new unless it can eventually be available to all customers. Mike says, "Just because we're customized doesn't mean we'll do anything you ask." However, he adds, they are flexible. "If our customers can be patient and continue to hound us, we typically come up with good systems. It's not overnight. We have to plan how we're going to do it and what we'll charge for it."

For example, customers had asked them for years to make hot dogs. In 2010, they bought the specialized equipment, including a new smokehouse, an emulsifier, and an upgraded stuffer. Though hot dog production is still fairly small, Smucker's feels the significant investment was worth it. More customers are asking for hog dogs, and the smokehouse and stuffer have increased and improved their snack stick production, for which they will retrofit an additional two smokehouses.

Dog food is another example. Farmers had long suggested Smucker's make dog food, in part to convert offal into a higher value product, but Smucker's wasn't willing to make the upfront investment in time and infrastructure on their own. In 2010, they were approached by a dog food entrepreneur with a recipe and a brand name, ready to purchase and market the product but in need of a processor. With an actual customer in place, Smucker's was willing to create a dog food manufacturing company (Three Dog Bite) and begin setting up a facility. As of this writing, the venture is still a work in progress, but it may eventually return more revenue from offal than the rendering check. "We don't have to do this," Mike says. "Rendering is good now. It's not broken. But this is the best time to be doing it before it is broken and we have to find a solution."

The Future

The Smuckers are somewhat cautious about the future of local meats and local meats processing, unsure whether and how long consumers will remain interested. The company is diversifying as much as possible, to cushion the blow if the trend reverses. Yet they are generally optimistic about growth.

If local meat production grows, Smucker's also will have to grow. They are currently close to 100 percent capacity, although they manage to do just a bit more every year. The main reason for this is that their employees are increasingly becoming more skilled and efficient over time, but the plant has also made production changes. For example, in fall 2011, they started slaughtering two days a week instead of one. On Tuesdays, they slaughter hogs, which they cut on Wednesdays. The cooler is then ready for beef and bison, slaughtered on Thursdays. This allowed them to increase their production volume, whereas before they were limited by cooler space.

Adding a third slaughter day would require another cooler, and any further expansion is likely to be comprehensive. A larger kill floor requires a larger cooler, cutting room, packaging room, value-added processing area, and so on. Yet in the meantime they are adding smokehouses, retrofitting their holding pens, and upgrading the kill floor to improve efficiency, not to do more in a day but to finish earlier.

Key points:

1. A prospective customer committed to Smucker's by funding the transition to USDA inspection;
2. Providing high quality service and good customer relations for many years has solidified their position with the region's many small farms;
3. The waiting list and weekly calls assure committed throughput and build customer trust and loyalty;
4. Proximity to major markets is certainly an important driver, yet this is only one contributor to their success.

Heritage Meats, Rochester, WA

"What I have found out for my business, I started thinking if I build it, they will come, but I found that if you build it, they will only come if you go out and get them to come." – Tracy Smaciarz

Heritage Meats is a small, USDA-inspected cut and wrap facility in Rochester, WA, that provides fee-for-service processing of all red meat species for independent farmer-marketers and retail butcher shops. They fabricate to subprimals, boxed meats, or case-ready cuts (paper-wrap or vac-pac) and make some value-added products. The plant has a custom-exempt side for freezer beef customers and a very small retail-exempt meat counter. The company's primary source of revenue is its own meat sales to high end restaurants in Seattle and Portland; the second source is fee-for-service USDA-inspected processing.

In 2011, the plant processed about 1000 head of cattle, 1000 hogs, 200 lambs and goats, 20 buffalo, and 40-50 deer and elk. Gross sales were \$960,000, up 30 percent from 2010, and the company turned a profit. The plant has 7 full-time staff, including 4 meatcutters (not including the owner).

Owner Tracy Smaciarz has built his business around local (<150 miles) and regional (OR, WA, ID) meats with certain core qualities: transparency and traceability, animal welfare, limited use of antibiotics, and no hormone implants. His father started the company in 1977 as a custom-exempt shop in a detached two-car garage. Tracy took over in 1996, and in 1999, inspired by rising interest in niche meats and local butcher shops, and dwindling demand for custom-exempt cutting, he began looking for a larger location to expand into retail meat processing and wholesaling. He opened his new shop in 2006 and transitioned to Federal inspection in 2009.

Heritage Meats has about 200 processing customers, most within 100 miles and the

farthest 300 miles. About forty require USDA-inspected processing; his five largest customers regularly bring 30-50 head per year. They sell retail (farmers' markets, food co-ops, farm stands, CSAs) and wholesale, including the Bill the Butcher regional chain. Most of the other 160 processing customers bring only one or two animals per year, for custom-exempt processing for quarter/half carcass sales; the largest of these brought 25 beef in 2011.



Heritage Meats uses two strategies to stay busy year-round. First, Smaciarz's own meat sales – 6 hogs and 2 beef each week, purchased from local farmers – provide a consistent base. He sells the meat to high end restaurants, retail food co-ops, and another farm's CSA. He originally wanted to focus on processing for other farmers for their own markets. "I want to help these growers. I have this passion for promoting their products, and I put them in front all the time," he explains. But he also needed to keep his

plant busy. "I had to go out and create sales to provide enough throughput to keep my business afloat."

Second, Smaciarz helps his processing customers grow their businesses and therefore their demand for processing. He reviews farmers' marketing plans and offers guidance, including carcass breakdown information (e.g., cut variety and trade-offs), seasonal shifts in demand, wholesale pricing strategies, and how to approach wholesale customers. "I train them to sell their own meat." He does test marketing for farmers who have high-quality, consistent product and want to sell to restaurants, retailers, and other wholesale buyers. He facilitates farmer-buyer relationships, e.g., linking farmers to a regional chain of urban retail butcher shops that buys whole carcasses, and helping others find enough ground beef customers to balance sales of high end cuts to restaurants.

He provides freezer storage¹⁸ as well as distribution services, which can be very challenging for small, local farmers. Even when restaurants and food service companies want local meats, Smaciarz says, the cost of getting small batches onto the mainstream delivery trucks that service those potential customers can be prohibitive. Mainstream distributors also require processors to have certain safeguards that may be cost prohibitive to implement at a small scale, for example, running all product through a metal detector. Smaciarz helps his processing customers by bringing their products on his truck when he does his own deliveries to Seattle and Portland. "I'm able to get a small load of product delivered at a reasonable price for these growers, which will offset a lot of the cost. I'll take one truck and make six to eight stops in Seattle. The money is going to the farmer instead of to the distribution warehouse."

Smaciarz has also relied on customer commitment to survive hard times and then to expand his own business. In 2009, he nearly had to close after discovering that \$100,000 in cash and product had been embezzled from his business. Yet his plant was a critical link in

¹⁸ This can be quite challenging when those customers don't track their own inventory and don't understand carcass yields. Smaciarz describes a customer upset about "lost" product: "We spent 3 or 4 hours going through my freezers looking for his tenderloins...he thought there should be more. But he already had them all."

the supply chain for farmers in the region. He was then on the board of the Puget Sound Meat Producers Cooperative (PSMPC), founded in 2008 to improve access to inspected slaughter, using an inspected mobile slaughter unit (MSU; see box on MSUs on p. 24). But without an inspected cut and wrap facility, farmers still couldn't get their meats to market. Two farmers, also PSMPC board members, invested in Heritage Meats. Smaczarz began processing under USDA inspection in April 2009; the PSMPC MSU began inspected operation later that fall. Heritage now does the cut and wrap for most MSU users, though actual numbers have so far been significantly lower than originally estimated.¹⁹

Although Heritage Meats is finally profitable, costs are still high, budgets are still tight, and capital for new or upgraded equipment or expansion is still hard to find. "When you're in rapid growth like I am, it's hard to save money for problems, like equipment failure, because you can only think, I need to get ahead of this before it eats me alive."

However, several of his regular processing customers are willing to help pay for aspects of the business they would like Smaczarz to have, such as a cooked meats room that can operate under inspection. He has long made value-added products like bacon, ham, pepperoni, and jerky, under the retail exemption, but his processing customers cannot sell retail exempt products. If he makes them under inspection, they can sell the products to their own customers. USDA requires a separate cooked meats room, with upgraded fans, paneling, ducts, and electrical work, and additional equipment. Investment from customers will allow Smaczarz to get the room built and operational much more quickly.

Smaczarz has to communicate with his customers regularly about why processing costs what it does. He has found that while many people want to work with a small butcher, they don't want to pay what processing actually costs at a small scale, in customized batches. "The transition from doing two beef for one person to three pork for another costs time and money," he says. "That's the challenge of a small plant environment." He will give customers volume discounts after they have established stable, regular cutting orders but not if they have a lot of "custom" specifications that are very labor intensive, such as portion cutting or one steak per package.

Communication is not always easy. "I remind them we're in this together. We're working together to solve that link between what the consumer wants and what you want and what we can do on a limited budget." Yet he is also trying to increase efficiencies everywhere he can, which might eventually allow him to lower his prices to farmers.

The Future

Smaczarz estimates that his plant currently operates at only 25-50 percent of its true capacity, though in the fall this is close to 100 percent. Yet he is optimistic about the future of local meats in his region. "It's growing by leaps and bounds from what I can see, and

¹⁹ The feasibility studies for the MSU predicted much higher use which has not materialized, largely because (a) direct marketing is complex and challenging enough, and commodity prices for live animals are currently high enough, that many farmers are choosing not to direct market, and (b) the MSU now has competition from other inspected slaughter plants now willing and able to work with small producers. The MSU is slowly but steadily ramping up production. See NMPAN's PSMPC case study: <http://www.extension.org/pages/28436/puget-sound-meat-producers-cooperative>.

that'll have a positive effect on my business." He knows he needs to continue actively to facilitate that growth.

Key points:

1. Helping farmers with marketing and distribution expands their businesses and their need for Heritage Meats;
2. Despite a loyal customer base with a few larger-scale key customers, Heritage needed to become its own key customer, by creating a meat company;
3. Investment from committed customers has been and will continue to be essential;
4. Heritage Meats is a critical partner for the region's meat producer cooperative and their mobile slaughter unit.

Background on Mobile Slaughter Units

For more than a decade, farmers, consumers, and the general public have been interested in mobile slaughter units (MSUs) for red meat and poultry²⁰ for several reasons. First, MSUs travel to the farm, reducing transportation costs for the farmer and stress for livestock. Second, in certain circumstances, they may be less expensive to build than a fixed-location slaughter floor; they also appear to be easier to site, given zoning restrictions and community resistance to slaughter and processing facilities.²¹ Disadvantages are that they may cost more to operate on a per head basis, because of fuel and maintenance costs, time spent in transit, and limited capacity over which to spread those costs. Because MSUs only handle slaughter, carcasses must be taken to an inspected cut and wrap facility; some MSU operators have found that the total cost of processing in two separate facilities exceeds the cost of doing it all at one. Yet as illustrated in this report, mobile units are an innovation that can work well for local and regional meats.



Red Meat Mobile Slaughter Units

The most basic red meat MSU has two rooms, a processing room and a cooler, and is pulled by a semi-tractor or pick-up truck.²² Skinning, evisceration, and cleaning are done in the processing room. Cleaned, split carcasses are then moved to the cooler for transport back to the cut and wrap facility. MSUs vary in their size, capacity, and sometimes configuration. Some

²⁰ Poultry MSUs are often called "mobile poultry processing units" (MPPUs) in part because the entire process from slaughter to packaged, saleable poultry can be done in one unit, which is not the case for red meat. Some MPPUs have no staff and instead use farm-provided labor, which reduces costs. A poultry MSU case study could not be included in this report, but see USDA (2011) for a profile of a Massachusetts-based unit, and NMPAN (2011) for a profile of the first poultry MSU, built and operating in Kentucky.

²¹ It is important to distinguish inspected MSUs from mobile slaughter trucks that operate under USDA's custom exemption and have been around for decades: the butcher goes to the farm, slaughters the livestock, and delivers cleaned carcasses to a custom-exempt cut and wrap facility. Meat from an animal slaughtered by such an operator must be consumed only by the owner of the animal, his family, employees, and non-paying guests. Farmers can pre-sell animals "on the hoof" to consumers who then order and pay for processing directly.

²² An office for the USDA inspector is not required, though some units have provided one. The Island Grown Farmers Cooperative (IGFC) unit is typical: the inspector has a lock box on the unit itself, carries his laptop and files in his car, and has an actual office back at the IGFC cut and wrap facility.

MSU “systems” have two to four separate units for different parts of the slaughter process and are designed to travel among and be set up at only a few, well-outfitted docking stations (utilities, water, holding pens, chutes, etc.), to which multiple farmers bring their livestock on a given day. These multi-part systems need a great deal of room, level ground, and time to set up (e.g., mating units with seals that will pass inspection).

All red meat MSUs must operate under Federal or State inspection for the meat to be sold; they must comply with Hazard Analysis & Critical Control Points (HACCP) and meet the same sanitation requirements as any inspected slaughter plant, with the notable exception that (in most USDA Food Safety and Inspection Service districts) slaughter and bleed-out may occur outside.²³ Depending on state and local regulations, offal and waste water may be composted on site or collected for off-site disposal.

The first inspected mobile slaughter unit (MSU) for red meat was built in 1983 by Broken Arrow Ranch in Texas, which operates it under Texas state inspection to harvest antelope, elk, and wild boar. This MSU was the model for the first USDA-inspected MSU, profiled below. As of this writing, at least ten MSUs are operating under Federal or State inspection in the continental U.S. and Alaska. Key elements of success – other than those essential to any small processor – appear to be (a) a committed relationship (ideally joint operation if not ownership) with an inspected cut and wrap facility; (b) one or two leaders who are highly dedicated to the project and will keep it going despite inevitable challenges; and (c) appropriate scale: over time, MSUs have grown larger, with more moving parts, to process more animals and provide more services, but this growth also limits their mobility and agility.

Poultry Mobile Slaughter Units

Most poultry MSUs operate under one of the Federal poultry processing exemptions, most often the Producer/Grower 20,000 Bird Limit.²⁴ The Poultry Products Inspection Act (PPIA) allows multiple farmers to use the same unit as long as (a) the farmers use the unit themselves, on their own farms, to process their own birds; and (b) no one farmer processes more than 20,000 birds per year. Exempt processors are far less regulated than inspected processors: inspectors visit exempt processors several times a year, not daily, and HACCP is not required. However, exempt poultry is not always as easily sold as inspected red meat, due to state and county regulations. Some states do not allow any sale of exempt poultry, even direct from farmer to consumer, meaning that a farmer must have access to an inspected processor to sell poultry (NMPAN 2011a).

Poultry MSUs are set up differently from red meat MSUs. Because poultry are taken from live bird to finished product (typically whole bird) at the unit itself, and can be immediately stored in on-farm coolers, no transport cooler or additional cut and wrap facility is needed. Poultry MSUs range in size and complexity, from a flatbed trailer used to carry equipment to the user farm, where it is unloaded and used in an open air environment by a trained crew (1000 birds per farmer per year); to a self-contained semi-trailer built to operate under HACCP, in which all the processing is

²³ The FSIS Guidance document for MSUs (USDA 2010) also indicates that outside slaughter and bleed-out are allowable, but Districts are not required to follow the Guidance.

²⁴ The exception is a poultry MSU in Vermont built to operate under “equal to” state inspection. It was recently sold to a new operator.

done inside by the unit owner (state-inspected, no regulatory limit bird numbers); to a trailer that requires a specifically outfitted docking station and that the farmer-users receive food safety training every two years (20,000 birds per farmer per year).

The first poultry MSU was built in Kentucky in 2001 and is owned and maintained by Kentucky State University. Farmers use it on a rental basis to process poultry and aquaculture (NMPAN 2011b). Poultry MSUs are currently operating in at least six states; units are being developed or are on temporary hiatus in at least four other states.

Future of Mobile Slaughter Units

MSUs are well established, but they are still evolving. Some are working successfully. Others have started and stopped, temporarily or permanently (though this could happen to any processor, mobile or fixed). As noted earlier, people are still experimenting with size and configuration. The key questions to ask about any MSU are whether the farmers who use it have been able to establish or expand markets for their meat and poultry in a manner that pays for the MSU and operations, and whether the MSU creates opportunities in a more logistically or cost-effective manner than a fixed facility. Both types of units, especially those built and run by non-farmer organizations for the use of farmers, can and have served as springboards for farmers to get started. However, as for all processing plants, the outcomes for MSUs will only be as good as commitments from farmers to keep them busy with a steady flow of business.

TFC Poultry Processing, Ashby, MN

"We got into this business because of the endless opportunities, but the challenge is keeping busy." – Darrin Froemming

TFC Poultry Processing is a USDA-inspected poultry processor, primarily chicken but occasionally turkeys, ducks, and geese, located in Ashby, MN. TFC provides fee-for-service processing for small-scale, local farmers; this accounts for five percent of annual volume. Of the remaining birds, 35 percent are certified organic birds for two branded companies, and 60 percent are "spent" hens (past prime egg laying years) from a variety of sources.

TFC started in 2008 when brothers Darrin and Trent Froemming took over the local poultry plant. They knew little about the challenges of the industry when they got started. In fact, neither had ever processed a chicken, even at home. Yet the brothers, who started their business at the ages of 19 and 22, have grown it from fewer than 40,000 birds in 2008 to an expected 1.4 million in 2012. Central to this growth has been lining up steady business.

The Froemmings originally bought the plant intending to offer inspected processing on a fee-for-service basis to local farmers selling poultry into local markets, and focused exclusively on this in the first year. Yet there was not enough regular business to keep them afloat, Darrin explains. "The small, local thing was too seasonal and not really profitable."

But the brothers were determined to make it work. They had grown up in the area and knew there were millions of poultry raised there, by Jennie-O Turkey, Gold'n Plump Chicken, and

extensive commodity egg laying operations. Large processors nearby were set up to handle the broiler chickens and eggs, but the Froemmings learned that these large companies had difficulty finding outlets to process the broiler-breeding hens and spent laying hens. The brothers saw a business opportunity.

To take advantage of it, TFC had to transition from a custom-exempt facility to a USDA-inspected facility. This required significant investment in the plant itself: \$45,000 of the brothers' own funds and \$855,000 from private investors and a loan from the local bank. They raised the necessary funds largely on the strength of their business plan, along with the value of the original business, without contractual agreements or commitments from prospective customers or suppliers. "We sold ourselves and our idea to others," says Darrin. "It was our only way." Even with the extensive private investment, the brothers retained 100 percent ownership of the business.

Once they received their USDA grant of inspection, the brothers began working with a large poultry company to clear out spent hen houses, process the birds, and sell them through a marketing partnership with that company into conventional ("roasting bird") and ethnic retail channels (e.g., head-on, feet-on roasters). This program has steadily expanded to include other companies' spent hen houses and is now about 55 percent of TFC's volume.

The growth in volume has allowed TFC to expand with new equipment and more people; they now have 50 employees. This required expanding the levels of management and eventually developing a crew of salaried working supervisors, who are well compensated. TFC has no seasonal labor: "That doesn't work," says Darrin. In early 2012, they added more shackle lines, completed a waste handling addition, installed an automatic cropper, purchased a larger ice machine, and put in a new stunning system.

Current capacity is 8,000 birds per day to slaughter and process whole carcasses, 4,000 birds per day if they cut the carcasses into parts. There still is much manual labor involved in TFC's production, particularly in evisceration and cutting, but they have changed the operation significantly from the small, all manual, custom-exempt shop in which they started. To date, they have invested about \$1.5 million into the building and equipment. "We had a canoe and we put a 50 HP motor on it," both brothers like to say. They estimate they are only at 50 percent of their potential volume with their current equipment, even in their relatively small facility. Because most product is shipped frozen, they will have to expand their freezer space to expand production, though they are currently using fee-for-service blast freezing and cold storage.²⁵

TFC's stated goal is to be "big enough to do things, small enough to cater." While they currently do not offer any cooked production or grinding, they recently purchased a mechanical deboning machine in response to customer demand. They hope to add

TFC's stated goal is to be "big enough to do things, small enough to cater."



²⁵ Shipping frozen product helps because they aren't subject to the short shelf life of fresh poultry. They also ship fresh whenever and however needed by the customer.

marinating and cooking capabilities soon.

While the backbone of their business is spent commodity hens, the brothers are still committed to niche and local poultry. They process about 375,000 birds per year for two organic branded meat companies in MN and WI. These two customers account for about 40 percent of the business revenue, for three reasons. First, most of the birds are broilers and are more efficient – and therefore more profitable – to process than spent hens. Second, they charge a higher price per bird. Third, these customers often require fabrication and deboning, which requires considerably more labor from which to generate more revenue.

Most of the remaining 75,000 birds per year they process are raised and marketed by small-scale local farmers. TFC occasionally processes turkeys, ducks, and geese for these customers as well. As of this writing, TFC requires a 75-bird minimum processing batch size, and they anticipate this will rise. Darrin explains, “It’s a lot of work to keep things segregated, and at \$2.50 a bird, you really need volume to make it worth your time.”

Scheduling is another critical challenge of working with small, local farmers. TFC has to schedule dedicated days for duck and geese processing, because these species are a different size than chickens and require a different set up. There were only two duck and goose days in 2012. “The days will be more than full, but we can’t get enough to justify a third day.” Darrin advises small-scale farmers to book a processing day before they order chicks. “You can get chicks any week. Processing is limited.”

The Future

The Froemmings estimate that 15-20 percent of TFC production stays within the local region, between the small-scale farmers and the niche branded customers. They like working with local people and appreciate the idea of local food for local folks. They also know that being too small did not work for them financially. Without the spent hens as the core of their business, they would have been unable to process for niche and/or small-scale farmers.

The brothers are glad to do fee-for-service processing for organic, local, and other niche poultry as long as the batch sizes are large enough and the volume is steady. “We see ourselves going wherever the business is,” Darrin says. “We need the spent hens for volume and hope to expand that niche.”

Key points:

1. Inspected poultry processing on a fee-for-service basis is very difficult to make work;
2. TFC survived and thrived after they found one large key customer;
3. It took investment and planning to cultivate that anchor customer;
4. Developing services for that anchor customer improved their abilities and attracted other customers but also made it more difficult to work with smaller volume farmers.

The next two profiles discuss processors that are actually meat companies with their own processing facilities. One of them provides fee-for-service processing for independent farmers who direct market meat locally. The other does not process on a fee-for-service

basis but has created a market opportunity for other farmers in the region who do not want to direct market. Both have cultivated a large enough market to keep their plants busy but must continually manage their relationships with wholesale buyers – another aspect of commitment along the supply chain.

White Oak Pastures, Bluffton, GA

"I'm in the processing business for my meat business. I'm in the meat business to stay in the livestock business." – Will Harris

White Oak Pastures, founded and operated by Will Harris, is a vertically integrated meat company with two on-farm slaughter and processing plants located on Harris's farm in Bluffton, Georgia. One plant handles mostly cattle but also sheep and goats; the other is for poultry. Both are Talmadge-Aiken ("TA") plants, inspected by state personnel on behalf of USDA-FSIS. All the meat and poultry are sold under the White Oak Pastures label, 90 percent to wholesale accounts and the rest direct to consumers through internet sales and a retail store at the plant. The flagship products are grass-fed beef and pastured poultry.²⁶

The red meat plant processes 130-140 head of cattle per week. About 10 percent are Harris's cattle, and the rest are sourced from sixteen farmers who follow his cattle raising protocols, all but one located within 40 miles of Harris's farm. The poultry plant processes 4000 chickens per week, year round, and 2000 turkeys for the Thanksgiving/Christmas holidays. Harris raises all the poultry and has recently added geese, ducks, and guinea fowl. The processing plants employ about 55 people.

White Oak Pastures grew from \$1.5 million in gross sales in 2008 to a little over \$10 million in 2010 and growth continues. Harris says his products are less "local" than "artisanal, place-based, and regional." Wholesale customers include Whole Foods, Publix, Tree of Life, Destiny Organics, and two distributors focused on restaurants and food service, Buckhead Beef and Halpern's. His products (case ready ground beef plus subprimals, very minimal case ready cuts; whole birds) are in stores from Miami, FL, to Princeton, NJ.

Harris is a fourth generation cattleman in a region where most farms have been tobacco, cotton, and peanuts for more than a century. The livestock business, he says, is "who we are, it's our legacy, it's our heritage, it's our lifestyle. I don't know who I'd be if I didn't have this." Harris grew up in the commodity beef industry but eventually became disillusioned with the use of antibiotics, hormone implants, and feedlot confinement, as well as his lack of control over cattle pricing. He decided to bet the farm on a new business model: raising grass-fed beef, with no hormone implants or antibiotics, and selling it to direct and wholesale customers. "We want to farm a certain way: high animal welfare and a high level of environmental stewardship. You can't afford to do that in the commodity market."



²⁶ The company's three core values are animal welfare, environmental sustainability, and the "decommodification, decentralization, and deindustrialization of food."

Yet he also couldn't do it without a packing plant. He quickly grew out of his first processor, who wasn't willing to expand even if Harris paid for it. "If you've got a plant 200 miles away that will do a good job, cost-effectively, you need to do something nice for him every single month. But we didn't have one. We had to build one."

Harris invested a great deal of personal resources in White Oak Pastures, as cash and collateral, literally "betting the farm." The state of Georgia, Early County, and a key customer, Whole Foods, also invested in White Oak Pastures, making significant loans at favorable terms so that Harris could build the first processing plant.²⁷ The red meat plant, which opened in 2008, cost \$2.2 million to build, and an additional \$800,000 in improvements over time. The poultry plant, which opened in 2011, took longer and cost more than planned: the whole poultry program, including production, cost \$1.5 million but is now beginning to pay off.

White Oak Pastures turned its first profit in 2009, a year after the red meat plant began operations, after losing money the previous eight years during the transition from a commodity cow-calf operation to a grass-fed beef company.

Harris was able to build and staff his plants and can now retain his highly skilled employees because he already had committed markets for his product. As his plant manager explains, "It wasn't 'we're gonna kill some cattle and find somewhere to go with it.' If you have a perishable product but no market established, it won't work. A lot of people don't recognize that as the very first step."

White Oak Pastures has the advantage of being its own source of throughput: as long as they have sales accounts and can raise and buy enough livestock, the plants are busy. The red meat plant began at ten head per week and averaged 40/week the first year, 85/week the second year, and near the end of 2012 were at 130/week. The increase depended entirely on demand: picking up new accounts and expanding existing accounts.

Harris makes long-term plans with his farmer suppliers about projected delivery dates and numbers, but exact scheduling typically happens a week in advance. Larger farmers may bring 20 to 30 head at a time; smaller farmers will bring four to six. The plant manager makes the loads fit together for steady, even flow through the plant. Harris uses his own cattle as a buffer to assure consistent flow, filling in gaps left if co-suppliers cannot deliver as promised.

White Oak Pastures does no fee-for-service processing for independent farmers; there is little demand. The few farmers who have inquired have been unwilling to pay what it actually costs the plant, on a per-head basis, to do the work. Those farmers, Harris notes, also had not yet created a market but "just had some cows." Instead, White Oak Pastures, which has created markets, can provide local farmers with what most prefer: a premium price for live cattle. "They aren't interested in direct marketing meat."²⁸

²⁷ OneGeorgia, Whole Foods Market Local Producer Loan Program, and Early County Development Authority.

²⁸ This is consistent with comments from many processors that when commodity prices for live cattle go up, many direct marketers disappear. Harris works hard, and pays well, to keep his suppliers committed to his brand.

Downstream commitments from wholesale buyers have been essential to White Oak Pastures' success as a meat company and therefore as a processor. "It's fair to say that if the bigger wholesale demand didn't come along when it did, as hard as it did, we might not have built the plants," Harris says. "Or we might not have made it after we got them built."

To acquire and maintain its wholesale customers, White Oak Pastures has committed to providing a consistent product, year-round. Originally, Harris only sold ground beef; his conventional cattle, when transitioned to fully grass-fed and -finished, did not grade well initially, so he ground the whole carcass. His region's climate helped: year-round grass makes it easier to finish beef on grass year-round. He offered a year-round, consistent product, with desired niche attributes (grass-fed, no hormones/antibiotics, humanely raised), packaged to retail specifications, at a relatively affordable price point (compared with muscle cuts). It was attractive to consumers and therefore to wholesale buyers and established his brand and customer base, which was then ready to buy muscle cuts when he was ready to sell them.

White Oak Pastures also spends significant time and effort on maintaining the third-party certifications and associated audits required by those customers. The company and its suppliers go through about ten audits annually, including two specifically for Whole Foods.²⁹ Yet Harris has not acceded to all customer requests: some retailers would prefer the case-ready ground beef to be in square, stackable packages rather than the current, more floppy packaging. Because the necessary rollstock machine costs more than \$100,000 new, the company decided not to make the change.

Whole Foods, as a key customer, does not insist on case ready cuts but buys the whole carcass, including trim, and receives it as subprimals. Selling on a whole carcass basis allows WOP to avoid piling up harder-to-sell inventory, which ties up cash and can lead to lost revenue. Selling subprimals saves the cost of cutting and packaging to case-ready. As noted earlier, Whole Foods also deepened its commitment by helping finance the plants with a loan through its Whole Foods Market Local Producer Loan Program.

Not many buyers can or will commit to buying whole carcasses. White Oak Pastures must be careful in soliciting new accounts, to keep a balance. "If we find a new ground beef customer, we have to find another middle meat customer to go with it," Harris says. "If we kill an animal, it's sold. There's nothing in our freezer except a little inventory for the internet."

Managing the changing needs of wholesale buyers can also be quite difficult. Orders aren't consistent, orders are promised but don't materialize, buyers change their terms without warning, and so on. For example, when a buyer raised the price it charges its own customers for White Oak Pastures product without paying any extra for the product, it reduced sales volume without increasing White Oak Pastures' revenue.

²⁹ The two for Whole Foods are Global Animal Partnership and an additional plant audit; the others include Animal Welfare Approved, American Grassfed Association, Humane Farm Animal Care, Good Manufacturing Practices, and a third-party assessment of the plants' plans and processes.

The Future

Harris believes that local, regional, artisan meats will grow as a sector but always as a niche, never mainstream. "We talk about more enlightenment and education among consumers. But this is a country of shoppers who don't care about environmental sustainability or animal welfare if it costs more."

Yet based on his company's growth to date, he expects that an increasing number of retailers and other resellers will be interested in White Oak Pastures products, which will increase his production and processing volumes. One challenge will be growing the supply: high commodity prices limit his ability to source more cattle from co-suppliers. "When people can sell a weaned calf for \$1000," he explains, "it's hard to own that animal for another year," to finish it on grass. The poultry plant still has excess capacity and room to grow, but the red meat plant, originally designed for 50 head/week and now at 130/week, is at capacity. The primary bottlenecks are limited hanging space and flat storage. Rather than expand the plant, Harris is considering partnering with or purchasing another existing plant.

Still, Harris expects that very few plants like his will be built and survive. "There's not a lot of free money out there to build facilities, and most of the people who could raise the money aren't going to work that hard and take the risk – and understandably so."

Key points:

1. White Oak Pastures started as a meat company and had to add processing to grow;
2. While there is not enough local demand for processing to support a fee-for-service processor, the company has created a niche market opportunity for local farmers;
3. In this case, the commitment from wholesale buyers is the primary driver that supports production and processing. That commitment requires significant, ongoing maintenance and is not guaranteed.

Ranch Foods Direct, Colorado Springs, CO

"My reason to get out of bed in the morning is to increase the money that stays at the farmgate and to give people good food." – Mike Callicrate

Like White Oak Pastures, Ranch Foods Direct (RFD) is a food company with an integrated meat processing plant. Like Will Harris, RFD owner Mike Callicrate is in the processing business because he is in the meat business, with his own Callicrate Beef brand. Yet unlike White Oak Pastures, RFD also offers fee-for-service processing to area ranchers who market their own meat.

Ranch Foods Direct is a USDA-inspected processor and retail food company, located in Colorado Springs, CO. RFD does cutting (from carcasses and primals), packaging, and some value-added production but does not slaughter. Livestock are slaughtered at a nearby USDA-inspected slaughter facility or a mobile slaughter unit (MSU) parked on

³⁰ Cattle come from Callicrate's ranch and four neighboring co-producers; they are raised with no subtherapeutic antibiotics or added hormones and are finished on a corn and hay ration at Callicrate's on-ranch feedlot.

Callicrate's cattle ranch in St. Francis, Kansas.

RFD primarily processes cattle, 2000 head/year, for Callicrate Beef (CB), the RFD house brand.³⁰ The company also processes about 2000 head/year on a fee-for-service basis for about 40 ranchers, located within 150 miles of the cut and wrap plant, who market independently in the Colorado Springs region. Most bring fewer than ten head per year, for freezer beef sales. About ten customers bring more at a time and over the year, though only one brings cattle year round, ten to twenty head/month. The larger customers sell cuts, retail and wholesale, though a few sell primarily carcass portions of freezer beef.

All of the fee-for-service livestock and most CB cattle are slaughtered at a USDA-inspected slaughter facility in Colorado Springs, for a reasonable per head cost. However, uncertainty about that facility's long-term commitment to RFD led Callicrate to look for other options. He learned about a mobile slaughter unit being built by the Nebraska Environmental Action Coalition/Socially Responsible Agriculture Project and arranged to be the pilot user, beginning in 2011. The USDA-inspected MSU, now owned by the non-profit organization Renewable Harvest,³¹ is operated at Callicrate's ranch by two butchers and two helpers, who are otherwise employed at the ranch. As of this writing, only a dozen CB cattle per week are slaughtered at the MSU, too few as yet to warrant a full-time inspector. Most CB carcasses go to one of two break plants³² to be broken into subprimal cuts which return to RFD for further processing: wholesale and retail cutting, packaging to case ready (cryovac/rollstock), and portion cutting for restaurants. RFD also receives a small number of half carcasses to break, cut, and package to case ready.

Callicrate, who began ranching in 1975, started Ranch Foods Direct in 2000 with the goal of creating a viable alternative to the highly concentrated conventional meat industry. At first, RFD was only a production and marketing company, using a local, independent processor in Colorado Springs. He migrated to a larger processor and grew the business selling ground beef to high-volume customers, including sports stadiums and restaurant chains. When that processor left the business, Callicrate returned to Colorado Springs, opened the RFD cutting plant in leased space, and helped his original processor out of bankruptcy with a \$500,000 loan; in exchange, RFD took over the plant's cut and wrap business and continued to use them for slaughter. As noted above, the arrangement is insecure: the slaughter plant is an old facility that may require expensive upgrades soon, given its urban location, and one of its anchor customers is building its own plant.

Callicrate is also planning to build a new, more elaborate MSU with 25-50 head daily capacity. The three-part system will include a slaughter trailer (with on-board hide puller



³¹ Renewable Harvest's mission is "to help rural communities build their local production, marketing, and processing capabilities ... by providing consulting services, and realistic and affordable solutions such as our Mobile Meat Processing Unit (MMPU)." <http://www.renewableharvest.org/about/>. See NMPAN case study: <http://www.extension.org/pages/66222/renewable-harvest-mobile-meat-processing-unit>.

³² Colorado Natural, in Denver, and Rocky Mountain Meats, in Brighton, the only two independent boxed meat processors left in the U.S. who will break carcasses to boxed meats for independent labels.

"We've had 20 years learning this, navigating the waters. We know where the rocks are."

to increase hide revenue), a separate reefer truck for chilling carcasses, and a transport trailer to carry the carcasses back to RFD. It will be used at docking stations to limit what the MSU itself must carry and provide. "We've got ranchers with good corrals, electricity, water, and a way to compost offal. If they set up a docking station, the MSU can roll in and plug in."

Callicrate is committed to helping his processing customers find stable, profitable markets, in part by warning them away from difficult markets. He has seen many independent meat brands fail. "In eleven years, we've lost a lot of customers who have gone out of business," he says. "They poured their life savings into this but couldn't compete," for example, against distributors who he claims offer discounts to restaurants until independent ranchers can no longer compete, then raise prices again. While he recognizes that restaurants can be valuable partners and advocates for alternative food businesses like his, Callicrate advises most ranchers to focus on direct sales to consumers, primarily as freezer meat in carcass portions, with standard cuts, bone-in and paper-wrapped. He calls this "cowpooling."

Selling this way, Callicrate argues, is more profitable and stable. "This way, they don't leave money on the table: it isn't an alternative food system if a person can't make a living." It is also good business for RFD. The work is highly seasonal – mostly August through October – due to the fact that most ranchers who market their own meats are grass-fed operations, but cutting for "cowpooling" is RFD's most profitable enterprise.

RFD can provide processing on a fee-for-service basis only because Callicrate Beef provides steady throughput year-round. In addition, core RFD staff stay busy with multiple enterprises, including the retail store³³ attached to the plant, a home delivery service,³⁴ mail order, "cowpool" sales (halves, quarters, eighths, and bundles), a farmers' market, and wholesale accounts, primarily schools (8 districts) and the restaurant chain Chipotle.

Callicrate has not yet had to call on his processing customers for investment, because he has been able to capitalize RFD himself. Significant profits from a separate, successful business³⁵ have allowed him to keep Ranch Foods Direct afloat for the first ten years he spent learning the business and arranging/re-arranging his supply chain. He believes he could never have started or maintained his business with traditional bank financing. "You have to be able to survive a long time," Callicrate says. "For most people, it takes too long. It's too hard." RFD has recently become profitable, largely due to increases in fee-for-service processing but also retail food sales.

The Future

Callicrate believes that the local meat sector will continue to grow. While he remains concerned about the anti-competitive effects of concentration in the meat industry, and the lack of a comprehensive regulatory response, he says that RFD will survive: "We've had

³³ The store sells not only Callicrate Beef but a wide variety of foods, sourced as locally as possible, including cheese, seafood, produce, bread, salsa and condiments, and pet food (made in-house).

³⁴ The 200 members buy 6 months of food at a time; RFD finances chest freezers, interest-free.

³⁵ He invented and manufactures the "Callicrate Bander," a non-surgical castration tool.

20 years learning this, navigating the waters. We know where the rocks are.”

Key points:

1. Like White Oak Pastures, Ranch Foods Direct is its own key customer;
2. In-house processing allows Ranch Foods Direct to offer fee-for-service processing to independent, local ranchers who do their own marketing;
3. Ranch Foods Direct actively works with ranchers to improve their profitability;
4. As with White Oak Pastures, creating and maintaining Ranch Foods Direct’s own market relationships may be the primary driver of the whole enterprise.

Island Grown Farmers Cooperative, Northwest Washington

While it is largely known for operating the first USDA-inspected mobile slaughter unit (MSU) in the U.S., the Island Grown Farmers Cooperative (IGFC) has been successful for reasons beyond the MSU itself, from overall farmer commitment to the co-op’s success to its scheduling system that assures (a) the unit is fully utilized and (b) farmers can get the slots they need. These aspects of their business are not at all limited to mobile units.

IGFC operates a USDA-inspected mobile slaughter unit (MSU) in five NW Washington counties and a small, fixed-location cut and wrap facility in Bow, WA. IGFC is a service co-operative, providing processing on a fee-for-service basis for members. They handle beef, bison, lamb, goat, and hogs. The MSU’s two butchers can slaughter 8-10 head of beef, or 40 sheep, or 20 pigs in an eight hour day. The MSU typically operates 4 days per week and returns to the cut and wrap nearly every night; it stays out overnight when servicing the islands, because of the travel time and the cost of the ferry trip. The cut and wrap operates 5 days per week. The co-op processed more than 300,000 lbs of meat in 2007, their maximum capacity, and has held fairly steady since then.

IGFC has 60 members, all located within a 50 mile radius of the plant (1-2 hours drive), the largest area the MSU can serve efficiently. About half of the livestock are on the mainland, and half are on three of the San Juan Islands. Most members raise and sell fewer than 50 head of beef per year and a few do 100-200 per year. Most sell through the standard set of retail and wholesale channels (farmers’ markets, restaurants, grocery stores, farm stands).

In 1996, livestock farmers in San Juan County, WA, became interested in local meat marketing but couldn’t transport their animals to mainland processing facilities. They considered building a small slaughter and processing plant on one of the islands, but at each site they considered, a neighborhood group immediately formed in opposition.



³⁶ The IGFC is a gooseneck trailer, 34’ long including 8’ over the hitch, on an aluminum frame, and can be hauled by a pick-up truck. Dunlop has built eight other MSUs for different groups and is working on a ninth; early on he shifted to more durable steel frames and semi-trailers.

³⁷ LCLT is no longer actively involved; IGFC plans to purchase the MSU in the next few years.

³⁸ Over time, IGFC has purchased most of the equipment from the owner.

They learned about the MSU concept from Broken Arrow Ranch (see MSU box) and partnered with the Lopez Community Land Trust, which focuses on affordable housing and sustainable rural development. LCLT hired farmer Bruce Dunlop to design the MSU; it was built by Featherlite, a trailer manufacturer.³⁶ The farmers formed the Island Grown Farmers Cooperative to lease the MSU from LCLT and operate it for IGFC members, who market independently.³⁷ They received their USDA grant of inspection and in 2002 began operating the MSU along with a leased cut and wrap facility.³⁸

Central to IGFC's success is that its members have very few other options for inspected slaughter and processing. They all need their system to work and have been willing to support it financially. The broader community also provided start-up financing and support.

LCLT committed significant time and human capital to the project by raising \$90,000 of the \$150,000 in start-up costs (trailer, truck, equipment, design/testing, outreach) from private donations from member farmers and others in the community, along with an additional \$60,000 in grants from USDA.³⁹ Once the MSU was built, the 30 original IGFC members each made an initial equity investment of \$600. After that, the MSU has been financed solely by processing revenues, including a per-head "equity retain," or surcharge, which can be used for capital improvements. Members also made loans to IGFC – for example, to purchase needed equipment – early on when banks, judging the venture quite risky, only offered very high interest rates.⁴⁰

This commitment extends to paying the true cost of services. The fee structure is set to break even or generate a small profit, which can be reinvested in the business. Annual revenues and operational costs are balanced at approximately \$500,000. IGFC's original prices, based on what other plants in the region were charging, were too low: after six months, they were losing money and had to raise prices. They have done so several times since: for example, a ten percent increase in 2008 covered rising fuel costs and health insurance/raises for employees. As Bruce Dunlop explains, "If you have enough capital, you can lose money in the first year. We had to break even because we didn't have money to lose."

Today, IGFC has six full-time and two part-time staff, but the board continues to provide time and expertise on a volunteer basis. Their highly skilled lead butcher, essential to IGFC's success from the beginning, originally had no managerial experience but has been trained by the board and now manages all day to day operations. The board, which meets monthly, handles overall management, strategic direction, and planning. A board member still serves as HACCP coordinator, though this will soon transfer to an employee. The board's steady, long-term involvement is grounded in the fact that this business is critical to their livelihoods.

³⁹ Funds came from three USDA programs: Cooperative State Research, Education, and Extension Service (now Agriculture and Food Research Initiative) and Rural Development/Rural Business Opportunity Grant for design, development, project management, and testing; and the Forest Service Community Development Program for the truck and refrigeration equipment.

⁴⁰ IGFC is now more attractive to banks and recently took out a loan to buy a truck.

⁴¹ It is important to note that being a co-op does facilitate this process but is not actually required.

Like most processors, IGFC needs steady throughput to make the best use of its facilities and skilled employees. As a local processor that handles a large number of grass-fed livestock, it also faces significant seasonal variation in demand for services. IGFC has addressed these problems with a scheduling system that takes advantage of the fact that, as a cooperative, they must hold an annual meeting.⁴¹ At that meeting, they set the entire slaughter schedule for the coming year. Members who attend the meeting get to choose their dates first. Those absent must choose from the remaining dates.

The system necessarily requires guesswork on the part of farmers. "Sometimes, particularly with hogs," Dunlop explains, "you're scheduling slaughter dates for animals that have not yet been born." Beef farmers must estimate when their cattle will be fat enough for slaughter. If necessary, the schedule is adjusted about a month before a set date, working through the scheduler to swap dates with another member. Larger farmers are often able to accommodate shifts needed by smaller farmers; "it's helpful giving [the plant] some flexibility when you have it, so when you don't have the flexibility, they recognize that and they move your stuff to the front of the line."

IGFC also uses financial incentives to spread the work over the year, offering a ten percent discount for any slaughter in the slow period, February through April, and a flat rate discount to process animals that will be ground, typically culls, and can be held past the busy fall period. "We recognize that it costs something to do that, and it's a bit of a hassle, but the discounts work," Dunlop says. IGFC also penalizes farmers who aren't ready when the MSU shows up at their farms. "If we have to turn around and leave, they get billed. We don't like assessing penalties, but as soon as a producer knows that he's going to get charged for not having his animals ready, the problem tends to go away."

The Future

At this point, IGFC intends to stay at its current size, in terms of both the number of members and the number of livestock and pounds of meat processed per year. They have reached a capacity that fits the MSU, the cut and wrap, their staff, and the needs of their members. In the spring of 2012, IGFC purchased the MSU from the Lopez Community Land Trust, marking a very significant transition. IGFC believes they are stable enough, with enough of a long-term future, to hold such an important community asset. The purchase also allows LCLT to recognize a return on its original investment and reinvest the funds into new projects.

Key points:

1. An MSU was essential for Island Grown Farmers Cooperative members to bring meat to market, but mobility is only one reason why the business works;
2. Having an integrated cut and wrap facility has been essential, not only for the services provided but for keeping staff busy and sharing costs over the two enterprises;
3. Farmer commitment – financial, scheduling, expertise/time – is formalized by the co-op structure but transferrable to non-co-ops.

Lessons Learned from the Case Studies

Several themes emerge from these case studies that show the importance of farmer-processor commitment. First, key or “anchor” customers provide a steady volume and consistent flow of business. Some processors are their own anchors, providing the majority of or the entire throughput: they started that way or became so to survive. Similarly, niche brands or “aggregators” that source livestock from multiple farmers and coordinate the rest of the supply chain can be valuable partners for processors. Aggregators create a steady flow of animals and serve as a central point of communication. They are often in a better position to coordinate consistent scheduling than an individual farmer precisely because they work with multiple farmers: if one farmer is not ready to sell cattle one week perhaps another one is.

Processors can use tools like active scheduling systems, variable pricing, and even penalties to assure that throughput is steady, week by week and over the year. This also provides predictability for farmers, who know they will have processing dates. By helping their farmer-customers with marketing and distribution, both guidance and services, processors can work more effectively with their customers, build loyalty, and ultimately enhance demand for their own services.



Processing businesses are capital-intensive to start, maintain, and expand. Farmer-processor commitment deepens when farmers decide to invest time and money into the processing business, through loans, stock purchases, equipment financing, or hours of expertise and effort. Finally, underpinning all of the commitment is communication. Processors and farmers need to communicate effectively with each other, about scheduling and services, costs and pricing, meat quality and market conditions, and more, to develop and maintain strong business partnerships.

Readers may wonder why the case studies say so little about commonly cited challenges such as regulatory compliance, finding and keeping skilled workers, and the cost of byproduct disposal.

We asked processors about all of these topics, and they had different approaches to and opinions about them. Yet none saw these issues as more than the expected tasks and costs of doing business. When processors have committed business, i.e., a steady volume of livestock to process, they have a steady stream of revenue. They are then able to hire and retain skilled staff. As a plant grows, it will have more volume across which to pay for “indirect” labor, including staff for regulatory compliance and quality assurance. This can allow owner operators to hand off what are often their least favorite elements of their business (which likely contributes to why small plants so commonly say regulations are overly burdensome). As one processor profiled for this report explained, “We hired a Quality Assurance manager and I personally haven’t really worried much about regulations since.”

COLLABORATIVE EFFORTS FOR LOCAL MEAT PROCESSING

In this report, we have identified and discussed fundamental and secondary challenges related to the processing of meat and poultry for local markets. We have described strategies and innovations used by a set of successful processors in response to these challenges. These processors and their farmer customers have built collaborative, committed business relationships that support each other's success.

Yet processors and farmers are not alone. In this section, we discuss people and organizations who are working, regionally and nationally, to maintain, support, and in some cases create processing for local meat and poultry. These collaborations and networks harness the experience and expertise of a variety of partners, public sector and private, to provide information, guidance, and direct technical assistance. Such efforts are happening around the country. We briefly describe five examples: four state-level collaborations (in Vermont, North Carolina, New York, and Montana) and one national network.

It should be acknowledged that these collaborations and networks are relative newcomers when it comes to working with small processors. Small processors also receive a great deal of help from their state, regional, and national trade associations, especially the American Association of Meat Processors, the only national processor association focused on small and very small plants. AAMP, founded in 1939, provides extensive technical information and support to its members on regulations, food safety, HACCP, and other topics, through its website, newsletter, annual convention, and staff. In many states, university extension meat scientists have for many years provided technical support and educational workshops to small plants, coupled with applied, scale-appropriate research, related to food safety and regulatory compliance (e.g., Pennsylvania State University; Flowers and Cutter, 2005). Some universities have created useful business and marketing tools for small processors (e.g., Oklahoma State University; Holcomb, Flynn, and Kenkel 2012). USDA FSIS has a Small and Very Small Plant Outreach office, and many state meat and poultry inspection agencies provide technical assistance to plants they regulate.

In addition, many public agencies, universities, non-profit organizations, and businesses, individually and collaboratively, provide a wide array of technical expertise and guidance around local and regional food systems more generally,⁴² some with a focus on meat. For example, universities and others have developed valuable guidebooks, workshops, and other resources for farmers interested in local markets for meat and poultry, typically with information about processing (e.g., Cornell University; Goodsell and Stanton 2010).

The profiles below describe examples of efforts focused on processing but largely driven by interest in expanding the local meat and poultry sector, rather than supporting small processors per se. They have realized the value and benefit of working directly with processors to solve processors' problems, rather than, for example, simply assuming

⁴² At a national level, USDA's Agricultural Marketing Service (www.ams.usda.gov) and the "Know Your Farmer Know Your Food Compass" (http://www.usda.gov/wps/portal/usda/usdahome?navid=KYF_COMPASS) offer a wide range of reports, toolkits, case studies, maps, and other resources related to local foods marketing.

processing must be “the problem” and new plants are “the solution.” These groups are working to understand the real drivers behind the perceived lack of processing, so their solutions can be effective in the long run, for farmers, processors, and consumers.

We present these efforts as models of what can be done by governmental agencies, non-profits, universities, and others concerned with the role of processing in enhancing local and regional meat markets. Strategies include providing technical assistance for existing small processors to enhance availability for local farmers; facilitating farmer-processor communication and mutual education; incubating businesses important to the rest of the supply chain; engaging with public agencies toward regulatory clarity and consistency; and providing a platform for peer-to-peer learning around this issue across communities and regions.

Vermont: Meat Processing Task Force

“You can’t just call your dentist and say hey, I’m coming in tomorrow. There are higher cost industries in which you can’t afford to have underused capacity.” – Chelsea Bardot Lewis, Vermont Agency of Agriculture, Food, and Markets

In Vermont, the idea of processing as the key constraint to local meats has been superseded by the idea that keeping existing processors in business is a more productive strategy.



In Vermont, and New England more generally, farmers, policymakers, and others believed that processing, along with Federal regulations around processing, were limiting local market opportunities for the region’s meat farmers. Two farming and food initiatives, one at the state level and one regional, kicked off efforts in 2009 with meat processing as a priority.⁴³

Chelsea Bardot Lewis, as a graduate student at Tufts University and coordinator of the New England meat processing working group, decided to test these assumptions and interviewed 20 of the 28 inspected processors in New England. “After the first three, it was clear that their biggest problem wasn’t regulation,” she

explains. “It was not having enough supply, enough animals over the course of the year.” Finding, affording, and keeping a trained workforce was also a core challenge, and both throughput and labor are compounded by seasonality (Lewis 2011). A similar survey of Vermont processors, conducted by the Northeast Organic Farming Association, revealed similar results: the seasonality of demand for processing was a critical problem, given the need for year-round work. In addition, both storage and cut-and-wrap capacity appeared to be much tighter bottlenecks than slaughter capacity.

⁴³ The New England Farm and Food Security Initiative arose from the New England Governors’ Commission’s work on land conservation; the Vermont legislature funded the state’s Farm to Plate Strategy to promote local agriculture products that fit the state’s “brand identity”: environmentally sustainable, good for family farms, and preserving working landscapes.

The Vermont task force, led by Lewis now at the Vermont Agency of Agriculture, Food, and Markets concluded that building new facilities was likely not the answer: “much can be done to address inefficiencies in the current slaughter and meat processing system without a significant increase in the total number of commercially inspected meat processing facilities in the state” (Lewis 2012).

As a result, the task force has focused primarily on how existing processors can meet local demand. Building another plant that also will struggle with thin margins, seasonal demand, and a limited labor pool may not be prudent. Some farmers may have more difficulty finding processing: lamb farmers, for example. In that case, says Lewis, a new business may be needed. Yet she cautions against the “processing desert” idea: “Everyone wants some graphic that shows here’s where the production is, here’s where the processors are, and here’s a gap, so let’s put a plant here. That’s not the right approach. We need to move away from that top down assessment and start from the bottom up.”

In 2010, the task force⁴⁴ set out to do this in three ways: a financial assessment of the state’s small processors, technical assistance for and investment in existing processors, and a series of farmer-processor workshops.

The financial assessment was designed to understand small processor management strategies, develop “benchmark” indicators for the sector, give processors metrics to assess financial health, and learn what long-term technical assistance would help processors become profitable, expand, or meet other goals. The assessment revealed that the state’s processors (1) have thin operating margins, with labor and energy the primary costs; (2) are undercapitalized; (3) carry substantial debt, so bank financing is often not an option; and (4) do not track productivity or collect financial data to evaluate their businesses.

Public investment followed. In 2011, prompted by these findings, the Vermont state legislature approved \$50,000 in matching funds for processors to make capacity improvements. Two processors received grants: one for a rail system renovation, projected to increase capacity 40 percent, and the other for a hot water tank and equipment to run a pasteurizer. A third, “Farm to Plate” grant allowed the Mad River Food Hub, a new shared storage, processing, and distribution facility, to add Federally-inspected meat cutting rooms to ease the cut and wrap bottleneck. In all three cases, task force members provided planning and technical assistance.

In addition, the state’s Farm Viability and Vermont Agriculture Development Program (VADP) began providing one-on-one technical assistance to processors, with other state agencies as needed. VADP helps with expansion planning, access to capital, and transition planning; three processors are currently enrolled. Lewis hopes that funding for this program will continue. “Our strength at the agency is broad industry development, brand promotion, and attracting and focusing investment, but if we don’t have partners on the ground doing one-on-one business development, these efforts aren’t sustainable.”

⁴⁴ The meat processing task force includes the Farm Viability Program, the Agricultural Development Program, the Agricultural Credit Corp., University of Vermont extension, the Northeast Organic Farming Association, Rural Vermont, the Castanea Foundation, and the state meat inspection program.

The task force also organized a series of four workshops to improve farmer-processor relationships, largely by showcasing processors as an important and knowledgeable resource. At the first workshop, a processor taught carcass assessment and grading, yield tracking, and how to achieve consistent carcass quality throughout the year. The second workshop covered regulations and third party certifications related to animal welfare and humane handling, both on-farm and at the processing plant. The other two workshops focused on marketing, with farmers and processors sharing strategies.

The task force, primarily the Farm Viability Program, is now working on solutions to the two top problems for processors: highly seasonal demand and limited labor. Collaborative marketing arrangements can scale up production and spread it over a year. Planning is also underway for a meat cutter training program, in partnership with technical education centers, the state labor department, and the state economic development agency.

Finally, the task force is providing organizational support for the state's Meat and Poultry Processors Association, to provide a forum for peer to peer learning, diffusion of innovation, and technical assistance. "We have a very committed group of processors," Lewis says, "and I see our role as providing the tools to empower them to meet the needs of a growing meat industry."

Vermont's meat processing task force has succeeded so far because of strong state support for its members' work. The diverse representation on the task force – public agencies, the university, non-profits, private funders, and private sector businesses – brings multiple perspectives and skills to the table, to support the state's meat processors and farmers.

North Carolina: NC Choices, Farmhand Foods, and the Carolina Meat Conference

"North Carolina has a lot of farmers and a lot of markets. We're just connecting the dots." – Jennifer Curtis

In North Carolina, efforts to bring more local meat to market have generated new support for the state's small processors. NC Choices, an initiative of the Center for Environmental Farming Systems (CEFS) at North Carolina State University, is leading this work. In 2005, NC Choices began developing market opportunities for pasture-based pork farmers (and all pasture-based livestock by 2010), listing them on a central website, creating meat buying clubs, and helping develop wholesale accounts. Quickly, processing became a focus, particularly value-added processing: sausage, bacon, and cured meats. Though the state had twenty small-scale processors – custom-exempt, USDA-inspected, and state-inspected – only a few offered value-added processing and the quality cutting, packaging, and labeling farmers needed to expand beyond very basic direct sales. "We found ourselves," says Jennifer Curtis, then NC Choices Director, "asking how can we help on processing?"

They started by helping a small, inspected, value-added processor, Acre Station Meat Farm (ASMF), take on fee-for-service work in addition to handling its own product. This gave many NC farmers their first access to inspected value-added processing. NC Choices

brought ASMF's owner to the state's largest sustainable agriculture conference, the first small processor to attend, and helped him write grants for new equipment and business development. ASMF now processes for 80 different farmers, and Whole Foods is a major customer. It has grown from 10 employees to more than 25 and is less dependent on fluctuating retail sales. The plant is located on the coast, up to 3 hours' drive for many farmers, but the customer base is growing, and some farmers collaborate on delivering livestock there and product back to central NC.

To facilitate wholesale markets, NC Choices partnered with Weaver Street Market (WSM), the state's largest natural foods' cooperative. NC Choices helped WSM find local beef suppliers, and WSM agreed to buy whole animals, which their butchers receive from a small, local processor as quarter carcasses. The butchers then cut and wrap the meat for WSM's three retail stores.

Yet many restaurants, food service accounts, and specialty grocers do not have the specialized equipment and expertise to source directly, work with a processor, and buy whole carcasses. So NC Choices created Farmhand Foods, a stand-alone business, to aggregate, distribute, and market local, pasture-raised meats. Farmhand Foods works with two small USDA-inspected processors and markets and distributes fresh meats and value added products – sourced from more than 25 farmers who raise livestock on pasture, with no added hormones or fed antibiotics – to more than 30 restaurants and specialty stores, including WSM, on a weekly basis.



From the start, Curtis says, NC Choices has benefited from having many "willing and engaged partners," both public and private sector. A key partner is the North Carolina Department of Agriculture's Meat and Poultry Inspection Division (MPID) which supports small processors and farmers with regulatory advice, by working with NC Choices on reducing regulatory confusion, and surveying the state's processors to learn what services they offer farmers. NC Choices worked with MPID to change the annual limit for on-farm poultry slaughter from 1,000 to 20,000 birds and then collaborated on farmer education about the new rules and market opportunities.⁴⁵

NC Choices has now extended its technical assistance to processors. Expanding the local food sector, Curtis explains, requires understanding existing infrastructure and capacity, especially for meats. "Everyone says we don't have enough. But we're not really clear what we do have and how much more we really need. How can we optimize existing processors and meet their needs?"

To do this, NC Choices brought on a new staff person, Casey McKissick, and hosted

⁴⁵ MPID asks processors if they offer fee-for-service processing to farmers and which services (e.g., slaughter, fabrication, packaging/labeling, delivery); this was originally done by NC Cooperative Extension. MPID has added questions about value-added capacity. The information is posted here: <http://www.ncagr.gov/meatpoultry/Farmer/Directory%20of%20Establishments.pdf>.

“But we kept saying, what about the processors who are already in business? What can we do for them?”

the first Carolina Meat Conference, in March 2011, for farmers, processors, marketers, consumers, regulators, and others involved with local meat supply chains. Sessions covered production, farmer-processor collaboration, marketing, meat cutting, animal handling, and on-farm poultry slaughter. More than 300 people from 13 states attended. Local processors initially skeptical about “local meat” left the conference with new awareness, an outcome NC Choices saw as extremely valuable. Next, they created the Carolina Meat Institute (CMI) to bring in nationally recognized experts to teach growing a meat business, carcass breakdown, charcuterie, and related topics. To date, more than 700 participants from 16 different states have attended CMI workshops.

Curtis and McKissick also realized that small, local processors who could potentially process for local meat farmers were not always set up to do so. They launched a technical assistance program tailored to processors’ specific needs, starting with a small, custom-exempt plant. The co-owners were experienced butchers who had worked with farmers and freezer meat customers for many years. Yet their custom-exempt status meant the meat could not be sold. “They weren’t aware of the industry’s growth and consumer demand for local and niche meats or how to capture more of the processing business for producers who direct market,” McKissick explains. “But the Carolina Meat Conference lit a fire under them.”

With NC Choices’ help, the butchers made progress quickly. “In a short period of time,” McKissick says, “we helped them get a computer, learn to use Excel, word processing and email, apply for their USDA grant of inspection, write a customer manual, apply for cost-share grants for value added equipment and a new live animal handling facility, and organize an open house for new customers to show how they can now meet local farmers’ needs.” The open house drew 70 people from seven counties.

Based on this initial success, NC Choices has begun to offer similar hands-on assistance to other small processors, focusing on business development and technical training, to grow their businesses, create jobs, and advance the niche meat industry in the state. “We kept getting all these calls about business plans for new processing plants,” McKissick says. “But we kept saying, what about the processors who are already in business? What can we do for them?”

Northeast Livestock Processing Service Company

In New York, an innovative approach to improving farmer-processor relationships and access to processing has evolved into a marketing and distribution company that continues to support both farmers and processors.

The Northeast Livestock Processing Service Company (NELPSC) was started in 2005, as a fee-for-service company, to help farmers find processors, schedule processing dates, give clear cutting instructions, and develop good working relationships for the long term. The service company model was originally conceived, by processing consultant Keith DeHaan, as a way to help farmers who sold sides and quarters and were increasingly having trouble getting their animals processed. This was in 1999, before the local food movement and

by-the-cut sales of local meats really took off in New York.

NELPSC was started by the Hudson Mohawk Resource Conservation and Development Council, with a grant from the state Department of Agriculture and Markets.⁴⁶ It is a for-profit LLC with an all-farmer board of directors and one full-time paid employee, Processing and Marketing Coordinator Kathleen Harris.

The company's original mission was what Harris calls "processing facilitation." For a one-time fee of \$50, NELPSC will match farmers with processors that meet their needs (location, pricing, services provided); schedule slaughter dates; and convey cutting instructions. For an additional fee, because of the time required, Harris provides quality control oversight in the plant when a farmer's livestock are being processed. By 2008, NELPSC had more than sixty farmer clients and worked with eight processors, both USDA-inspected and state-licensed, custom-exempt. Today they have 134 farmer members and working agreements with 11 plants.

The focus on developing relationships paid off: after the first few years, most farmers were able to work directly with their processors without NELPSC's assistance. "People are connected with the right processor now," Harris explains. "That's a testament to the quality of our processors. And we've got more now than we did when NELPSC got started."

Harris then turned her attention to a different set of farmers asking for help: those who wanted to sell into local, niche markets but did not want to do the marketing themselves. In 2008, NELPSC started the "Local Foods from Local Farms" project, essentially becoming a marketing and distribution company aggregating product from multiple farmers for sale to wholesale buyers, primarily upstate universities and private schools in New York City and Westchester County. Harris finds the buyers, takes orders, and puts a call out to her farmer members to select livestock, mostly grass-fed beef culls, to fill those orders. Harris arranges for slaughter and processing at one of the Federally-inspected, third-party audited plants she works with regularly. She then delivers orders in the NELPSC refrigerated truck.

NELPSC purchases the cattle from the farmers based on hanging weight and adds a mark-up to pay the cost of its services. Guided by her board, Harris pays farmers a premium price and stays out of direct markets, where she might compete with her members. "We sell where they can't sell for themselves."

In the early years, NELPSC kept its fees to farmers low by supplementing with grants from the NY Farm Viability Institute and private foundations. "Our mission was to keep the business and local meats flowing." Local Foods from Local Farms allowed NELPSC to become financially self-sustaining in May 2010. By taking on marketing and distribution, NELPSC not only helps farmers sell into new markets but has become a key customer to

⁴⁶ The Rockefeller Foundation funded the feasibility study done by DeHaan.

“What NELPSC did was bridge the gap. We were there when the farmers couldn’t get processing. Now we are also here to help them with marketing.”

its member processors, providing steady throughput in higher volumes than individual farmers typically deliver. Harris also hopes to recruit farmers as processing customers for the state’s first USDA-inspected mobile slaughter unit, a four-part “modular harvest system” (MHS) built by the Glynwood Center and now owned by Local Infrastructure for Local Agriculture, to be operated in the Hudson Valley.⁴⁷

Harris sees a very different local meat processing landscape today than she did ten years ago. New USDA-inspected plants have been built, custom-exempt plants have transitioned to inspection, and farmers have built their own retail-exempt, state-licensed cut and wrap plants. Asked whether there will be enough processing business to support all the new plants, Harris says, “so far, so good.” She credits the progress in New York to entrepreneurial farmers and processors, along with NY Farm Viability, the Center for Agricultural Development and Entrepreneurship, and other supportive state and non-profit organizations. “What NELPSC did was bridge the gap. We were there when the farmers couldn’t get processing. Now we are also here to help them with marketing.”

Montana: Regulatory Consistency and Clarity

While some groups and collaborations focus on the business side of processing, others focus on the regulatory side. In Montana, local meat and poultry marketing has run up against confusion about processing regulations across agencies and between state and local regulators.

Food is regulated at the state and local level by the Montana Department of Health. State-inspected livestock processing is regulated by the Department of Livestock. The Department of Agriculture, which supports farmers in developing new markets, has limited say in either realm. More challenging is the fact that though food-related regulations are written at the state level, they are interpreted at the local level by the county. These county officials have a wide array of responsibilities and vary widely in their willingness to allow local meat and poultry products into the market. Poultry (along with farm fresh produce and eggs) are the main source of confusion, largely around how and where exempt poultry may be sold. For red meat, the issue is whether public schools may purchase state-inspected meat.

Recently, the Department of Agriculture partnered with the state Attorney General’s office to read all of the relevant state and Federal laws and rules, in order to write a manual for state and local regulatory agencies and regulated entities. The state Department of Health and Human Services (DHHS) has made this a priority, and state-level managers across Health, Livestock, and Agriculture have begun to meet quarterly on these issues. An initial result is that DHHS has committed to a full review of its relevant rules and

⁴⁷ The MHS was built to increase access to USDA-inspected slaughter in the region. After the first farm to operate it “graduated” and built a higher-capacity, non-mobile, slaughter and processing facility, LILA is reconfiguring the MHS as a business incubator, to help other potential processors get started. Case study available at: <http://www.extension.org/pages/66275/modular-harvest-system-ny>.

⁴⁸ Other partners in this effort include two non-profits, Mission Mountain Food Enterprise Center and Alternative Energy Resources Organization; the state school food and nutrition program, within the state Office of Public Instruction, is involved in the issue of schools purchasing state-inspected meat.

rulemaking to clarify and fill gaps. Another priority is legal training of the enforcement agencies, not only in the content of laws and rules but also due process.⁴⁸

Networking Solutions Nationally

The local and regional collaborations and organizations described above are effective in part because of their familiarity with local context and conditions. Groups like these are benefitting from connecting with and learning from not only each other but people and organizations with different kinds of expertise related to local meats processing. The Niche Meat Processor Assistance Network (NMPAN) was created to facilitate such connections and outreach.⁴⁹

NMPAN is a national network of people and organizations, public and private sector, who are creating, operating, and supporting meat processing infrastructure for local, niche meat markets. Founded in 2007, NMPAN provides a forum for peer-to-peer learning and information sharing along with educational resources through its website, webinars, newsletters, and listserv. The network includes people from universities, primarily cooperative extension; Federal and state departments of agriculture, health, and others with relevance to local meats; non-governmental organizations ranging from meat processor trade associations to sustainable agriculture advocacy groups; and farmers, meat and poultry processors, marketers, and buyers. NMPAN's advisory board is drawn from industry, academia, non-profit organizations, and government, including the USDA-FSIS Small Plant Outreach Office. State affiliates provide locally relevant answers and expertise. NMPAN also is a Community of Practice within eXtension, the online presence of the combined land grant university system.

A stated goal of the project is to combine site-specific technical assistance through state affiliates with coordinated action for larger-scale, systemic solutions to challenges facing the niche meat processing sector.⁵⁰



⁴⁹ Full disclosure: NMPAN's co-founders and co-coordinators are the two lead authors of this report.

⁵⁰ For example, in response to needs identified by the network, NMPAN has developed a business planning guide for small processors, a guide to state regulations related to poultry processing and sales, a Mobile Slaughter Unit Manual, including videos, case studies, financials, regulatory guidance, and model HACCP documents, and collaborated on a plant design guide.

Lessons Learned from Collaboration Case Studies

As noted earlier, these stories serve as examples of what can be done by governmental agencies, non-profits, universities, and others interested in local and regional meat markets. They are not, of course, alone: around the U.S., interest in local food and local meats is prompting non-profit organizations, businesses, public agencies, universities, and others to work on the “local processing problem.” The better they can understand local needs and conditions, all along the supply chain, the more effective they will be.

In some places, technical assistance to existing processors may open up new opportunities for local farmers. Conferences and other educational events can bring farmers and processors together to share strategies and lay the groundwork for effective business relationships. Regulatory agencies can partner with non-profit organizations to clarify and even change regulatory policy. State lawmakers can allocate public resources to enhance existing infrastructure with strategic plant and equipment upgrades. These and many other approaches are possible. Yet the commitment between processors and their farmer-customers (and by extension the commitment between farmers and their buyers) is still fundamental.

SUMMARY AND CONCLUSIONS

Consumer demand for local meat and poultry is rising. To meet this demand, farmers may benefit from access to appropriate-scale processing facilities with the skills, inspection status, and other attributes to handle these products safely, legally, and to customer specifications. Farmers and others say that limited processing infrastructure restricts the supply of local meat and poultry. At the same time, existing small processors often lack the steady, consistent business they need to be profitable. From their perspective, capacity is often not lacking but in excess. Seasonal demand for their services creates an unstable “boom and bust” cycle that is difficult to maintain: fixed costs are paid all year, skilled workers need year-round paychecks.

The case studies and analysis presented in this report together suggest that addressing this problem involves a shift in the relationship between farmers and their processors, away from a series of independent transactions, conducted at arm’s length, to a longer-run interdependence. The shift from convenience to commitment includes not only enhanced coordination and communication but “hard” commitments: farmers commit, individually or in coordinated groups or brands, to providing the processor with sufficient, steady business, i.e., livestock to process. Processors commit to processing those livestock to farmer specifications, consistently and on time. Strengthening commitments between processors and farmers – as well as along the entire supply chain – is essential to maintaining and expanding the processing infrastructure necessary for growth in local meats.

We drew on case studies of successful local and regional processors to illustrate what commitment looks like in practice. Having a few key “anchor” customers provides steady volume and consistent business. Some processors are their own anchor customer, providing the majority of the throughput. When farmers aggregate into a single niche brand, that brand can be a valuable partner for processors because it can deliver steady throughput and coordinated communication that can often be difficult for farmers to deliver individually.

Processors can use tools like active scheduling systems and variable pricing to assure that throughput is steady, week by week and over the year. This is part of their commitment to farmers, who know they will have processing dates for their livestock. Processors who help their farmers-customers with business advice, marketing, and distribution, for free or for a fee, can build good working relationships and long-term loyalty as well as build demand for their own processing services. Deeper, “stage two” commitment comes when farmers invest in their processors financially, for mutually beneficial development. Ongoing communication underpins the entire relationship. Whether about scheduling or services, costs or prices, meat quality or market conditions, processors and farmers need to communicate effectively with each other to develop and maintain strong business relationships.

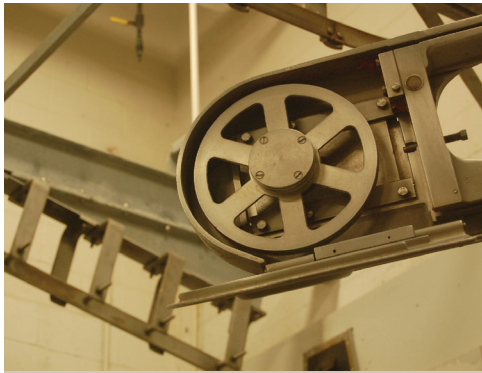
We also described collaborative efforts around the country focused on local meats processing using a variety of strategies. Government agencies, universities, non-profit organizations, and others have an important role to play through research, technical and

regulatory assistance, investment, and facilitating connections and peer-to-peer learning not only between farmers and processors but all along local meat supply chains.

As illustrated by all of the case studies in this report, there are no “one size fits all” solutions. Local needs and conditions will influence what business models work best for farmers, processors, buyers, and others involved with local meats. In some locations where processors are lacking or are unable to work with local farmers, it may make sense to build new processing businesses to serve local markets if there is enough actual demand to support those businesses. Yet in most locations, supporting existing processors, including helping them enhance and expand their businesses profitably, will likely be more efficient and effective. As one interviewee said, “Our state already has eight small plants, and they’re all struggling. If we build another, we’ll just have nine that struggle.”

Future considerations

As noted above, we conclude that building more established, predictable, and committed relationships between processors and farmers is essential to the resilience and expansion of processing for local meat and poultry. Farmers often ask what their processors can do for them, but the role of farmers in supporting the relationship is equally important.



As demonstrated by the stories from Vermont and North Carolina, technical assistance and capacity building for processors can be very effective in enhancing local meats processing. Examples include business and management skills training, assistance with grantwriting, help in transitioning to USDA inspection or third party certification, even help setting up, implementing, and maintaining scheduling systems like those used by Smucker’s Meats and the Island Grown Farmers Cooperative. While not addressed extensively in this report, development of and education about scale-appropriate food safety techniques and interventions also are an important category of technical assistance for small plants.

Public policy angles can also be important.⁵¹ State and local governments – for example, in Wisconsin, Vermont, Minnesota, and North Carolina – have played a role with public investment (for example, appropriations, tax credits, tax incentives, or loan guarantees) for processing plant and equipment upgrades. Other options include tax incentives and loan guarantees to back processors during start-up and/or expansion, and outright grants.

State legislatures can also direct and support relevant state agencies to allocate staff time to work on these issues, providing not only technical support to individual plants but statewide leadership on industry-scale challenges and solutions.

Other potential policy angles with potential to support local meats processing and local meats include clarifying Food Code variance requirements, implemented at the state level, for retail dry cured meat products; clarifying federal poultry processing exemptions, e.g.,

⁵¹ Policy angles and lessons learned are discussed in more detail in Gwin and Thiboumery 2013.

regarding multiple users of the same equipment; working with state and local agencies to allow innovative wastewater management systems and on-farm offal composting;⁵² and including local meats in state and local procurement orders/purchasing specifications.

Training and capacity building can also target farmers, for example, to improve communication with their processors, as the Northeast Livestock Processing Service Company has done (Harris 2011), and to understand their processors' business and regulatory environment (Wenther 2009). Even when farmers are not formally organized (e.g., as suppliers of a niche meat company or as a cooperative) they can help their processors by working with each other to spread their collective demand for processing over more of the year.

Farmers who supply niche meat brands that use small, local or regional processors should also recognize the long term benefits of maintaining established coordinated marketing arrangements and relationships, even in times of high commodity livestock prices. When commodity prices are high, fewer farmers try to sell animals through niche markets, and this reduces business for the small processors who handle niche brands. Farmers strive to make the best decisions for their own operations, yet if they lack commitment to their brands, those brands may not be able to commit to processors, and processors may not survive.

Local meats – and therefore local meat supply chains – are still relatively new. What we may be witnessing is an early and at times difficult evolutionary period of this sector. The different types of local we identified in the beginning of this report are likely to evolve in different ways. Different companies will make different choices. For example, Island Grown Farmers Cooperative plans to stay at its current size, while Lorentz Meats intends to grow while assuring it can still work with small, local direct marketers. Commitments across the supply chain will matter to both.

The outlook is promising: a number of new and proposed processing plants, focused on local meats, are in the works, and some are now up and running. Custom-exempt plants waiting to see if “local meat” is more than a fleeting trend are cautiously transitioning to USDA inspection. Their ability to survive and thrive depends on whether they have committed business relationships with those who want their services.



⁵² Oregon's Department of Environmental Quality's effective program ranks proposed composting operations by risk level and keeps requirements minimal for low-risk operations, which include a small, custom-exempt slaughter and processing plant.

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