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Number 150

June 2013

Local Meat and Poultry Processing

The Importance of Business Commitments for Long-Term Viability

Lauren Gwin, Arion Thiboumery, Richard Stillman





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**Lauren Gwin, Arion Thiboumery,
and Richard Stillman, stillman@ers.usda.gov**

Abstract

Consumer demand for local food, including local meat and poultry, has risen in recent years. To sell meat, farmers need access to appropriately scaled processing facilities with the skills, inspection status, and reliability 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. This report explores this multi-faceted problem and identifies fundamental causes, drawing on a cost analysis of local processing. Case studies of seven successful local and regional processors illustrate strategies or best practices currently in place: farmers commit to providing consistent throughput of livestock to process, and processors commit to providing consistent, high-quality processing services. This long-term 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. Also, five public-private collaborations around the country demonstrate how to expand opportunities for local meat marketing by providing support and technical assistance to meat processors and their farmer customers.

Keywords: livestock, slaughter, cattle, hogs, poultry, niche, local foods, production, mobile slaughter units, local slaughter, meat processing

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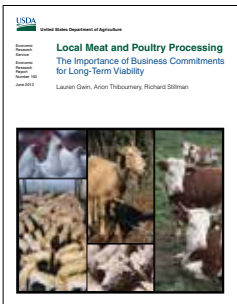
Use of commercial and trade names does not imply approval or constitute endorsement by USDA.

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Local Meat and Poultry Processing

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Lauren Gwin, Arion Thiboumery, and Richard Stillman

What Is the Issue?

Bringing local meat and poultry to market requires access to appropriately scaled processing facilities with the skills, inspection status, and reliability to prepare these products safely, legally, and to customer specifications. Farmers often 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, small processors often lack the steady, consistent business they need to be profitable while providing high-quality services tailored to individual customers. Demand for their services varies significantly by season, or animals are not delivered for processing when scheduled. Expense estimates suggest that, to be profitable, 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 may not always be 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.

Key "anchor" customers are critical for processors to ensure 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 bring 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 than an individual farmer to coordinate consistent scheduling. Processors can use tools like active

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scheduling systems, variable pricing, or penalties to ensure that throughput is steady, week by week and over the year.

Commitment matters on both sides: it is important for processors to 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—is essential to developing and maintaining strong business relationships.

The report also describes examples of existing regional, collaborative efforts to address the needs of farmers and processors in local markets. These efforts include providing technical expertise for existing small processors; 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 across communities and regions.

How Was the Study Conducted?

The study draws on three sources of data: (1) indepth case studies of seven meat and poultry processors located across the country via site visits and phone interviews during 2011-12, supplemented with background research; (2) interviews with long-time observers and other experts on this topic during the same time period; and (3) cost analyses developed using data from a financial analysis of small meat plants in 2009-11.

Introduction

Consumer demand for local food, including local meat and poultry, has risen in recent years (Low and Vogel, 2011; Martinez et al., 2010; FeedInfo News Service, 2010). Livestock farmers are interested in selling locally for many reasons, including the potential to receive premium prices, 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 foodservice).

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. Farmers and others suggest that limited processing infrastructure restricts the supply of local meat and poultry (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 of the supply chain breakdown, and use case studies of successful local and regional meat processors to illustrate best practices, strategies, and solutions. We conclude that improving coordination and communication between processors and their customers—as well as along the entire supply chain—is essential to the success and expansion of local meats. We also describe collaborative efforts around the country that address problems faced in local meat processing and marketing. These efforts harness the experience and expertise of a variety of partners, public sector and private, to provide information, guidance, and direct technical expertise.

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 multistate region.¹ 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 supply chain participants (fig. 1). Table 1 illustrates 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 slaughterer² may come to the farm, or the farmer may deliver the animal to a processing facility. For red meat, the household buyers place the

¹As 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.

²In 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.

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, eviscerating, 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 inhouse, 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 foodservice company, or other buyer that sells to the end user.

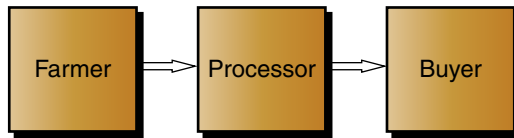
We also use the word “farmer” to refer to people who raise livestock. Other possible terms are “rancher” and “livestock producer” or “producer”; “rancher” is largely a western term, and some readers may consider a processor to be a “producer.” In some case studies, those profiled use these other terms.

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

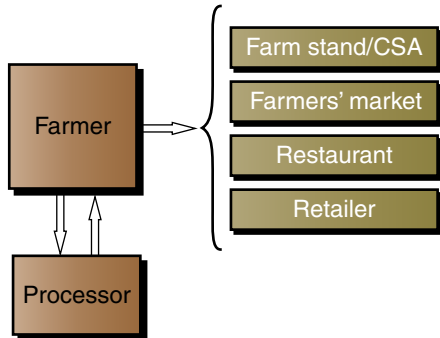
Figure 1

Three types of local¹

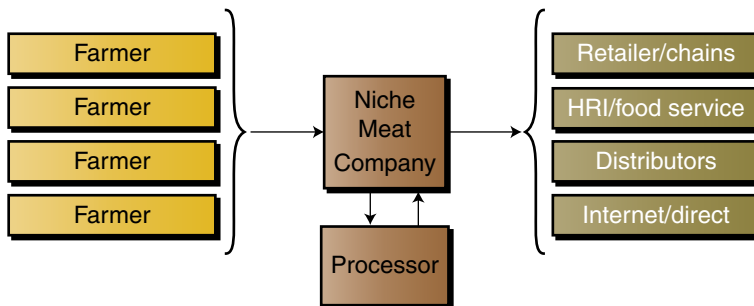
(1) Very local



(2) Local-independent



(3) Regional-aggregated



¹CSA in (2) refers to Community Supported Agriculture, or “box schemes”; HRI in (3) refers to a category of buyers: hotel, restaurant, and institution.

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.³ 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.

³This is often done under the Producer/Grower 1,000 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).

Table 1
Characteristics of the three types of local

Type	Geography	Product	Market	Regulatory ¹	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: 1,000-bird exemption	Buyer pays farmer for live animal pre-slaughter; pays for processing, picks up meat.
Local-independent	Highly variable: from one county to multistate	Individual cuts and cooked meats vac-packaged or paper wrapped, labeled, fresh or frozen. Poultry: whole-carcass, parts.	Retail (farmers' markets, farm stands, Community Supported Agriculture, restaurants) and 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	Statewide, multistate	Same as above plus primals, subprimals, fixed-weight-portion cuts, all usually fresh in formed vacuum packaging	Mostly wholesale (to retail, foodservice, distributors, schools)	Federal inspection, or State inspection if all sales are within that State	Multiple farmers supply regional marketing entity that manages supply chain.

¹We include Talmadge-Aiken plants within Federal inspection. 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, pp. 8-9). For poultry, 1,000-bird and 20,000-bird refer to two exemptions. See footnote 3, p. 3.

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 processing type will vary: a farmer selling through the "very local" strategy might choose to sell 1 animal per year or 100. A farmer who is part of a "regional" brand might choose to raise only 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 premium prices (Thiboumery and Lorentz, 2009). This matters to processors, who are unlikely to have steady business from farmers who pursue unprofitable sales strategies.

Commonly Cited Concerns About Local Meat Processing

Processing is often cited by both farmers and processors as a critical barrier to bringing more local meats to market (table 2).⁴ The extent to which each farmer or processor confronts these barriers 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 to drive multiple hours one way to the nearest inspected processing facility. If they bring only 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 to service loans and other financial commitments and make a profit. This requires assurances of real demand, or enough farmers who will consistently bring enough animals and pay for the real costs plus a margin.

Table 2

Farmer and processor concerns about processing

What farmers say	What processors say
There are not enough processing facilities. ¹	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.

¹Particularly 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.

⁴The 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.

Expense models⁵ for meat plants operating at the three local levels 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 10 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.⁶ Operations

Table 3

Expense model features and assumptions

Very small custom-exempt	Small inspected	Regional inspected
<ul style="list-style-type: none"> - 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 full-time-equivalent employees 	<ul style="list-style-type: none"> - 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 full-time-equivalent employees 	<ul style="list-style-type: none"> - 15,000 sq. ft. facility - All product USDA inspected - Regular third-party audits (good manufacturing practices, food safety, animal welfare, certified organic) - Quality Assurance 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 full-time-equivalent employees - Offers health insurance and retirement matching benefits

⁵These 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.

⁶A 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

Annual 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 ¹	\$1,000	\$4,000	\$25,000
Processing-related overhead ²	\$30,000	\$61,000	\$450,000
Other overhead ³	\$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 (head) ⁴	462	1,130	8,884
# Beef revenue equivalent per year for cash flow (head) ⁵	442	1,084	8,580

¹Office supplies and equipment, advertising, phone/postage.

²Utilities, small tools, supplies, repairs/maintenance, vehicle expense, laundry.

³Insurance, license, property taxes, legal/accounting services, donations, dues, travel, misc.

⁴Assumes average processing revenue for all plants of \$500 per beef, \$150 per hog, \$150 per sheep or goat.

⁵Cash flow excludes depreciation expenses.

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.

The models also apply to poultry plants. At \$3/bird, a processor must process 167 birds for the revenue equivalent of 1 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 (see table 3) are desired. The models, based on averages and informed approximations, are not meant to be precise. Rather, they illustrate the relative proportions of cost for services provided and the number of livestock needed for viability at each level. Individual plants at any one of the three scales could likely be viable with 10 percent more or less revenue/livestock.

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 fully booked. 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 exacerbated if processors take in game processing during fall hunting seasons, for which they are typically able to charge a premium.

Conversely, many processors experience a “boom-and-bust” cycle throughout the year, depending on the seasonality of production in their region. While farming is fundamentally seasonal, manufacturing facilities have 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 of supply is a significant drain on processor profitability.

Similarly difficult 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 ensure supply, small, local processors usually cannot coordinate incoming livestock as effectively. While most processors 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 lost revenue for the processor, with little or no recourse.

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.⁷ Regulations related to meat and poultry processing can be complicated to understand, technically difficult to implement, and time consuming in terms of recordkeeping.⁸ 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.⁹ 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 in very small towns with outdated wastewater treatment systems may be pressured by townspeople to make expensive upgrades to their own in-plant systems.

Yet local and commodity 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 even lose money on the sale of meat at times. 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 also 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 et al., 2011).

⁷Some regulations—for example, pathogenic *E. coli* sampling—are scale-sensitive, yet small plants have proportionately higher product loss from sampling for those tests than larger plants.

⁸Regulatory consistency is also an ongoing challenge, as inspections can 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, whereas the head of Quality Assurance at a large plant is trained to question every inspector request or requirement.

⁹The 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.

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

Very few¹ 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."² He is willing to process 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. The processor interviewed estimates that a poultry processor needs to process 2,000 birds per day, 5 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."

¹The actual number of federally inspected poultry processors is unavailable because of potential confidentiality infringements due to the small number of federally inspected poultry plants in operation.

²This processor did not wish to be named.

Processing is only one reason that local meat costs more than commodity meat. Local meats may be produced in ways that cost more on a per-head basis, such as hormones-/antibiotics-free, certified organic, or grass-fed, especially in small-batch production. Yet even if onfarm costs for local production are the same as or lower than for commodity livestock production, post-farmgate costs are quite different. Table 5 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 percent of the final price of local beef, compared with 44 percent for marketing, distribution, and retail.

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 depends on 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

Table 5

Beef supply chain costs, local versus commodity

Local ¹	Pounds	Cost/lb	Cost	Share of final
Beef	13,200	\$2.10	\$27,720	42%
Livestock trucking			\$350	1%
Processing	13,200	\$0.65	\$8,580	13%
Subtotal			\$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 ²				
Beef	13,200	\$1.85	\$24,420	64%
Livestock trucking	13,200	\$0.02	\$264	1%
Distribution	13,200	\$0.15	\$1,980	5%
Subtotal			\$26,664	
30% margin for retailer			\$11,427	30%
Total			\$38,091	
Average price/lb			\$4.65	

¹Assumptions: 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%).

²Assumptions: beef price based on 2010-11 average meat yield price for 600- to 900-lb 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.

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 one approach to overcoming the local meat processing challenges is to change the relationship between farmers and processors from a series of independent transactions, conducted at arm's length on the basis of convenience, to a longrun interdependence based on 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.¹⁰

Based on our analysis of successful approaches, shifting toward business commitments, and away from convenience, is a 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/

¹⁰Our 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).

physical plant to provide those services. 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 of that capital (fig. 2).

Farmers who want to sell meat and poultry into local and regional markets have a clear motivation to work with 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.¹¹

The case studies that follow illustrate best practices, strategies, and mechanisms that characterize coordination of market participants 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).

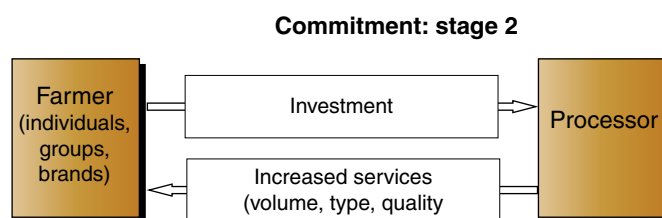
The case studies reveal that having key “anchor” customers—both individual farmers and aggregated marketing entities—enables processors to ensure a steady volume of business. Some proces-

Figure 2

Two stage of farmer-processor commitment



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



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

¹¹As 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.

sors 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 ensure 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.

Processor Case Studies

The following seven case studies profile USDA-inspected meat or poultry processors that process for local markets.¹² Each profile begins with a brief description and history of the company, explores types and levels of commitment by which the businesses have thrived, and ends with several key points that summarize the company’s success. Table 6 provides basic data about the processors profiled. We selected processors of different sizes in different geographic regions.

Lorentz Meats, Cannon Falls, MN

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 handle over 8,000 head per year. For several non-slaughter customers—including a specialty Asian sausage company and a local retail chain—they also co-pack pork sausages made from niche pork processed at three different plants in Iowa. The business has been in the family since 1968.

The current operators grew up in the business and took it over from their parents in 1997, with a focus on processing for local direct marketers and helping area farmers expand their marketing options. The firm was still custom-exempt, so the sales were “on the hoof,” in wholes, halves, and quarters, frozen. To help farmers expand their customer base, Lorentz standardized order forms, simplified billing and customer pick-up systems, and made other changes that made it easier 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, Lorentz built a new, USDA-inspected facility. They started with a \$2 million plant, \$500,000 in equipment, and \$100,000 operating capital and then lost more than \$1 million in 3 years. “We went into this with

Table 6

Basic data about the case studies

Name	Species	Employees	Head/yr	Location
Lorentz Meats	Beef/bison	70	8,000 beef/bison	Cannon Falls, MN
Smucker’s Meats	Red meat	30-35	3,000 beef/bison, 1,000 hogs	Mt. Joy, PA
Heritage Meats ¹	Red meat	7	1,000 beef, 1,000 hogs, 270 other	Rochester, WA
TFC Poultry	Poultry	50	1.4 million birds	Ashby, MN
White Oak Pastures	Beef, poultry	55	6,700 beef, 200,000 poultry	Bluffton, GA
Ranch Foods Direct	Red meat	25-30	4,000 beef	Colorado Springs, CO
Island Grown Farmers Cooperative	Red meat	6-8	300,000 lb meat ²	San Juan County, WA

¹Heritage Meats is the only plant profiled that does not have its own slaughter floor, fixed or mobile.

²Retail yield. Annual capacity was not available in number of head.

¹²State-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.

a ‘build it and they will come’ mentality and that was a terrible idea,” explains one of the owners. “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 firm found its first key customer in Organic Prairie, the meat brand of Organic Valley/CROPP Cooperative, which began by supplying 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 finally create positive cash flow for the company in late 2005. Another key turning point in 2005 was the decision to sell their retail deli and catering business in order to concentrate capital and personnel on what they considered to be the key business opportunity.

Today, the company knows it will have livestock to process each week because their three meat company customers are required to deliver fresh product on a weekly basis to their retail and wholesale customers. This pressure, according to the owners, is “better than any contract,” because “market pressure is stronger than legal pressure.” The company 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 it has no formal contracts with any of its key customers. For its part, the firm 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 the company’s business volume, and 200 local direct marketers make up another 20 percent. The remaining 15 percent comes from a handful of smaller brands and co-pack sausage customers. The company works with small-scale local farmers but is aware that they could not offer their level of service to small, local producers 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 one of the owners. “You have to have multiple competent people. And that costs money, and that kind of money takes a certain volume.”

The company extends marketing help to local farmers. It tries to encourage smaller farmers, with 10 or fewer head per year, to focus on whole-, half-, and quarter-carcass sales: 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. Lorentz also advises farmers not to sell to grocery stores, restaurants, or other wholesale customers unless they have at least 1,000 beef (head) 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. Selling and delivering the meat from more than 100 head per year typically requires more than one person’s time and skills, 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. The company and its 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 as much lead time as possible if there are significant changes; they understand that if they give up their weekly slots, the slots can be given to someone else.

Thursdays are dedicated entirely to processing for local direct marketers. Direct marketers are asked for a commitment, but with flexibility: 6 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.

Failure of customers to keep their commitments was an early pitfall for the company. 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, they now overcommit their capacity and then work overtime, if necessary. Failure to keep commitments is especially true with new customers. According to the company, “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 5 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 1 week.

In late 2011, the company 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, according to the company, “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 did not want to tie up 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 the company 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, so Lorentz allows smaller lots.

Maintaining the breadth of knowledge needed to offer everything from slaughter to sausage is challenging, 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 the company’s management. “It’s really hard to do that if you’re too small.” 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.

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 midscale 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

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.

This multi-generational business started in 1965 as a custom-exempt butcher shop with a retail store. From 1985 to 2003, they processed 200 to 300 head per year. In 2003, the firm relocated, renovated a USDA-inspected butcher shop, and continued to slaughter and process for farmers on a custom-exempt basis. In 2005, a Maryland natural meat company that needed more processing capacity financed facility upgrades to transition to USDA inspection. Demand for inspected processing from other farmers in the region jumped immediately. In 2006, the firm rewrote its 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, expanding from 6 employees in 2006 to 35 in 2012.

The company currently has roughly 150 regular processing customers, the majority from within the county and all within a 4-hour drive (about 230 miles). 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 bring only one or two head at a time, once a month or a few times a year. Their customers sell through a range of direct/intermediated local and regional marketing channels: food co-ops, small grocery stores, restaurants, farmers' markets, onfarm sales, and 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 the facility 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 fill out the year.

Over the years, Smucker's has developed working relationships with its customers in several ways. Company representatives 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. For example, when a local restaurant wanted more local beef liver, Smucker's introduced them to a farmer with extra. When that restaurant couldn't use all the trim from a different farmer it sources from, Smucker's 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."

The company also aims to build 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 2-3 months. If a farmer calls hoping to get in quickly but no space is available, he will be scheduled in the next available slot, 1 to 3 months out, but will also go on the waiting list. Every week, the company 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 plans to 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 offset by having steady, uninterrupted work and the credibility it builds with farmers.

Building credibility with customers has been important. In 2008, after analyzing their costs and margins, especially for value-added processing, the firm 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, Smucker’s has managed to avoid additional price increases, due to increasing efficiencies as employees gain experience as well as by adding new revenue streams through additional 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 2 weeks because longer aging ties up cooler space, and the carcasses, with more hardened fat, take more time to cut and trim.

The company also tries to accommodate customer requests for different cuts, certifications, and services, but they hesitate to add something new unless it can eventually be available to all customers. 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, the company thinks 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 the company make dog food, in part to convert offal into a higher value product, but Smucker’s was unwilling 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, who was ready to purchase and market the product but in need of a processor. With an actual customer in place, the company 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.

The Future

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

If local meat production grows, the company will also have to grow because they are near 100 percent capacity. They have been able to produce a bit more with the existing facility each year as employees become more skilled and scheduling more efficient. For example, in fall 2011, Smucker’s started slaughtering 2 days a week instead of 1. On Tuesdays, they slaughter hogs, which they cut on Wednesdays. The cooler is then ready for beef and bison, slaughtered on Thursdays. This increased volume is achievable by maximizing cooler space. Adding a third slaughter day would, however,

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. In the meantime, Smucker's is 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 the company by funding the transition to USDA inspection.
2. Providing high-quality service and good customer relations for many years has solidified Smucker's position with the region's many small farms.
3. The waiting list and weekly calls ensure committed throughput and build customer trust and loyalty.
4. Proximity to major markets is an important driver, but only one contributor to the company's success.

Heritage Meats, Rochester, WA

Heritage Meats is a small, USDA-inspected cut-and-wrap facility in Rochester, Washington, 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 1,000 head of cattle, 1,000 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 seven full-time staff, including four meat cutters.

This multi-generational business is built around processing and marketing local (less than 150-mile radius) and regional (Oregon, Washington, and Idaho) meats with certain core qualities: transparency and traceability, animal welfare, limited use of antibiotics, and no hormone implants. The company started in 1977 as a custom-exempt shop in a garage, shifted to retail meat processing and wholesaling in a larger location in 2006, and transitioned to Federal inspection in 2009.

The company has about 200 processing customers—most are within 100 miles, and the farthest are within 300 miles. About 40 require USDA-inspected processing; the 5 largest customers regularly bring 30-50 head per year. Heritage sells retail (farmers' markets, food co-ops, farm stands, Community Supported Agriculture (CSA) boxes) and wholesale, including the Bill the Butcher regional chain. Most of the other 160 processing customers bring only 1 or 2 animals per year for custom-exempt processing for quarter-/half-carcass sales; the largest of these brought 25 beef head in 2011.

The company uses two strategies to stay busy year-round. First, the company's own meat sales—six hogs and two beef each week, purchased from local farmers—provide a consistent base. The meat is sold to high-end restaurants, retail food co-ops, and another farm's CSA. While the original focus was on processing for other farmers for their own markets, this strategy was needed to keep the

plant busy. According to the owner: “I had to go out and create sales to provide enough throughput to keep my business afloat.”

Second, the company helps its processing customers grow their businesses and, therefore, their demand for processing. It reviews farmers’ marketing plans and offers guidance, including carcass breakdown information (e.g., cut variety and tradeoffs), seasonal shifts in demand, wholesale pricing strategies, and successful wholesale customer approaches. Heritage does test marketing for farmers who have high-quality, consistent product and want to sell to restaurants, retailers, and other wholesale buyers. It also facilitates farmer-buyer relationships, linking some 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.

The company provides freezer storage¹³ as well as distribution services, which can be very challenging for small, local farmers. Even when restaurants and foodservice companies want local meats, farmers often find the cost of getting small batches onto the mainstream delivery trucks prohibitive. Mainstream distributors also require processors to have certain safeguards—for example, running all product through a metal detector—that may be cost prohibitive on a small scale. The firm helps its processing customers by adding their products on the company’s truck during 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.”

Heritage has also relied on customer commitment to survive hard times and to expand its business. In 2009, following financial problems that threatened the business, two farmers who needed Heritage Meats to stay open invested in the company, which began processing under USDA inspection in April 2009. Later that year, a mobile slaughter unit (MSU; see box) operated by Puget Sound Meat Producer’s Cooperative (PSMPC) began inspected operation: Heritage Meats receives carcasses and handles the cut and wrap for most MSU users, though actual numbers have so far been significantly lower than originally estimated.¹⁴

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

¹³This can be quite challenging when those customers don’t track their own inventory and don’t understand carcass yields. The firm’s owner 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.”

¹⁴The feasibility studies for the MSU predicted much higher use, which has not materialized largely because (a) direct marketing is complex and challenging, 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 that are 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>.

The owner has to communicate with his customers regularly about why processing costs what it does. He finds 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. Heritage is also trying to increase efficiencies everywhere it can, which might eventually allow it to lower prices charged to farmers.

The Future

The company estimates that its plant currently operates at only 25-50 percent of its true capacity, though in the fall this is close to 100 percent. But it is optimistic about the future of local meats in the region where it operates. According to the owner, "It's growing by leaps and bounds from what I can see, and that'll have a positive effect on my business."

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 large-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 its mobile slaughter unit.

TFC Poultry Processing, Ashby, MN

TFC Poultry Processing is a USDA-inspected poultry processor, primarily chickens but occasionally turkeys, ducks, and geese, located in Ashby, Minnesota. TFC provides fee-for-service processing for small-scale, local farmers; this accounts for 5 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 the owners took over the local poultry plant, and the business has grown from processing 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 original plan was to offer inspected processing on a fee-for-service basis to local farmers selling poultry into local markets, but there was not enough regular business to stay afloat. According to one of the owners, "The small, local thing was too seasonal and not really profitable."

The owners looked for large poultry (Jennie-O Turkey, Gold'n Plump Chicken) and commodity egg-laying operations nearby. Large processors were set up to handle the broiler chickens and eggs, but these large companies had difficulty finding outlets to process the broiler-breeding hens and spent laying hens. To take advantage of the opportunity, 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 owners' own funds and \$855,000 from private investors and a loan from the local bank. The owners raised the 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.

Once the company received its USDA grant of inspection, TFC 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 60 percent of the firm’s volume.

The growth in volume has allowed the company to expand with new equipment and more people; TFC now has 50 employees. This required expanding the levels of management and eventually developing a crew of salaried working supervisors. TFC has no seasonal labor. In early 2012, it 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 TFC cuts the carcasses into parts. There is still much manual labor involved, particularly in evisceration and cutting, but the operation has evolved significantly from its small, all-manual, custom-exempt origins. To date, TFC has invested about \$1.5 million into the building and equipment. Company officials estimate that they are operating at only 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.¹⁵

The company’s stated goal is to be “big enough to do things, small enough to cater.” While TFC currently does not offer any cooked production or grinding, the owners recently purchased a mechanical deboning machine in response to customer demand. They hope to add marinating and cooking capabilities soon.

While the backbone of the business is spent commodity hens, the company is still committed to niche and local poultry. TFC processes about 375,000 birds per year for 2 organic branded meat companies in Minnesota and Wisconsin. Although the volume is relatively small, 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, TFC charges a higher price per bird. Third, the organic customers often require fabrication and deboning, which require considerably more labor from which to generate more revenue.

Most of the remaining 75,000 birds per year—including turkeys, ducks, and geese—that TFC processes are raised and marketed by small-scale local farmers. As of this writing, the company requires a 75-bird minimum processing batch size, and TFC anticipates this number will rise. According to one of the owners, “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. The company schedules dedicated days for duck and geese processing, because these species are a different size than chickens and require a different setup. There were only two duck and goose days in 2012. The

¹⁵Shipping frozen product helps because they aren’t subject to the short shelf life of fresh poultry. They also ship fresh as required by the customer.

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 poultry¹ for several reasons. First, MSUs travel to the farm, shifting some transportation costs from the farmer to the MSU operator and reducing 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.² 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. Still, 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 pickup truck.³ 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 size, capacity, and sometimes configuration. Some 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 multipart 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.⁴ Depending on State and local regulations, offal and wastewater may be composted onsite or collected for offsite disposal.

The first inspected 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. As of this writing, at least 10 MSUs are operating under Federal or State inspection in the continental United States 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.⁵ 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,

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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 onfarm 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 (1,000 birds per farmer per year); to a self-contained semi-trailer built to operate under HACCP, in which all the processing is done inside by the unit owner (State-inspected, no regulatory limit on bird numbers); to a trailer that requires a specifically outfitted docking station and for which the farmer-users receive food safety training every 2 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 rent it 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). Users 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 logistical or cost-effective manner than a fixed facility. Both types of units, especially those built and run by nonfarmer organizations for the use of farmers, have served as springboards for farmers to get started. However, as for all processing plants, the outcomes for MSUs depend on commitments from farmers to keep them busy.

¹Poultry 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.

²It 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 on these trucks 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 nonpaying guests. Farmers can pre-sell animals “on the hoof” to consumers who then order and pay for processing directly.

³An 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.

⁴The 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.

⁵The exception is a poultry MSU in Vermont built to operate under “equal to” State inspection. It was recently sold to a new operator.

owners advise small-scale farmers to book a processing day before they order chicks. “You can get chicks any week. Processing is limited.”

The Future

The owners estimate that 15-20 percent of the company’s 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, but 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.

TFC’s owners 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. According to the owners, “We see ourselves going wherever the business is. 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. The company survived and thrived after finding one large key customer.
3. It took investment and planning to cultivate that anchor customer.
4. Developing services for that anchor customer improved TFC’s abilities and attracted other customers but also made it more difficult to work with small-volume farmers.

The next two profiles are of processors that are actually meat companies with their own processing facilities. One 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 instance of commitment along the supply chain.

White Oak Pastures, Bluffton, GA

This is a vertically integrated meat company with two onfarm slaughter and processing plants located 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 firm’s own 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.

The red meat plant processes 130-140 head of cattle per week. About 10 percent are the firm’s cattle, and the rest are sourced from 16 farmers who follow the plant’s cattle-raising protocols, all but 1 located within 40 miles of the plant. The poultry plant processes 4,000 chickens per week, year round, and 2,000 turkeys for the Thanksgiving/Christmas holidays. The firm raises all the poultry and has recently added geese, ducks, and guinea fowl. The processing plants employ about 55 people.

The company grew from \$1.5 million in gross sales in 2008 to a little over \$10 million in 2010, and growth continues. The firm categorizes its products as 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 foodservice, Buckhead Beef and Halpern’s. The products (case-ready ground beef plus subprimals, very minimal case-ready cuts, and whole birds) are in stores from Miami, FL, to Princeton, NJ.

The owner began in the commodity beef industry but eventually became disillusioned with the use of antibiotics, hormone implants, and feedlot confinement, as well as the lack of control over cattle pricing. White Oak decided to try a new business model: raising grass-fed beef, with no hormone implants or antibiotics, and selling it to direct and wholesale customers. According to the owner: “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.”

The company quickly grew out of its first processor, who wasn’t willing to expand even if White Oak Pastures paid for it. The company invested its own resources, as cash and collateral, and also received funding support from the State of Georgia, Early County, and Whole Foods to build its first processing plant.¹⁶ 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. The company turned its first profit in 2009, a year after the red meat plant began operations, after losing money the previous 8 years during the transition from a commodity cow-calf operation to a grass-fed beef company.

The owner was able to build and staff his plants and can now retain his skilled employees because he already had committed markets for his product. As the plant manager explains, “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.” The company has the advantage of being its own source of throughput: as long as it has sales accounts and can raise and buy enough livestock, the plants are busy. The red meat plant began at 10 head per week and averaged 40/week the first year, 85/week the second year, and near the end of 2012 was at 130/week. The increase depended entirely on picking up new accounts and expanding existing accounts.

The firm makes long-term plans with its 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 4 to 6. The plant manager makes the loads fit together for steady, even flow through the plant. The owner uses his own cattle as a buffer to ensure consistent flow, filling in gaps left if co-suppliers cannot deliver as promised.

White Oak 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 and typically have not yet created a market for their product. Instead, the company, which has created markets, can provide local farmers with a premium price for live cattle.¹⁷

Downstream commitments from wholesale buyers have been essential to the firm’s success as a meat company and therefore as a processor. To acquire and maintain its wholesale customers, the company commits to providing a consistent product, year-round. Originally, White Oak only sold

¹⁶OneGeorgia, Whole Foods Market Local Producer Loan Program, and Early County Development Authority.

¹⁷This is consistent with comments from many processors that when commodity prices for live cattle go up, many direct marketers disappear. The company works to keep its suppliers committed to its brand.

ground beef. The conventional cattle, when transitioned to fully grass-fed and -finished, did not grade well initially, so they ground the whole carcass. The region's climate helped: year-round grass makes it easier to finish beef on grass throughout the year. White Oak 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). This proved attractive to consumers and therefore to wholesale buyers and established the company's brand and customer base, which was then ready to buy muscle cuts upon offer.

The company also spends significant time and effort on maintaining the third-party certifications and associated audits required by customers. The company and its suppliers go through about 10 audits annually, including 2 specifically for Whole Foods.¹⁸ The company has, however, 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 accommodate the request.

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 White Oak Pastures 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. Whole Foods helped 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, so the company must be careful in soliciting new accounts to keep a balance. According to the owner, "If we find a new ground beef customer, we have to find another middle meat customer to go with it. 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 difficult. Orders aren't consistent, orders are promised but don't materialize, and buyers change their terms without warning. For example, when a buyer raised the price it charges its own customers for the company's product without paying any extra for the product, it reduced sales volume without increasing White Oak Pastures' revenue.

The Future

The company believes that local artisanal meats will grow but remain a niche sector. Yet based on the company's growth to date, the owner expects that an increasing number of retailers and other resellers will be interested in the company's products, which will increase his production and processing volumes. One challenge will be growing the supply. High commodity prices limit the company's ability to source more cattle from co-suppliers because, as the owner explains, "When people can sell a weaned calf for \$1,000, 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 is at capacity. The primary bottlenecks are limited hanging space and flat storage. Rather than expand the plant, the owner is considering partnering with or purchasing another existing plant.

¹⁸The two audits required by 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.

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/audits and is not guaranteed.

Ranch Foods Direct, Colorado Springs, CO

This company is a USDA-inspected processor and retail food company, located in Colorado Springs, CO. It 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 the owner's cattle ranch in St. Francis, Kansas. The company primarily processes cattle—2,000 head/year—for its own house brand.¹⁹ It also processes about 2,000 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 10 head per year, for freezer beef sales. About 10 customers bring more at a time and over the year, though only 1 brings cattle year round, 10-20 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 of the firm's cattle are slaughtered at a USDA-inspected slaughter facility in Colorado Springs. Uncertainty about that facility's long-term commitment to Ranch Foods Direct led the processor to look for other options. It became a pilot user of a mobile slaughter unit built by the Nebraska Environmental Action Coalition/Socially Responsible Agriculture Project beginning in 2011. The USDA-inspected MSU, now owned by the nonprofit organization Renewable Harvest,²⁰ is operated at the company's ranch by two butchers and two helpers, who are otherwise employed at the ranch. As of this writing, a dozen cattle per week are slaughtered at the MSU, too few to warrant a full-time inspector. Most of the company's own carcasses go to one of two break plants²¹ to be broken into subprimal cuts, which return to the company's plant for further processing: wholesale and retail cutting, packaging to case ready (cryovac/rollstock), and portion cutting for restaurants. They also receive a small number of half carcasses to break, cut, and package to case ready.

The company started in 2000 with the goal of creating a viable alternative to the highly concentrated conventional meat industry. At first, it was only a production and marketing company, using a local, independent processor in Colorado Springs, before switching to a larger processor and expanding the business by selling ground beef to high-volume customers, including sports stadiums and restaurant

¹⁹Cattle come from the company'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 the company's on-ranch feedlot.

²⁰Renewable 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>.

²¹Colorado Natural, in Denver, and Rocky Mountain Meats, in Brighton, the only two independent boxed-meat processors left in the United States who will break carcasses to boxed meats for independent labels.

chains. When that processor left the business, the company opened its own cutting plant in leased space, took over the original processor's cut-and-wrap business, and continued to use it for slaughter. (As noted, however, the slaughter arrangement is insecure because that plant is an old facility that may require expensive upgrades soon, and one of its anchor customers is building its own plant.)

Ranch Foods helps its processing customers find stable, profitable markets, in part by warning them away from difficult markets. The company has seen many independent meat brands fail because of a stated inability to compete against distributors who offer short-term discounts to restaurants until independent competitors fold. Ranch Foods recognizes that restaurants can be valuable partners and advocates for alternative food businesses like the one they operate, but the company 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. Selling this way, the owner argues, is more profitable and stable for the farmer and is also good business for the company.

The company can provide processing on a fee-for-service basis only because processing of its own beef provides steady throughput year-round. In addition, the company's core staff stay busy with multiple enterprises, including the retail store²² attached to the plant; a home delivery service;²³ mail order; "cowpool" sales (halves, quarters, eighths, and bundles); a farmers' market; and wholesale accounts, primarily schools (eight districts) and the restaurant chain Chipotle.

The firm has not yet had to call on its processing customers for investment. Significant profits from a separate, successful business²⁴ have allowed the owner to keep the company afloat for the first 10 years spent learning the business and arranging/re-arranging the supply chain. The owner believes he could never have started or maintained his business with traditional bank financing. The company has recently become profitable, largely due to increases in fee-for-service processing, as well as retail food sales.

The Future

The company is planning to build a new, more elaborate MSU with daily capacity of 25-50 head. The three-part system will include a slaughter trailer (with onboard hide puller to increase hide revenue), a separate reefer truck for chilling carcasses, and a transport trailer to carry the carcasses back to Ranch Foods Direct. 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."

The owner believes that the local-meat sector will continue to grow. While he remains concerned about the effects of concentration in the meat industry, and what he feels is a lack of a comprehensive regulatory response, he feels that the company will survive: "We've had 20 years learning this, navigating the waters. We know where the rocks are."

²²The store sells not only Callicrate Beef but a wide variety of foods, sourced as locally as possible, including cheese, seafood, produce, bread, salsa/condiments, and pet food (made inhouse).

²³The roughly 200 members buy 6 months of food at a time; Ranch Foods Direct finances chest freezers, interest-free.

²⁴The owner invented and manufactures the "Callicrate Bander," a non-surgical castration tool.

Key Points

1. The company is its own key customer.
2. In-house processing allows the company to offer fee-for-service processing to independent, local ranchers who do their own marketing.
3. The company actively works with ranchers to improve their profitability.
4. Creating and maintaining the company's own market relationships may be the primary driver of the whole enterprise.

Island Grown Farmers Cooperative, Northwest Washington

The Island Grown Farmers Cooperative (IGFC) operates the first USDA-inspected mobile slaughter unit (MSU) in the United States. It operates the MSU in five northwest Washington counties and a small, fixed-location cut-and-wrap facility in Bow, WA. It provides processing on a fee-for-service basis for co-op members, handling beef, bison, lamb, goat, and hogs. The MSU's 2 butchers can slaughter 8-10 head of beef, or 40 sheep, or 20 pigs in an 8-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.

The co-op has 60 members, all located within a 50-mile radius (2-hour drive) of the plant, 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. They learned about the MSU concept from Broken Arrow Ranch (see MSU box) and partnered with the Lopez Community Land Trust (LCLT), which financed and until recently owned the MSU.²⁵ The farmers formed the cooperative to lease the MSU from LCLT and operate it for co-op members, who market independently.²⁶ They received their USDA grant of inspection and in 2002 began operating the MSU along with a leased cut-and-wrap facility.²⁷

Central to the co-op'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.

²⁵The IGFC MSU is a gooseneck trailer, 34' long including 8' over the hitch, on an aluminum frame, and can be hauled by a pickup truck.

²⁶LCLT is no longer actively involved; IGFC plans to purchase the MSU in the next few years.

²⁷Over time, IGFC has purchased most of the equipment from the owner.

LCLT committed significant time and human capital to the project by raising \$90,000 of the \$150,000 in startup 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.²⁸ Once the MSU was built, the 30 original co-op 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, offered only very high interest rates.²⁹

This commitment of co-op members 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. The co-op’s original prices, based on what other plants in the region were charging, were too low: after 6 months, they were losing money and had to raise prices. They have done so several times since: for example, a 10-percent increase in 2008 covered rising fuel costs and health insurance/raises for employees. Today, the co-op has six full-time and two part-time staff, but the board continues to provide time and expertise on a volunteer basis.

Their skilled lead butcher, essential to the co-op’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 function will soon transfer to an employee.

Like most processors, the co-op 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. It has addressed these problems with a scheduling system that takes advantage of the fact that, as a cooperative, IGFC must hold an annual meeting.³⁰ At that meeting, the co-op sets 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. Beef farmers must estimate when their cattle will be fat enough for slaughter, and pig farmers often select slaughter dates before piglets are born. 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. The co-op also uses financial incentives to spread the work over the year, offering a 10-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. It also penalizes farmers who aren’t ready when the MSU shows up at their farms.

²⁸Funds came from three USDA programs: Cooperative State Research, Education, and Extension Service (now Agriculture and Food Research Initiative); 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.

²⁹IGFC is now more attractive to banks and recently took out a loan to buy a truck.

³⁰Being a co-op does facilitate this process but is not actually required.

The Future

At this point, the co-op 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, the co-op purchased the MSU from the LCLT, believing that the the company was stable enough to hold that asset.

Key Points

1. An MSU was essential for the co-op 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. The scheduling system assures that (a) the unit is fully utilized and (b) farmers can get the slaughter slots they require.
4. Farmer commitment—financial, scheduling, expertise/time—is formalized by the co-op structure but transferrable to non-co-op members.

Lessons from the Case Studies

Several themes emerge from these case studies, highlighting the importance of the relationship between the processor and the livestock producer in successful local marketing enterprises:

- “Anchor” customers can provide a steady volume and consistent flow of business. Lorentz Meats, Smucker’s Meats, and TFC Poultry Processing each has one or more anchor customers that help ensure steady business for their plants. Some processors—including Heritage Meats, White Oak Pastures, and Ranch Foods Direct—are their own anchors, providing some or all of their throughput. In these cases, the processors have developed their own wholesale or retail marketing channels through national or regional retail chains (White Oak Pastures, Heritage Meats), restaurants (Heritage Meats), and various smaller scale retail formats (Heritage Meats, Ranch Food Direct). 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. Aggregating provides a steady flow of animals because of access to multiple farmers and allows coordination with processors for more consistent scheduling. White Oak Pastures and Heritage Meats both aggregate animals from farmers to produce some of the product they market through their own channels.
- Management tools can be useful in ensuring adequate throughput and customer commitment. Processors can use tools like active scheduling systems (Lorentz Meats, Smucker’s Meats, TFC Poultry, White Oak Pastures, Island Grown Farmers Cooperative), variable pricing (Lorentz Meats), and even penalties (Island Grown Farmers Cooperative) to ensure 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 such as Lorentz Meats, Smucker’s Meats, Heritage Meats, and Ranch Foods Direct 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. Among the case study firms included here, Lorentz Meats, Smucker’s Meats, Heritage Meats, White Oak Pastures, and Island Grown Farmers Cooperative all benefited from investments made by either upstream or downstream customers.
- Finally, underpinning all of the commitment is communication. Each of the successful processors profiled here appears to communicate effectively with farmers about scheduling and services, costs and pricing, meat quality, and market conditions to develop and maintain strong business partnerships.

The case studies say little about a number of commonly cited local meat processing and marketing challenges, such as regulatory compliance, finding and keeping skilled workers, and the cost of byproduct disposal. Processors were asked about all of these topics, and they had different approaches to and opinions about them. 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 with which to hire and retain skilled staff and, once scale becomes sufficient, to pay for “indirect” labor, including staff for regulatory compliance and quality assurance.

Private and Public Resources for Local Meat Processing

The farmers and processors engaged in local marketing of meat products derive support from a number of public and private organizations that work regionally and nationally to maintain, support, and in some cases, create processing for local meat and poultry. These collaborations and networks can 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.

The collaborations and networks described here 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 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 et al., 2012). USDA's Food Safety and Inspection Service 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, nonprofit organizations, and businesses—individually and collaboratively—provide a wide array of technical expertise and guidance around local and regional food systems more generally,³¹ some with a focus on meat. For example, universities and others have developed 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 efforts largely driven by interest in expanding the local meat and poultry sector, rather than supporting small processors per se. These relatively new groups are working to understand and address the problems faced by local processors.

Vermont: Meat Processing Task Force

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 initiatives—one at the State level and one regional—kicked off efforts in 2009 with meat processing as a priority.³²

³¹At 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.

³²The 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 respectful of working landscapes.

The Vermont task force concluded that building new slaughter 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). This result was supported by a survey of 20 of the 28 inspected processors in New England (Lewis and Peters, 2011) and a similar study in Vermont conducted by the Northeast Organic Farming Association, which found that the seasonality of demand for processing was a critical problem. In addition, both storage and cut-and-wrap capacity appeared to be tighter bottlenecks than slaughter capacity.

As a result, the task force has focused primarily on how existing processors can meet local demand. They determined that, although some farmers—lamb farmers, for example—may be having difficulty finding processing, building another plant that also may struggle with thin margins, seasonal demand, and a limited labor pool may not be prudent. In 2010, the task force³³ set out to do a more detailed assessment 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 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. 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. The task force also organized workshops covering carcass assessment and quality, regulations, and marketing to improve farmer-processor relationships, largely by showcasing processors as an important and knowledgeable resource. The task force is now working on solutions to the two top problems for processors: highly seasonal demand and limited labor, and collaborative marketing arrangements that 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.

Vermont’s meat processing task force has been sustained because of strong State support for its members’ work. The diverse representation on the task force—public agencies, the university, non-government organizations (NGOs), private funders, and private-sector businesses—brings multiple perspectives and skills to the table to support the State’s meat processors and farmers.

³³The 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.

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

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. Processing quickly became a focus, particularly value-added processing: sausage, bacon, and cured meats. Though the State had 20 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.

NC Choices 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. They helped the company write grants for new equipment and business development. ASMF has grown from 10 employees to more than 25 and processes for 80 different farmers, with Whole Foods as a major customer. To facilitate wholesale markets, NC Choices partnered with Weaver Street Market (WSM), the State's largest natural foods' cooperative, helping WSM find local beef suppliers and purchase on a whole-carcass basis for their three retail stores. Because many restaurants, foodservice accounts, and specialty grocers do not have the specialized equipment and expertise to source directly, work with a processor, or buy whole carcasses, 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/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, according to the project's director, 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, works with NC Choices on reducing regulatory confusion, and surveys the State's processors to learn what services they offer farmers.³⁴ NC Choices worked with MPID to change the annual limit for onfarm poultry slaughter from 1,000 to 20,000 birds and then collaborated on farmer education about the new rules and market opportunities.

NC Choices has now extended its technical assistance to processors. Expanding the local food sector requires understanding existing infrastructure and capacity, especially for meats. According to the director, “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 hosted the first Carolina Meat Conference in March 2011, attracting more than 300 farmers, processors, marketers, consumers, and regulators for sessions covering production, farmer-processor collaboration, marketing, meat cutting, animal handling, and onfarm poultry slaughter. Next, they created the Carolina Meat Institute (CMI) to bring in nationally recognized experts to

³⁴MPID 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>.

teach classes on growing a meat business, carcass breakdown, charcuterie, and related topics. To date, more than 700 participants from 16 different States have attended CMI workshops.

Realizing that small, local processors who could process for local meat farmers were not always set up to do so, NC Choices also launched a technical assistance program tailored to processors' specific needs. Based on the initial success of this program, NC Choices has begun to offer hands-on assistance to other small processors, focusing on business development and technical training, to grow their businesses and advance the niche meat industry in the State. According to the project director, "We kept getting all these calls about business plans for new processing plants, but we kept saying, what about the processors who are already in business? What can we do for them?"

Northeast Livestock Processing Service Company

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 in 1999 as a way to help farmers who sold sides and quarters and were increasingly having trouble getting their animals processed. NELPSC was started by the Hudson Mohawk Resource Conservation and Development Council, with a grant from the State Department of Agriculture and Markets.³⁵ It is a for-profit limited liability company (LLC) with an all-farmer board of directors and one full-time paid employee.

The company's original mission was "processing facilitation." For a one-time fee of \$50, NELPSC matches farmers with processors that meet their needs (location, pricing, services provided); schedules slaughter dates; and conveys cutting instructions. For an additional fee, because of the time required, it provides quality control oversight in the plant when a farmer's livestock are being processed. By 2008, NELPSC had more than 60 farmer clients and worked with 8 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. NELPSC then turned 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. NELPSC finds the buyers, takes orders, and calls on farmer members to select livestock, mostly grass-fed beef culls, to fill those orders. NELPSC arranges for slaughter and processing at one of the federally inspected, third-party-audited plants it works with regularly and delivers orders in a refrigerated NELPSC 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 its board, NELPSC pays farmers a premium price and stays out of direct markets, where it might compete with its members. According to the project coordinator, "We sell where they can't sell for themselves."

³⁵The Rockefeller Foundation funded the initial feasibility study.

In the early years, NELPSC kept its fees to farmers low by supplementing with grants from the NY Farm Viability Institute and private foundations. 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 its member processors, providing steady throughput in higher volumes than individual farmers typically deliver. NELPSC 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) owned by Local Infrastructure for Local Agriculture (LILA) for operation in the Hudson Valley.³⁶

NELPSC sees a very different local meat processing landscape today than 10 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. So far, they see enough business for the new plants. They credit the progress in New York to entrepreneurial farmers and processors, along with the NY Farm Viability Institute, the Center for Agricultural Development and Entrepreneurship, and other supportive State and nonprofit organizations. According to the coordinator, "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 and inconsistency 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 State 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 county "sanitarians." These county officials have a wide array of responsibilities and often very little training in food and food safety; as a result, they vary widely in their willingness to allow local meat and poultry products into the market. Poultry (along with farm-fresh produce and eggs) is 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.

In response, the State 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 now 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 rulemaking to clarify and fill gaps. Another priority is legal training of the enforcement agencies.

Other partners in this effort include the Mission Mountain Food Enterprise Center; Alternative Energy Resources Organization (AERO), Montana's long-time, nonprofit sustainable agriculture

³⁶The 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>.

and food systems membership organization; and more recently, the State school food and nutrition program, within the State Office of Public Instruction.

Niche Meat Processor Assistance Network

The Niche Meat Processor Assistance Network (NMPAN) was created to facilitate connections and learning among local and regional organizations involved in issues related to local meat processing. 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 e-mail list software.

The network includes people from universities, primarily cooperative extension departments; Federal and State departments of agriculture, health, and others with relevance to local meats; nongovernmental 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, NGOs, and government, including the Small Plant Outreach Office of USDA's Food Safety and Inspection Service (FSIS). 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 central goal of the project is to combine site-specific technical assistance through State affiliates with coordinated action for large-scale, systemic solutions to challenges facing the niche meat processing sector. 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.

Conclusion

Consumer demand for local meat and poultry is increasing. To service this market, farmers need 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 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 and skilled workers need year-round paychecks.

The case studies presented in this report together suggest that addressing this problem requires a shift in the relationship between farmers and their processors away from a series of independent transactions, conducted at arm’s length, to a long-term interdependence. Increased commitment on the part of both farmers and processors involves 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 customers, 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 farmer-customers with business advice, marketing, and distribution—for free or for a fee—can build good working relationships and long-term loyalty. Deeper commitment comes when farmers invest in their processors financially, for mutually beneficial development. Investments in local processors by their downstream wholesale customers can also be important for success. 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 meat processing using a variety of strategies. Public agencies, universities, nonprofit organizations, and others have contributed 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. But, in many locations, it appears that supporting existing processors—including helping them enhance and expand their businesses profitably—may be more efficient and effective.

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