PROCESSING

Minimum Slaughter and Processing Requirements for Legal Production, Processing, and Sales of Meat

Scenario #1 Neither Animal nor Meat is sold

Animal stays on ranch where it was produced → **Slaughter:** Animal slaughtered on the ranch where it was produced by rancher or mobile custom slaughterer[1] → **Processing:** "Custom Exempt" processing [2] → Consumption by owner[3] Meat cannot be sold

Scenario #2 Animal Sold then Slaughtered and Processed – Meat Cannot be Sold

Live animal sold- owner[4], must leave ranch for slaughter[5] → **Slaughter:** "Custom" slaughter for owner at CDFA or USDA licensed slaughter facility[6] → **Processing:** "Custom Exempt" processing → Consumption by owner Meat cannot be sold

Scenario #3 Meat is Sold

Producer does not sell animal → **Slaughter:** Producer has animal slaughtered at USDA inspected facility → **Processing:** Processing done at USDA facility → Wholesale or retail sales Maximum flexibility

Producer has animal slaughtered at USDA inspected facility ↓ **Processing:** Processing at County EHS inspected retail facility such as restaurant, grocery store, or specialty store ↓ Retail sales on site

Producer has animal slaughtered at USDA inspected facility ↓ **Processing:** Smoking, drying, curing, rendering at CDFA inspected facility ↓ Retail sales on site

Processing done at USDA facility ↓ **Further Processing:** Further processing at County EHS inspected retail facility such as restaurant, grocery store, or specialty store → Retail sales on site And limited wholesale[7]

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[1] Mobile custom slaughterers, also called "farmer's helpers" or "A-framers" must be registered with the state brand inspector but do not perform animal inspection.
[2] Bud's, Ibleto, Martindale's, Willowside are also CDFA inspected for the smoking, drying, curing, and rendering aspects of their operations.
[3] Owner includes members of the owner's household and the owner's non-paying guests and employees. Intended for consumption in the owner's household.
[4] Owner means the customer(s) who purchased the animal from the producer – can be one or more people.
[5] Unless slaughtered in mobile USDA slaughter facility or **possibly** mobile CDFA inspected slaughter facility (neither of these yet exist in California).
[6] Unless done in mobile slaughter facility (see footnote 2). There is not a CDFA inspected slaughter facility in Marin or Sonoma Counties.
[7] At least 75% or more sold retail on site where processing occurred or other location under same ownership in "normal retail quantities". Up to 25%[7] can be sold wholesale to hotels, restaurants and institutions (referred to as HRI – does not include grocery stores)

California Department of Food and Agriculture
Meat and Poultry Inspection Branch
1220 N Street, Room A-125
Sacramento, CA 95814
(916) 654-0504

What We Do

The **Meat and Poultry Inspection Branch** licenses and inspects the following meat and poultry establishments that are exempt from federal (USDA) inspection:

- **Retail Processors** who prepare meat and poultry products by curing, smoking, drying, or rendering or who cook pork products for retail sales only, except products of fallow deer, which can be transported and sold in commerce.
- **Custom Livestock Slaughter Plants** that slaughter cattle, sheep, swine, goats and fallow deer raised or bought live by owners. The meat from cattle, sheep, swine and goats is used by the animal's owner, members of the owner's household, nonpaying guests and employees. It cannot be sold. Fallow deer meat can be transported and sold in commerce.
- **Poultry Plants** that slaughter species that don't require (non-amenable) federal inspection: rabbits; small game birds such as quail, pheasant, and partridge.
- **Retail Poultry Plants** that sell live poultry and slaughter them for the customers.
- **Poultry Plants** that slaughter or process fewer than 20,000 poultry of all amenable species (chickens, ducks, geese, guineas, squab and ratites) or fewer than 5,000 turkeys a year.

The Branch trains, licenses and evaluates: **Poultry Meat Inspectors** (PMI) who inspect poultry and rabbits in licensed poultry plants, **Livestock Meat Inspectors** (LMI) who inspect livestock in licensed custom livestock slaughterhouses and **Processing Inspectors** (PI) who inspect meat and poultry products in licensed retail meat processing establishments. PMIs, LMIs and PIs also enforce sanitation standards, pest control, humane handling and slaughter, inedible/condemned material control, marking and labeling and record-keeping requirements in licensed plants.

The Meat and Poultry Inspection Branch also licenses and inspects the following:

- **Renderers** who recycle animal carcasses, packinghouse waste and inedible kitchen grease into animal feed ingredients and inedible industrial fats, oils, and other products.
- **Collection Centers** used for temporary storage of animal carcasses, packinghouse waste and inedible kitchen grease before transport to a licensed rendering plant.
- **Dead Haulers** who transport carcasses of dead livestock and horses.
- **Pet Food Slaughterers** who slaughter animals for use as pet food.
- **Pet Food Processors** who prepare fresh or frozen raw meat products for pet food.
- **Importers** of fresh or frozen raw meat, meat by-products, horsemeat, poultry meat or poultry meat by-products for pet food or horsemeat for human food.

The Branch registers **Transporters of Inedible Kitchen Grease**.

The Branch provides **Import Inspection** of slaughtered non-amenable poultry species shipped to California from other countries and reviews for approval or disapproval inspection systems of other states and foreign countries desiring to ship slaughtered non-amenable poultry species to California..

The Branch reviews sanitation and records at **Custom Exempt Establishments** (locker plants that cut, wrap and process meat from farm killed livestock; custom livestock slaughterhouses; poultry plants).

The Branch conducts **Compliance Investigations** into alleged violations of sections of the Food and Agricultural Code pertaining to the above activities.

Facilitating Direct Sales of Meat Products in Tuolumne County: A Progress Report

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March 9, 2006

Summary

Livestock producers in Tuolumne County have long provided a portion of their annual production for sale directly to consumers. Consumers are increasingly interested in buying directly from ranchers. The main impediment keeping Tuolumne County producers from meeting rising demand is the lack of local USDA-certified processing. A feasibility study determined costs for constructing and operating a 1000 to 2000 head per year processing facility that would utilize existing USDA-inspected slaughter houses in Modesto, Merced, or Los Banos. The detailed cost analyses facilitated a decision by a local rancher to construct a processing facility contingent upon a business being formed to lease and operate it. A group of Tuolumne County livestock producers is currently forming such a business. It is anticipated that once the processing facility is operating, producers will need to pool resources in a marketing and distribution organization to meet demand. The marketing organization would have location and production protocols for membership and would require finish inspection for individual animals to be marketed in the program. The marketing group would consist of an umbrella label for a group of individual ranches with their own products.

List of Tables

Introduction

In 2003, a small group of Tuolumne County livestock producers began meeting to determine how they could increase direct sales of ranch-raised, grass-finished beef. The members of the original group are long-time ranchers who derive their main source of income from selling beef calves on the conventional market. They each sell up to 20 percent of their annual production directly to consumers as grass-finished beef and would like to increase those sales. The group has since broadened its scope to include farm-raised grass- and/or grain-finished beef, lamb, pork, and goat.

The group quickly identified the main impediment to increasing direct sales to be lack of local USDA-certified processing. The nearest facility that provides those services is Johansen's Meats in Orland, CA – a one way haul of over four hours. As the only service of this type in the region, Johansen's Meats also has a very full schedule. Two members of the group regularly utilize this service, however, and find that direct sales are still profitable. They identified lack of marketing and distribution abilities as secondary impediments that will arise once availability of processing allows increased production potential.

Working with UCCE, the group acquired a USDA Cooperative Development grant in fall of 2003 and contracted with consultants over the following two years to determine costs estimates for processing and marketing.

Processing Considerations & Costs

Though there are three USDA-certified slaughter facilities within two hours drive time from Jamestown, there are no suitable processing facilities closer than Johansen's in Orland. The group agreed that a new processing facility, that could be expanded to include slaughter via a mobile or fixed structure, would need to be built in or near Tuolumne County for direct sales to expand.

In fall of 2004 we contracted with Bruce Dunlop, Lopez Island Farm, to provide estimates of capital costs and operating expenses for USDA-inspected slaughter and processing alternatives, including:

1. Contracting all services (i.e., Johansen's Meats);
2. Contract slaughter at an existing plant;
3. On-farm mobile slaughter;
4. Dry-aging, fabrication, and packaging.

Contracting all Services (status quo)

Table 1: Estimated costs for processing Tuolumne County beef at Johansen's, Orland.

		Cost per Head of Beef
Transport of beef to facility (10 head per trip)		$30
Slaughter fee		$50
Meat Delivery Cost		$25
Fabrication & Packaging	550 lb avg. carcass @ $0.60/lb	$330
Total Cost		**$435**

Contracting USDA Slaughter at Existing Plant

Livestock could be transported to a USDA-inspected slaughter-only facility in Modesto (multi-species), Merced (beef only, organic certified), or Los Banos (beef only). Carcasses would then be shipped to a Tuolumne County fabrication facility for aging, cutting and packaging. These facilities indicated that they could provide refrigerated transport of carcasses to the processing plant for a nominal fee to cover fuel.

Table 2: Estimated costs for USDA-inspected slaughter at an existing plant (i.e., Stagno's Meat Co., Modesto, which is 50 miles from Jamestown, Tuolumne County).

	Cost per Head of Beef
Transport of beef to facility (10 head per trip)	$15
Slaughter fee	$30
Carcass Delivery Fee	$5
Total Cost	**$50**

On-Farm Mobile Slaughter

On-farm USDA-inspected slaughter has proven to be an excellent option for small-scale processing operations in USDA regions where they have been approved. Unfortunately, USDA offices in California have yet to approve this type of operation. Mr. Dunlop designs and manufactures mobile slaughter units and provided the following capital and operating costs for a new-generation unit that would consist of a refrigeration truck transport module that would pull a trailer processing module.

The Processing Module trailer is outfitted for slaughter, skinning and evisceration of livestock from live animal to clean inspected carcass. The Transport Module is a refrigerated truck with a customized body. It provides cold hanging storage for carcasses and is the tow vehicle for the Processing Module. During operation the Transport Module is docked to the Processing Module and they operate as one facility. The mobile unit can travel to a different site each day of operation for use as a USDA inspected multi-species slaughter facility. Processing capacity for this unit is 12 head of beef per day.

Table 3: Estimated capital cost of a mobile livestock processing unit.

Transport Module	**All New**	**Used**
Truck Chassis (new)	$37,000	
Truck Chassis (used diesel, 26,000 lb GVW 130,000 miles)		$27,000
Refrigerated box 20 ft (new custom made)	$27,000	
Refrigeration unit (new)	$14,000	
Refrigerated body 24 ft (used with modifications required) (Includes Thermoking refrigeration unit with 8,800 hrs)		$7,900
Modifications to used body		$4,500
rail system	$3,000	$3,000
Equipment per specification	$3,500	$3,500
Processing Module		
Custom Built 15 ft trailer	$58,000	$58,000
Outfitted per specifications		
rail system	$900	$900
Total Hardware	**$143,400**	**$104,800**
Project Management & Design, Taxes, Transportation, Staff Training and Startup Costs	$35,000	$35,000
Total mobile processing unit cost	**$178,400**	**$139,800**

Table 4: Estimated costs for operations of a mobile livestock processing unit.

Staffing Level	3
Daily Capacity (beef)	12
Operating Days per Year	180
Nominal Annual Capacity	2000
Breakeven Slaughter Cost for Beef	$52
ANNUAL INCOME	
Slaughter Services	153,660
TOTAL INCOME	**$153,660**
ANNUAL EXPENSES	
Butcher	30,132
2nd Butcher	25,110
Butcher Assistant	20,088
Unloader/cleaner	5,859
Payroll tax & Benefits	9,626
Mobile Unit Fuel & Oil	8,035
Propane	167
Equipment Repairs	4,610
Insurance (auto portion)	4,000
Consumable supplies	10,756
Vehicle Taxes & License	672
Total MSU Costs	**119,055**
G&A	
Manager (25% time)	10,000
Payroll tax & Benefits	2,500
Telephone	600
Licenses & Permits	150
Office Supplies	1,080
Accounting & Legal	1,080
Postage	540
Bank Charges	192
Mobile Unit Loan Payment	18,463
Total G&A	34,605
Total Expenses	**$153,660**
OPERATING PROFIT (LOSS)	$0

In realitý, administration, overhead, and many other costs would be shared with the processing facility if run by the same business. Running at capacity of 2000 head per year (beef) on-farm slaughter costs ($52 per beef) are similar to the estimated contract slaughter costs ($50). As utilization drops, however the break even cost of on-farm slaughter increases. At 1000 head per year, the cost per head would increase to $74.

Dry-Aging, Fabrication, and Packaging

The fabrication facility described here is designed to processe up to 12 head of beef per workday. The actual production is expected to vary seasonally with a nominal annual capacity of 2000 head. Activities that would be conducted in this facility include:

1. Receiving of beef carcasses as sides or quarters.
2. Dry aging of beef as sides or quarters for up to 14 days.
3. Fabrication of beef into primal cuts for wholesale sales and case ready retail cuts.
4. Packaging of cut meat products into plastic vacuum pouches and labeling.
5. Freezing and short term frozen storage of finished meat products.
6. Retail storefront for fresh and frozen product sales.
7. Shipment of finished product.

The facility is designed for construction in two stages. The base size is 48' X 100' X 16' with only the front 45' X 57' cutting room fully enclosed. The outside walls of the coolers would serve as the exterior walls for the remainder of the building. The base building size is designed to run two cutting and packaging lines for processing 12 head per day of average size (550 lb) beef carcasses. The chill cooler can handle 12 head per day and the holding (dry-aging) cooler will hold 50 beef carcasses. At full production it will be necessary to add additional holding cooler and freezer capacity. The capital cost to construct this size facility presented in Table 5 includes all the construction costs and equipment needed for operations.

Table 5: Estimated capital costs for fabrication facility.

	Full Production (12 hd/day)	**50% Capacity (6 hd/day)**
Base Building	288,000	288,000
Electrical	85,000	85,000
Rail System	30,750	20,500
Cutting Room Fixtures and Equipment	66,000	35.500
Refrigeration:		
Freezer	56,000	28,000
Chill Cooler	21,000	21,000
Aging Cooler	98,000	49,000
Cutting Room	7,000	7,000
Retail Counter	4,000	4,000
Sub Total	**$655,750**	**$538,000**

Table 6: Projected annual profit and loss for a Tuolumne County USDA-inspected beef fabrication facility.

INCOME		
Number of beef Processed	**2000**	**1000**
Average Carcass weight (lb)	550	550
Processing fee per lb	0.53	0.71
TOTAL INCOME	**$582,403**	**$387,962**

EXPENSES		**Percent of**		**Percent of**
Fabrication Facility	**2000 hd.**	**Total Expenses**	**1000 hd.**	**Total Expenses**
Meat Cutter Labor	167,221	28.7	83,600	21.5
Cleaning Labor	5,760	1.0	5,760	1.5
Wrappers labor	88,011	15.1	44,000	11.3
Payroll tax & Benefits	65,248	11.2	33,340	8.6
Utilities				
Electricity	38,275	6.6	38,275	9.9
Water	360	0.1	360	0.1
Microbiological testing	11,648	2.0	7,759	2.0
Laundry	8,154	1.4	5,431	1.4
Equipment Repair	3,960	0.7	3,960	1.0
Equipment Calibration	200	0.0	200	0.1
Pest Control	360	0.1	360	0.1
Rendering Pickup & Disposal	9,901	1.7	6,595	1.7
Small Tools	7,571	1.3	5,044	1.3
Supplies	58,240	10.0	38,796	10.0
Total Cut & Wrap Costs	**464,909**	**79.8**	**273,482**	**70.5**
G&A				
General Manager	40,000	6.9	40,000	10.3
Payroll tax & Benefits	10,000	1.7	10,000	2.6
Telephone	4,077	0.7	2,716	0.7
Internet e-mail	240	0.0	240	0.1
Insurance	4,500	0.8	4,500	1.2
Licenses & Permits	150	0.0	150	0.0
Office Supplies	2,621	0.5	1,746	0.5
Accounting & Legal	2,330	0.4	1,552	0.4
Auto Expenses	492	0.1	492	0.1
Postage	540	0.1	540	0.1
Bank Charges	192	0.0	192	0.0
Facility Capital Loan Payment	52,353	9.0	52,353	13.5
Facility Rent Payment	0	0.0	0	0.0
Total G&A	**117,494**	**20.2**	**114,480**	**29.5**
				0.0
Total Expenses	**582,403**	**100.0**	**387,962**	**100.0**
OPERATING PROFIT	0		0	

Summary of Costs

Table 7: Processing cost summary: cost per head of beef for Tuolumne County producers using different processing options.

	Tuolumne County Mobile Slaughter & Fabrication		**Contract Slaughter & Tuolumne Co. Fabrication**		**Johansen's Meats**
Annual Capacity (hd. beef)	1000	2000	1000	2000	< 300
Transport of beef to facility			$15	$15	$30
Slaughter fee	$74	$52	$30	$30	$50
Meat Delivery Cost			$5	$5	$25
Fabrication & Packaging	$390	$291	$390	$291	$330
Total Cost	**$464**	**$343**	**$440**	**$341**	**$435**
Capital Investment Required	$723,000+	$884,000+	$620,000+	$780,000+	0

Current Status: Gold Country Livestock Processing

One member of the group has tentatively committed to constructing the fabrication facility if the remainder of the group commits to forming a business to lease and operate it. They are currently in the process of filing Articles of Incorporation and determining what type of business partnership would be most appropriate.

Marketing Considerations

There is consensus among the group that a pooled effort for marketing and distribution will be needed once local USDA processing becomes available. Members agree that, while they want to expand direct sales, their current level of marketing, processing, and distribution is all they can handle. A marketing business would enable the group to pool resources to get these jobs done, facilitating expanded direct sales.

There are many models for livestock marketing organizations. This group believes strongly in maintaining individual farm/ranch identity and production (vs. pooling animals together on finishing pastures, for instance). Although consideration of forming a marketing organization is on hold until the processing facility is in operation, the group has agreed on the following principles for such an effort:

1. Products from individual ranches marketing under an umbrella label (e.g., Gold Country Meats);
2. Protocols for location: Must be born and/or raised in Foothill region and must support a family farming/ranching operation headquartered in the Foothill region;
3. Production protocols: No hormones or fed antibiotics, grass finished, or grain finished in open pastures;
4. Program requirements: Pre-harvest inspection by group members (either visual or ultrasound) for carcass finish quality.

The Valley Livestock Marketing Cooperative in Stanfordville, NY, (http://www.valleyfarmers.com/) provides a good model for this concept.

Although the group initially envisioned one processing and marketing business, it became clear that these services must be separate businesses. Membership in a processing cooperative or partnership will require only investment in and/or use of the facility. Membership in a marketing organization will require meeting stricter production and location protocols for niche marketing.

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Alternative Livestock Production and Marketing:

A Survey of Marin and Sonoma Livestock Producers

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Additional copies of this report can be accessed from the website: http:cemarin.ucdavis.edu

Livestock Working Group

Mission Statement:

The goal of the natural and organic livestock workgroup is to provide support to local ranchers and livestock managers, provide education to local producers and consumers on the latest changes and development in livestock processing, and to establish standards for local producers, in order to help the local producers create the specialty meat niche market.
Members of this informal group have been meeting since 2002.

Producers:	Bill Barboni, Jr. David Evans Mike Gale Liz Griffin Kevin Lunny Mark Pasternak Al Poncia Albert Straus Amanda Wisby
Others:	Helge Hellberg, *Marin Organic* Tony Nelson, *Marin Agricultural Land Trust* John Wick Peggy Rathmann
Agricultural Commissioner's Office:	Stacy Carlsen, *Marin Agricultural Commissioner* Anita Sauber, *Inspector*
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EXECUTIVE SUMMARY

Consumer demand for non-commodity, or "alternative" foods with various attributes—local, natural, certified organic, grass-fed, artisan, and others—is growing nationwide. The San Francisco Bay region is on the leading edge of this trend. A growing number of innovative producers in our area are eager to meet this demand, yet they face significant constraints. The production knowledge needed to make these changes is only one issue. On top of this, new farm products can require major financial investments, additional slaughter and processing[1] infrastructure, marketing skills, and a host of other resources to which many farmers and ranchers have limited access.

Exploring niche markets for local livestock producers has been a priority for University of California Cooperative Extension (UCCE) for several reasons. First, a vast majority of the agricultural land in Marin and Sonoma Counties is used for livestock production. Second, beef cattle ranching, a major component of this land use is only marginally profitable: many acres of Marin and Sonoma's agricultural landscape are in danger of being lost to non-agricultural uses if they cannot sustain profitable agricultural enterprises.

In the spring and summer of 2005, UC Cooperative Extension (UCCE) surveyed livestock producers in Marin and Sonoma counties, using a mail survey and small group meetings. The goal of the project was to determine (1) producer interest in alternative marketing opportunities; (2) barriers they face in taking advantage of these opportunities; and (3) how local government and resource agencies can help with potential changes.

This survey was commissioned by the Livestock Working Group (Byron 2002), which is made up of livestock producers, county officials, UCCE staff, and others. The Working Group has met on a regular but informal basis since 2002, to explore alternative production and marketing options and challenges for our region's livestock producers.

Highlights:

- More than half of the 152 respondents expressed interest in selling to specialty markets, by using different kinds of production and different marketing channels. The most popular production option was "100% grass fed" and the most popular marketing channel was "direct to the consumer."

- More than half of all respondents use on-farm slaughter for at least some of their animals and nearly all use this meat for home consumption.

[1] In this report, we distinguish "slaughter" from "processing": "processing" refers to the post-slaughter cutting of meat for sale, but it can also include other preparations (smoking, grinding, e.g.). "Cut and wrap" is a term often used to describe post-slaughter processing, but for consistency's sake, we do not use it here.

- A "lack of marketing channels and distribution network" was the top-ranked obstacle to accessing specialty markets. The process and cost of certification (grass-fed or organic) were ranked #2 and #3, and a current lack of slaughter and processing infrastructure was #4. The lowest ranked obstacles were production knowledge and concern about risk. All of these obstacles, and others, were discussed extensively in the small group sessions.

- Producers need help deciphering current marketing options. They especially need clarity on the requirements of certification programs (including but not limited to the grass-fed and organic certification programs available to producers in both counties) and regulations concerning slaughter, processing, and sales.

- While some producers want to begin or expand direct market sales, others prefer to focus on production and leave the marketing to a person or group with those skills.

- Producers asked for UCCE and others to provide information on a variety of topics, including specifics on marketing options, slaughter and processing regulations, and production issues.

BACKGROUND AND INTRODUCTION

Our region faces multiple constraints in developing new markets for locally produced meat. Among the most significant of these are limited slaughter and processing facilities and marketing channels. These limitations, though currently manageable for the few producers that are already exploring new markets, are a critical barrier to further development of locally produced and marketed specialty meat products. Limitations include:

- Our region's only United States Department of Agriculture (USDA)-inspected slaughter facility for cattle, Rancho Veal, has been sold, and the land is slated for housing development; Rancho will be gone in two to three years.
- Our region's only USDA-inspected processing facility for cattle (Hagemann's) is quickly reaching the physical limits of its capacity.
- Our region's only USDA-inspected slaughter and processing facility for sheep and goats (Panizzera) may also be near its limits.
- Producers are interested in selling "freezer meat"[2] directly to the consumer, but regulations are difficult for producers to understand, and this option appears to be limited by a lack of appropriate slaughter and processing facilities.[3] Both producers and consumers are interested in this marketing option, and both are asking for clarification and help.

These challenges and constraints are both serious and timely. They require attention and involvement from both private and public groups and individuals. Government agencies and non-governmental organizations are needed to assist the producers and consumers in our region who want to grow and purchase alternative livestock products. While "market forces" are, and will continue to be important mechanisms for change, such forces must be supplemented by supportive and appropriate public policy.

SURVEY METHODS AND GOALS

In the spring and summer of 2005, UC Cooperative Extension (UCCE) surveyed livestock producers in Marin and Sonoma counties, using a mail survey and small group meetings. The goal of the survey was to determine (1) producer interest in alternative marketing opportunities; (2) barriers they face in taking advantage of these opportunities; and (3) how local government and resource agencies can help with potential changes.

[2] "Freezer meat," also called "locker meat," refers to bulk sales of meat, typically by the whole, half, or quarter carcass, including a variety of cuts, direct from rancher to consumer. In this way, producers are able to sell all cuts, not just the more popular cuts (e.g. steaks).

[3] On-farm slaughter, though not legal for commercial use, is viewed by some producers and consumers as more humane than transporting animals to off-farm slaughter.

This survey was commissioned by the Livestock Working Group (the Working Group), which is made up of livestock producers, county officials, UCCE staff, and others. The Working Group has met on a regular but informal basis since 2002, to explore alternative production and marketing options and challenges for our region's livestock producers.

In April 2005, UCCE mailed a survey to 482 livestock producers in both counties. In August, two meetings were held with smaller, self-selected groups of producers.

The goals of the survey and the meetings were to:

1) Assess producer needs and issues;
2) Ascertain interest in alternative production, processing, and marketing opportunities.
3) Gather data about producers' current processing and distribution systems and potential future needs or wants;
4) Gauge their interest in learning more about related topics, and determine how they would like to receive this information.

An overarching goal of this project was to help local research and educational agencies, such as UCCE, design future programs, especially around alternative marketing, to best meet producer needs and, more broadly, to support innovative approaches to sustain and enhance the vitality of our region's agricultural communities and landscapes.

MAIL SURVEY RESPONSES

The response rate to the mail survey was ~30%, with 152 respondents. Respondents are generally representative of the counties' livestock producers, and a majority of the larger (in numbers of animals) producers participated in the survey.

Basic profile

Our survey is weighted, in numbers of respondents, toward Sonoma County producers, with 58% farming or ranching solely in Sonoma County versus 27% in Marin County, and 13% with operations in both counties. The vast majority (80%) are family farms. Half of respondents said that farming or ranching was their principal occupation.

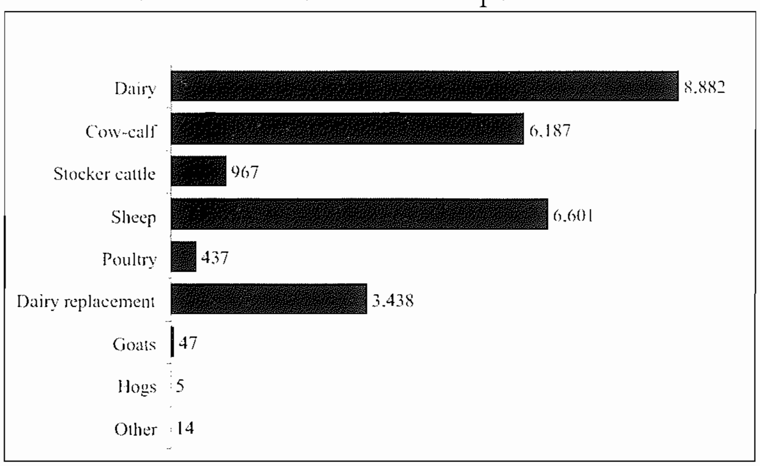
More than two-thirds (72%) of respondents are male. The average age is 55, and the average number of years farming or ranching is 34. Most (78%) are the owners of their operations (as opposed to partners, managers, or lessees). Nearly two-thirds (63%) report that their operations are either financially viable, meeting their life goals, or both. In the long run, respondents appear fairly evenly concerned about generational transfer (32%) and taxes (31%), with market conditions (39%) causing slightly more concern. More than a third of respondents also mentioned other issues, from rising input prices, to development pressure and environmental regulations, to their own age and health.

Size of operation, in acres owned and leased, is consistent with earlier surveys of Marin and Sonoma County livestock operations. The average size, in owned land, is 429 acres. Half of respondents also lease land, and the average size of a leased property is 1,297 acres. As both owners and lessees, respondent farms and ranches cover a total of 148,301 acres in the two counties.

Cow-calf operations[4] (83 respondents) outnumber all other operation types, followed by sheep (59), dairy (29), dairy replacement[5] (16), stocker cattle[6] (11), poultry (8), goats (6), and hogs (3).[7]

However, in actual number of *head*, dairy cattle, including both milk cows and dairy replacements, outnumber all other types of livestock (Table 1).

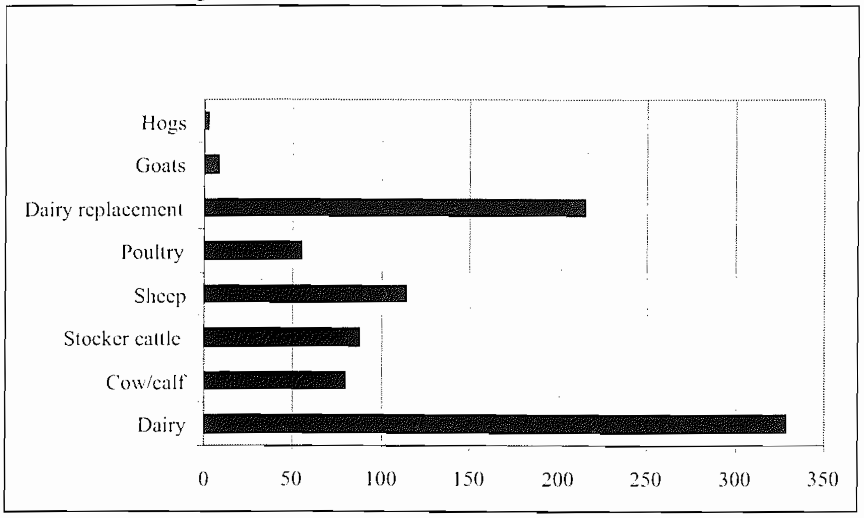
Table 1. Total number of livestock reported



[4] Cow-calf operations involve year-round raising of mother cows, and seasonal birthing, raising, and selling of calves (the crop).
[5] Dairy replacement operations raise young female cows to replace older dairy cows that are no longer productive.
[6] Stocker operations purchase young cattle too small to be slaughtered and raise them on pasture until they reach an adequate size to go to a feedlot or directly to slaughter.
[7] Some respondents raise more than one type of livestock. This kind of overlap is common in this dataset.

Average herd sizes as seen in Table 2, below, are also consistent with earlier surveys.

Table 2: Average herd size



Primary marketing methods

Respondents reported a variety of ways to market their livestock, and most used more than one method. The two most common ways are through a livestock auction (70%) and to an individual livestock buyer (49%). Interestingly, 39% report selling directly to individuals, though only one respondent sells at a farmers market. These direct sales, which account for only 6% of the animals sold annually for slaughter, may well be on-farm, neighbor to neighbor sales, and not through formal market channels. (In addition, some "direct" sales are of live animals, often for breeding, which skews the data.) Only two respondents sell to retail stores or restaurants.

The number of animals sold annually for slaughter varies widely among respondents, ranging from none to 600, the latter reported by a joint cow-calf/stocker operation. The average, for operations of all types, is 78 animals sold per year.

Use of local slaughter and processing facilities

One goal of the survey was to learn how many producers use the local USDA-inspected slaughter plants (Rancho Veal, in Petaluma, for cattle; Panizzera, in Occidental, for sheep) and the local USDA-inspected processing facility (Hagemann's Meats), all of which are in Sonoma County. We particularly hoped to learn how many producers will be affected when Rancho Veal closes, expected within two to three years.

Apparent confusion over the wording of survey questions about local slaughter and processing means that our data are limited on this topic. We believe this is due, in part, to a lack of clarity among producers on the differences between federal (USDA) and state (California Department of Food and Agriculture (CDFA)) slaughter and processing regulations. The small group meetings, reported on below, certainly support this notion, while also giving us a more detailed snapshot of local slaughter and processing.

Slaughter

Three different types of slaughter exist in California: custom exempt, which is done on-farm for the producer; state-inspected custom slaughter which can be used for animals that are sold live by the producer; and USDA-inspected slaughter.[8]

Of the 152 survey respondents, 44 use Rancho Veal, thus the fallout from Rancho's closure is likely to be significant. Quite a few producers use USDA-inspected slaughter plants in other areas including Dixon, Fresno, and Gilroy. Still others use state-licensed, custom slaughter facilities in other areas. Animals that are sold live by the producer can be slaughtered at such slaughter facilities. However, neither of our two counties has a custom slaughter facility.[9]

One very interesting finding concerns on-farm slaughter, done by custom exempt mobile slaughterers. Half of all respondents (79) say they use on-farm slaughter. Of this subgroup, a third (29%) sell meat or other products from animals slaughtered on-farm. Less surprisingly, nearly all (93%) report using on-farm slaughter for home consumption.

The bottom line is that the two local USDA-inspected slaughter facilities are reaching or at capacity. When Rancho Veal is closed and converted to residential development, the lack of a local USDA cattle slaughter facility will have a severe impact on local producers.

Processing

Meat processing can be done under four different types of licenses or inspections: USDA, state, custom-exempt, and retail outlets inspected by the County Environmental Health Service (CEHS). Twenty survey respondents have processing done at Hagemann's, the only USDA-inspected processing facility in our two counties. Other respondents use facilities that do custom-exempt and/or state-inspected processing.[10]

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[8] Regulations for slaughter and processing will be further clarified in an upcoming report, but brief explanations may be useful here. Custom-exempt mobile slaughterers, also called "Farmer's helpers" or "A-framers," are required to be registered by the state brand inspector to do on-farm slaughter. They do not perform animal or meat inspection, however, and meat slaughtered on-farm is intended for use only by the owner, which in this case means specifically the livestock producer, and members of the producer's household, non-paying guests, and employees. In contrast, "custom" slaughter is performed at a facility that is inspected by CDFA for the owner of the animal. In this case, the owner may be the livestock producer OR an individual (or group of individuals) who bought that animal live from the producer.

[9] There are nearly 50 custom slaughter facilities in the state, most located near Interstate 5. The one nearest to Marin and Sonoma is in Yolo County.

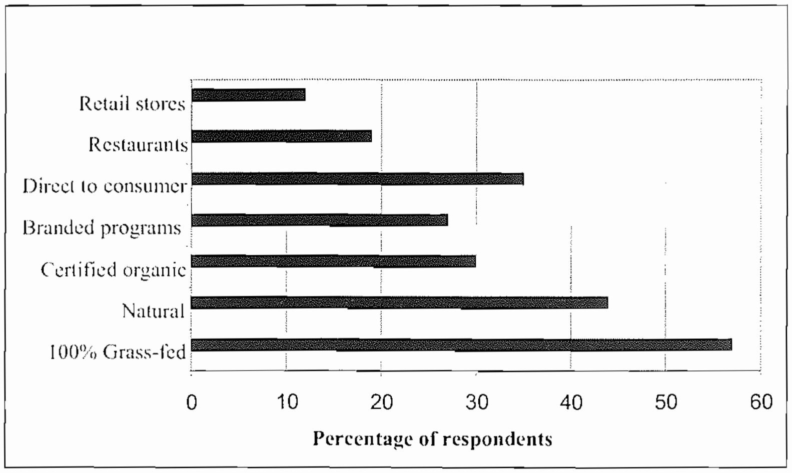
[10] As noted above, processing regulations will be clarified in an upcoming report. In brief, meat processed at custom exempt facilities cannot be resold. Custom exempt or state-inspected processing facilities appear to be sufficient for direct-to-consumer sales of freezer meat slaughtered at either a USDA-inspected facility or at a state-inspected custom slaughter facility. However, for meat to be sold wholesale, it must be processed at a USDA-inspected facility. Retail facilities inspected by CEHS (grocery store butcher counters, e.g.) can process and sell USDA-inspected slaughtered meat and can wholesale up to 25% of that meat on site to hotels, restaurants, and institutions.

Specialty markets

Half of the survey respondents plan to do something new in the next one to five years, and this may mean changes in marketing. Just over half (57%), including producers of all livestock species, expressed interest in selling to specialty markets (Table 3).

Of the seven specialty market options we listed (which included both production methods and marketing channels) the option that most respondents were interested in was 100% grass-fed (57%), followed by natural (44%), direct to the consumer (35%), certified organic (30%), restaurants (19%), branded programs (27%), and retail (12%).

Table 3. Interest in specialty markets

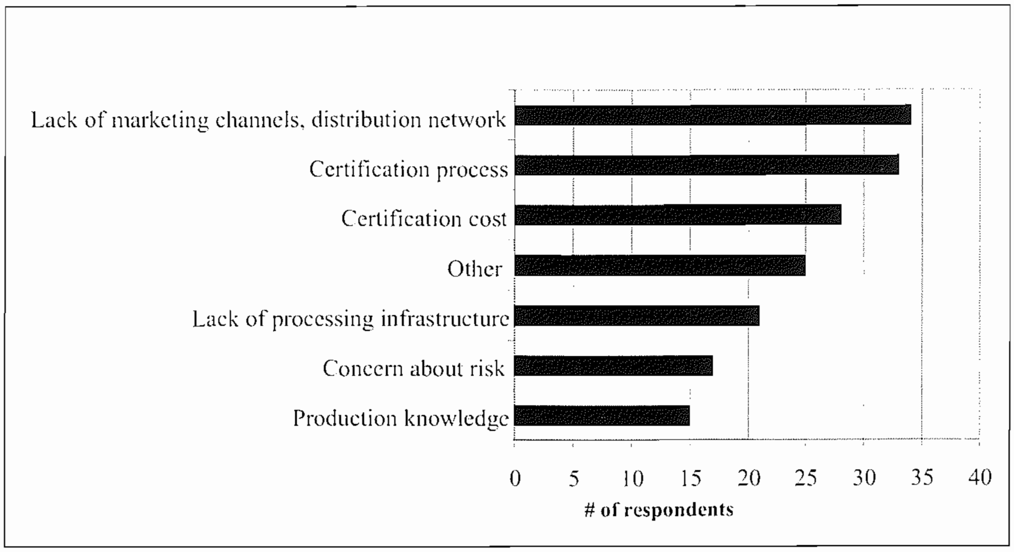


Obstacles

We asked producers what obstacles they face in getting into these specialty markets (Table 4). The top-ranked obstacle cited is a lack of marketing channels and distribution network. Certification process and costs (for grass-fed or organic) were #2 and #3, respectively. Lack of processing infrastructure ranked #4[11]. The least cited obstacles are production knowledge (#5) and concern about risk (#6).

[11] The relatively low ranking of this obstacle may indicate producers' lack of knowledge of the regulations, thus their lack of understanding of how significant this obstacle may actually be.

Table 4. Obstacles to specialty markets



Our data show no obvious correlation between particular obstacles and particular species. That is, "production knowledge" is not cited only by goat producers, for example, and producers of all species report that they face a lack of markets, distribution channels, and infrastructure.

Educational opportunities and UCCE

Finally, producers suggested a wide range of educational opportunities they wished UCCE to provide, on topics in production, marketing, regulations, business planning, and more. We explored these ideas further with the small groups.

SMALL GROUP MEETINGS

On August 4 and 5, 2005, UCCE hosted small group meetings for Marin and Sonoma livestock producers, about alternative marketing, opportunities, and challenges.[12] Eight producers (cow-calf and sheep) came to the Santa Rosa meeting; nine (dairy and sheep) came to the Two Rock meeting. They have diverse operations—both in size and variety —from a several hundred head dairy to a few sheep in the backyard.

We designed the meetings for fact finding, to help UCCE better understand producer goals, concerns, and needs around marketing. However, producers asked plenty of questions too, of UCCE and each other. Both meetings were lively information sharing sessions. Producers are clearly interested in venturing into alternative markets.

[12] We invited the 46 producers who indicated, in the mail survey, their willingness to participate in an "alternative marketing survey group."

We asked producers how they currently market, what alternative production and marketing options interest them, what obstacles are holding them back, what kind of help they need, and what, specifically, UCCE can do.

How they market currently

Cow-calf producers primarily sell feeder calves[13] at auction. Some buyers offer premiums for following specific production standards: for example, using a value-added program can bring 8-10¢/lb more (for lots of a certain size). Harris Ranch also buys calves for its natural beef program.

One cow-calf producer also finishes some calves on grain for bulk sale to private customers. He uses on-farm slaughter and has processing done at a state inspected custom processing facility in Sonoma County.

Sheep producers sell feeder lambs at auction and finished "freezer" lamb to private customers. To sell the freezer meat, they use on-farm slaughter, and customers then deal directly with the custom processing facility of their choice. One sheep producer sells to restaurants; he uses USDA-inspected Panizzera.

Direct marketers primarily find new customers via word of mouth, though one sheep producer gets referrals for customers seeking grass-fed lamb through the CSU-Chico grass-fed website. He custom-finishes lambs on grass or grain, depending on customer preference.

The dairy operators who attended sell liquid milk to Dairy Farmers of America (DFA); one, an organic producer, sells his milk to Clover Stornetta. Dairy operators also sell replacement heifers to local dairies and cull cows to Rancho Veal.

The organic dairy sells his organic dairy culls to McDonalds, for a significant ($25/head) premium. For the cattle that become its hamburgers, McDonalds wants full traceability, which organic certification requires.

Alternative marketing options

Producers expressed interest in a variety of specialty markets, especially grass-fed and natural, less so certified organic. In all cases, they were unsure how these terms were defined.

They were also interested in a variety of marketing methods, from selling live animals (feeder calves and culls) to special buying programs (like Harris, McDonalds, etc.), to selling more directly, to ethnic markets and restaurants, and freezer meat to individuals, off the farm or at a farmers market. "Local," in particular, was appealing.

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[13] Feeder calves are weaned calves that go to feedlots.

Many producers were interested in "buy local" campaigns that could reduce "miles to market." They want to take advantage of our region's "terroir," and Sonoma-Marin name, as Napa did for wine. Producers believe that consumers want local meats and that direct marketing opportunities are growing, for example, in Petaluma and Santa Rosa. In addition, some producers noted that special, third-party verified certifications (for example, a "humanely raised," or organic certification) may not be necessary when selling direct and locally and they can tell their customers themselves about their practices.

One suggested opportunity is to co-market with Community Supported Agriculture (CSA) programs (subscription-based, typically weekly "veggie boxes"), whose members are reportedly asking for local meats. For example, CSAs could include local meat producer fliers in their boxes.

Constraints

Producers reported a wide range of obstacles.

Information, clarity on rules

The most glaring was confusion, and a lack of information, about marketing options, slaughter and processing.

- What alternative marketing options are available, and what do they require? Producers were unfamiliar with local certification programs for organic and grass-fed.
- What do "grass-fed," "certified organic," and "natural" actually mean?
- What are the rules for slaughter and processing, especially regarding state versus federal inspection and on-farm slaughter?

Money

Alternatives are perceived as costly, and in some cases, capital-intensive. Organic hay and grain, for example, are currently very expensive; some producers suggested collective buying could cut costs. Transitioning a dairy from conventional to organic, or from fluid milk to farmstead bottled milk/ farmstead cheese, has steep initial, capital costs. Certification, for organic and grass-fed, is thought too expensive, especially for producers with small herds.

Time

Complying with labor and environmental requirements means no extra time for additional paperwork, e.g. for organic certification. It takes time to write business plans and sort through regulations; for example, what planning regulations apply to an on-farm milk bottling plant? Producers also noted that marketing—especially direct marketing—takes time, as well as skills that they don't currently have.

Educated customers - and more of them

Producers with experience in direct marketing noted that their customers (and the public in general) often do not know how to cook unfamiliar cuts, which they get when they buy freezer meat, by the quarter and half carcass. In addition, not enough people have freezer space (more true for beef than for lamb). And even if many willing and able customers are out there, they may not know how to find producers and vice versa.

Infrastructure

Only a few producers mentioned the region's limited slaughter and processing infrastructure—especially USDA-inspected—as a concern. This is likely because most producers, of those present, who currently sell freezer meat, believe that they are able to use on-farm slaughter. However, the dairies are concerned about their options for selling culls when Rancho closes; the Petaluma auction yard will be their only outlet.

In both meetings, producers discussed the possibility of a mobile slaughter unit, possibly one that would travel to central collection points (rather than to every ranch). Processing could be done at a separate, non-mobile facility. However, enthusiasm was tempered by concerns that offal disposal and other costs might make such a unit too expensive, per head.

Other infrastructure concerns mentioned were the limited availability of freezer/locker space, especially for aging carcasses before processing; space for grain storage, especially if cow-calf producers decide to hold back calves to finish on grain; transportation logistics; and the potential for a central distribution facility in the region.

Production knowledge

Some producers want basic production information. How do you make sheep cheese or raise meat goats? This need is especially true for organic certification: producers are very skeptical about maintaining herd health without de-wormers and antibiotics (for treatment of illness, not in-feed antibiotics used for growth promotion). They are concerned that restricting antibiotics means leaving sick animals untreated, which some people believe is cruel; they don't know other treatment options. Organic, untreated animals, it was suggested, may even create health problems for other animals. Some were also worried that grass-fed meats had a gamey, lean taste that only a certain population would want.

Marketing knowledge

Producers, though some were excited about direct marketing, were fairly realistic about the skills required, and that it was very different from what they're used to when selling cattle to the commodity market. As one producer described it, "I call on Sunday, and they're gone on Monday." Some thought it would be best to stay focused on production themselves and find a different person—perhaps shared by producers—to do the marketing. Even smaller steps may be appropriate: for example, cow-calf producers may want to keep selling feeder calves but to alternative marketing programs, rather than immediately trying to direct market.

What UCCE and other support institutions can do

Producers asked for information, via newsletters and workshops, as well as marketing tools. They also asked for research to fill knowledge gaps. Suggestions included:

- Circulate information about local county organic and grass-fed certification programs (County of Marin 2004) in existing newsletters, including the quarterly UCCE Stock Report (which goes to all Marin and Sonoma livestock producers) and the Grown in Marin (GIM) newsletter.
- Include in both newsletters information about livestock and meat marketing options, with success stories.
- Clarify and inform producers about rules on standards and certification, slaughter and processing, and marketing (especially for freezer meat). Continue to provide production information (through the UCCE Livestock and Range Management Advisor).
- Distribute information on grants available for new market development and transition.

Workshops and tours

- Provide producers with information, in a workshop format, on organic dairy conversion, organic pasture management, farmstead milk and cheese, farm tours, and farmers markets. In all cases, feature local ranchers doing it, for example, Albert Straus and his methane digester; David Evans and his farmers market BBQ.
- Hold informational meetings—"mixers"—for meat, fruit, veggie producers, for co-marketing opportunities.
- Host a tasting of various regional meat products for producers and consumers.
- Inform processing facilities about how to handle local meats

Research – find, distill, and distribute - or do

- What kinds of forage influence meat flavor?
- What affects grass-fed meat's taste, texture, health benefits?
- What is the effect of aging, hanging, and tenderizing, and what are best practices?

Marketing tools

- Cookbook, recipes for consumers
- Hand-outs/website with a diagram of the animal, to give customers, to explain cuts
- Page on UCCE website of local meat producers and products
- Hire a dairy advisor to help with marketing.[14]

NEXT STEPS

Through the livestock producer survey, UCCE has gathered much valuable information about the needs and interests of Marin and Sonoma livestock producers, especially around alternative

[14] UCCE is working on this but will not hear until spring of 2006 if this position is funded.

marketing opportunities. We also heard many good ideas for education and other support that UCCE and other public agencies and private organizations may be able to provide.

UCCE staff has shared survey findings with the Livestock Working Group, which commissioned the survey. We will now present this report to both county Boards of Supervisors, to the Marin Economic Commission, and to the Sonoma Economic Development Board for their input and guidance. UCCE will also make this report available to local resource agencies such as the Marin Agricultural Land Trust and Sonoma Land Trust, Natural Resources Conservation Service, Marin and Sonoma County Farm Bureaus, the four local Resource Conservation Districts in both counties, and the North Coast Resource Conservation and Development Council. The report will also be posted on the UCCE website and otherwise made available to our counties' livestock producers.

The Working Group and UCCE will prioritize ideas for future educational and support programs, based on available resources (staff, funding), and will also look to other groups and individuals who may be better equipped for specific tasks.

Progress has already been made

The survey, especially the small group meetings, has already sparked new interest from producers seeking information about production and marketing options; UCCE and other members of the Working Group have quickly responded. For example:

- UCCE and the Marin Agricultural Commissioner have held two new workshops for producers on organic certification of pastures and livestock; additional workshops are currently being planned;
- The Stock Report, the quarterly production-oriented newsletter from Sonoma County UCCE, will now include a page featuring alternative livestock marketing options and information;
- The bimonthly Marin UCCE newsletter, "Grown in Marin," will also regularly incorporate information on these options;
- Producer-members of the Livestock Working Group and others are actively researching regional slaughter and processing capacity, through site visits to facilities, to identify key bottlenecks and opportunities;
- Working Group members are reaching out to groups and individuals, in other regions of California, where livestock producers face similar challenges and are trying to find innovative solutions;
- UCCE and the Marin Agricultural Commissioner have designated personnel to clear up confusion regarding both federal- and state-level meat processing regulations;
- UCCE and the Marin Agricultural Commissioner are recruiting new governmental partners to engage with current issues around alternative livestock production and infrastructure constraints, both existing and evolving.

CONCLUSION

Demand for non-commodity, or "alternative" foods with various attributes – local, natural, certified organic, grass-fed, artisanal, and others – is growing nationwide. The San Francisco Bay region is on the leading edge of this trend. Based on this survey, many Marin and Sonoma livestock producers are interested in participating in alternative, specialty markets. However, they face significant constraints. The knowledge and financial needs to shift production styles is only one issue. As we have learned, the most onerous obstacles are structural: that is, appropriate distribution, marketing, and slaughter/processing infrastructure are limited or lacking. This situation, while currently manageable for the few alternative marketing pioneers already doing it, will soon become a critical barrier, especially as more producers are interested.

The results of this survey suggest that developing marketing and distribution channels should be top priorities – for instance, locating and interesting large retail buyers in sourcing their meat locally. Yet slaughter and processing require critical attention. Despite respondents' relatively low ranking of "lack of processing infrastructure" as an obstacle to specialty markets (see Table 4), this may reflect the fact that many producers don't clearly understand livestock slaughter and meat processing regulations. Thus, some producers believe that they have much broader options in selecting slaughtering and processing methods and facilities than is actually the case. Additionally, the impending closure of Rancho Veal, announced after the survey, will have a negative and previously unrecognized impact on local producers.

Therefore, after completing this survey, we believe that it is important to clarify regulations and develop a plan for replacing and/or augmenting local processing infrastructure. This will involve development and distribution of educational materials as well as planning for infrastructure replacement and augmentation.

These challenges and constraints are both serious and timely and require attention and involvement from both private and public groups and individuals. Both government agencies and non-governmental/private organizations are needed to assist the producers and consumers in our region who want to grow and purchase alternative livestock products. While "market forces" are and will continue to be important mechanisms for change – for example, in prompting an expansion of processing facilities – such forces must be supplemented, even guided, by supportive and appropriate public policy.

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