



## Thinking Through the Process: Grass-Fed Beef

Report on Research Grant

University of California Sustainable Ag Research and Education Program  
Natural Beef: Consumer Acceptability, Market Development and Economics

By

Glenn Nader, U.C. Livestock and Natural Resource Farm Advisor  
Steve Blank, U.C. Cooperative Extension Economist

### Marketing Beef in the Future

Thinking back over the years, many ranchers can remember the days when cattle buyers came to the ranch or bought at auctions. Gradually, feeder sales became the most common marketing method. Now cattle can be marketed through videos. The cattle industry of the future may follow the chicken producers lead of vertical consolidation--the close association of chicken ranchers to processors has become a contracted relationship of production. In the beef industry, new changes include the appearances of alliances, branded beef, and marketing cooperatives as new methods of selling animals. As marketing changes, it will be important to evaluate ways to capture a larger portion of the consumer's dollars. Grass-fed beef could offer ranchers another avenue of marketing. The intent of this document is to let you explore this option with enough information to be able to evaluate whether it could work in your operation.

### The Dynamics of Marketing Direct to the Consumer

The retail farm price spread is illustrated in the 1997 average price per hundred weight published by the USDA National Agricultural Statistics Service.

	\$/100- lb.
5 Market Steer (Live)	66
All Fresh Retail	253

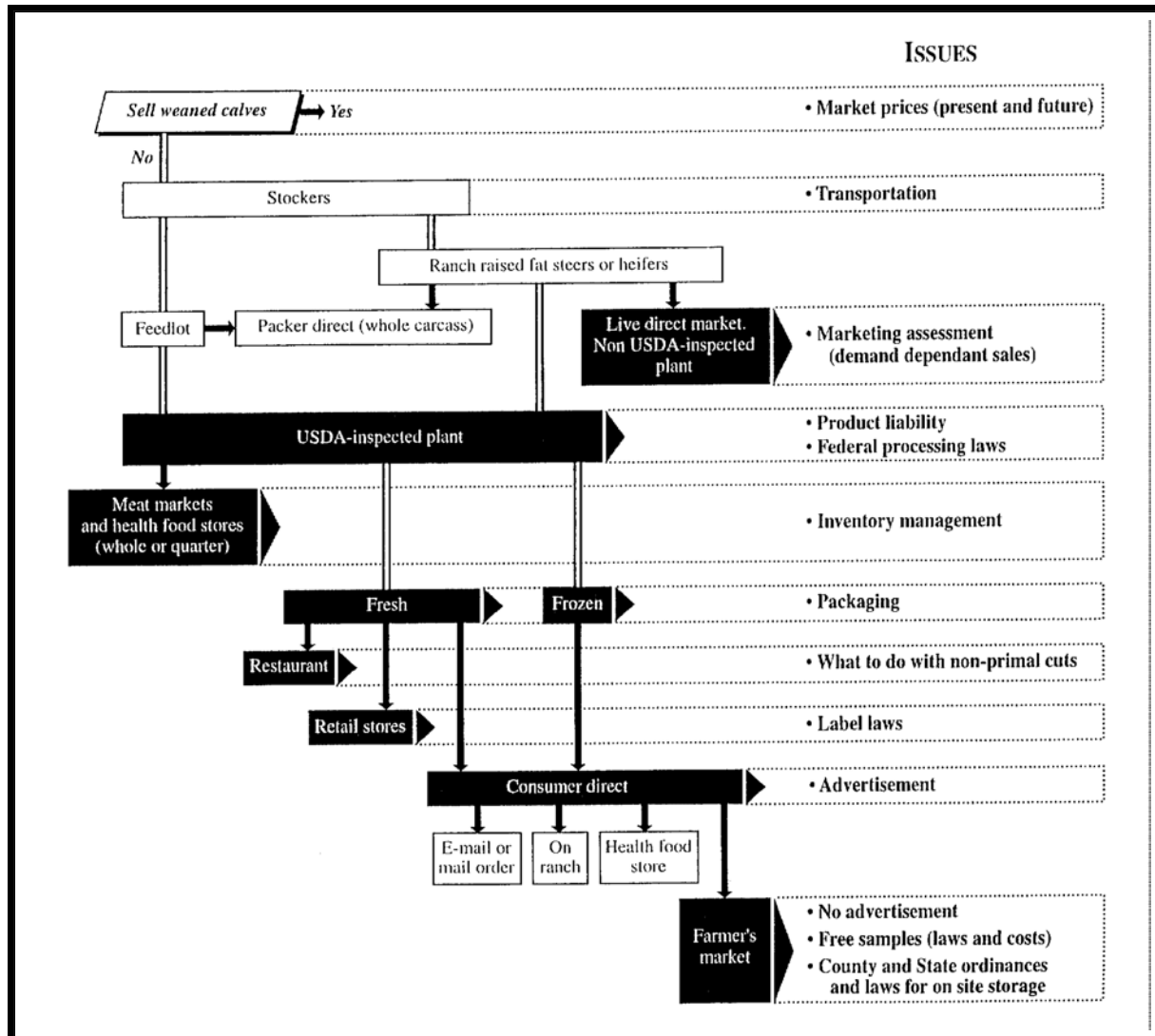
The farm price makes up only 26 percent of the retail, but this price spread includes the weight loss in processing (live to carcass = 40 percent; carcass to retail loses 25 percent of the remaining 60 percent) and the additional costs to process the product (labor, packaging, transportation, interest, advertisements, etc.). The major beef packers have economy of scale (or size) to decrease their costs per unit. When marketing direct you must determine how much additional premium that you can receive for your product, since your competition has size (efficiency) on their side.

Niche marketing of beef is one way of diversifying your income stream, while staying in the same area of production. Marketing direct through vertical integration may not increase the overall profitability of the ranch, but may decrease the volatility of the market. Retail prices for beef have been more stable than live prices for feeder cattle. Thus, entering this portion of the market may provide an excellent return on investment during low feeder calf years and a poor return on investment when feeder cattle are high. The major problem of niche marketing is that the amount of energy and time it takes to develop a market will not allow you to move in and out of this marketing system. The initial efforts of a start-up will require you to have a long-term approach. The one exception is the marketing concept used by [Case Study #2](#), where they marketed the animals through a wholesaler, thus allowing the wholesaler to develop the market and maintain constant supplies, and the rancher to just market when the product is ready, not when the demand is there.

Marketing beef through grass-fed systems should be considered only a portion of the operation. It is recommended that you consider transferring only a portion of your operation's marketing into this system so you learn its ups and downs with only a small percentage of your income at risk. Ranchers are excellent raisers of beef, but are generally not schooled in the marketing of retail or wholesale products. It will take some time to develop these skills and may be costly. The learning period can be improved by planning ahead and writing a business plan. When beginning, it is best to consider diversifying only a portion of your production into this marketing system; increase the number of animals in the system as you develop the retail skills and market sources.

The following flow chart will help you visualize the issues involved in considering different marketing strategies.

### Beef Marketing Flowchart



### Market Assessment

An important component of moving into new markets is a marketing plan. What is needed to make the transition, where is the market, and how much are consumers willing to pay? Matching consumer demands with your skills and interest, location, and operation size may determine where you go on the marketing flow chart. Proximity to a USDA-inspected processing plant seems the most sensitive financial cost factor, followed by the location of the targeted (high income) consumers.

### Different Markets

#### 1) Live Animal Sales and Processing

To sell meat to consumers it must be processed at a USDA-inspected plant. If your operation is not close to a USDA-inspected plant, your marketing options may be limited to direct live sales. For more information about live animal sales, contact:

California Dept. of Food & Agriculture - Meat & Poultry  
Dr. Douglas Heper - Staff Veterinarian

1220 N St., Room A-126  
 Sacramento, CA 95814  
 (916) 654-0504 - phone  
 (916) 654-2608 - fax

**A producer cannot:**

1. Slaughter an animal and then sell it to an individual
2. Sell a live animal and then slaughter it for an individual
3. Sell a live animal and allow the individual to slaughter it on the ranch

**A producer can:**

1. Sell a live animal and have it leave the ranch live. After it leaves, you are not liable for the slaughter method/technique.
2. Sell live animals and build a CDFA-licensed custom slaughterhouse or direct the buyer to a CDFA-licensed custom slaughterhouse that can do the processing for the purchaser. Construction of such a facility can require a significant investment. Contact CDFA for more information on design and estimated costs.

This is a list of commonly known USDA-inspected plants that process beef cattle in California.

Johansen's	Orland
Alpine	Stockton
Shamrock	Los Angeles
Rancho	Petaluma
Harris	Coalinga
Redwood	Meats Arcadia
Qualos	Hanford
Los Banos Abattoir	Los Banos
Meridian Meats	Meridian

**Educational**

CSU Chico  
 CSU Fresno  
 UC Davis

**Hazard Analysis and Critical Control Points (HACCP)**

In July 1996, the Food Safety and Inspection Service (FSIS) announced implementation of new rules for improving the safety of meat and poultry. A major component of the final rule is the Pathogen Reduction/Hazard Analysis and Critical Control Points (HACCP) system, a science-based strategy for protecting public health. HACCP is being phased-in based on establishment size in three increments: large plants on January 26, 1998; small plants on January 25, 1999; and very small plants on January 25, 2000. Because small-sized plants may have limited resources in time, money, and manpower, FSIS plans an array of activities that will assist with HACCP implementation. FSIS developed 13 generic HACCP models to facilitate preparation of mandated HACCP plans. The models are designed to help small and very small meat and poultry establishments reduce costs associated with developing HACCP plans. To obtain copies of the generic models by internet <http://ifse.tamu.edu/alliance/haccpmodels/guidebook>.

Many of these small processing plants are uncertain about their future due to the implementation of the Pathogen Reduction/HACCP. Before making long-term marketing plans, you may want to discuss the implications of this act with the potential processor.

**2) Packer Direct**

Case studies have shown that grass fat beef, at certain times of the year, have meat with yellow fat. Discounts on carcasses of up to 20 cents per pound can occur due to the public's conditioned preference to the white fat produced from grain feeds that are lower in beta carotene (Vitamin A). Field experience indicates that it takes 45 to 60 days on non-green feed to reduce the yellow fat color. [Case Study #4](#) was able to produce acceptable carcasses on dry annual grass in the summer.

The positive aspects of this market are that many of the other issues of grass-fed beef, such as inventory management,

packaging, advertising, etc. are avoided.

### 3) Meat Lockers

Marketing USDA-inspected meat through this focused outlet reduces or eliminates packaging and advertisement costs. [Case Study #2](#) sold whole carcasses to consumers who had them cut and wrapped by the meat locker. Processing of the product by purchasers adds time before payment is received—aging, cutting, wrapping, pick-up time may add four weeks. The other option is to sell carcasses direct to the locker and allow them to market your product. Health food stores are also a potential outlet for the same kind of marketing arrangement.

### 4) Retail Facility

The challenge of this avenue of marketing is to maintain a constant supply or be able to react to swings in demand. Being able to market the complete product line of hamburger, steaks and roasts is a minimal challenge, as long as the retail source is not solely interested in primal cuts. The ranch-to-consumer relationship is still strongly needed. For most, this marketing system and efforts to work with the retailer to promote the positive image of the rancher's relationship with the animals they raise will also be important.

### 5) Restaurants or Meat Purveyors

This group will be most interested in quality. The eating experience must be favorable to get repeat customers. Quality assurance will be their utmost concern. They also have a highly variable demand for product that may require you to either carry inventory or have a method of quickly moving products from live to usable form. This market area will also be interested in prime cuts as the majority of their purchase, making it necessary to develop other marketing avenues to sell hamburger and roasts. Some restaurants with buffets are interested in roasts for what they term "steamship"—roasts that they can carve on demand for customers. Some restaurants have even gone as far as to develop an informational packet on where their products come from to build rapport with customers and set the restaurant apart from other dining experiences. This area of marketing may provide the greatest return on investment for primal cuts, but is generally smaller in size and requires more work per unit of sales.

### 6) Consumer Direct

This market could evolve, through an entrepreneurial combination of E-mail, newspaper, mail order, ranch direct sales, and farmers markets. It requires going through a USDA-approved processing facility. This option would allow you to market your animals to match the demand to the time when they may be ready, and may decrease the amount of inventory management required to market animals on a retail basis. These outlets accept the frozen beef product. Freezing has been observed to decrease the yellow fat color. Product education is an active part of this market, both in describing the product (such as yellow fat) and recipes or ideas of how to prepare lean meat. The Cattlemen' Association or California Beef Council (510) 484-2686 or [bb@calbeef.org](mailto:bb@calbeef.org) are good sources for this information. One case study describes a ranch that offers tours and lunches of their grass-fed beef. For more insight on farmers' markets refer to [Case Study #1](#) in this article.

## Issues

### Inventory Management

Most ranches have had a short calving and marketing time period to improve efficiency of the operation. That system also provided for marketing a uniform group of animals. Changing from live-to meat-product marketing could change your production focus. This will depend on the targeted market and if it will buy fresh or frozen. Matching the production quality to meet the variable consumer demand can be a challenge. The larger the scope of your operation and the more outlets you have will improve inventory management. Restaurant markets provide the largest challenge for inventory management as they may have variation in demand on specific cuts of meat. Consumers direct could allow you to focus on seasonal production. Freezing beef increases the ability to manage inventory, but increases the cost due to the cost of storage.

Table 1. Approximate yields of cuts from beef quarters ( 300-lb. side yield grade 3)

<i>Hind Quarter</i> (144 lbs.)	Lbs.	%
Round Steak	27.0	18.8
Rump Roast (boneless)	9.9	6.9
Porterhouse, T-bone and club Steaks	15.3	10.6
Sirloin Steak	24.9	17.3
Flank Steak	1.5	1.0
Lean trim	21.0	14.6
Kidneys	.9	.6

Waste (fat, bone, & shrinkage)	<u>43.5</u> <u>30.2</u>
<b>Total Hind quarter</b>	<b>144 100</b>
<i>Front Quarter (156 lbs.)</i>	
Rib Roast	18.3 11.7
Blade Chuck Roast	26.7 17.1
Arm Chuck Roast (boneless)	17.4 11.2
Brisket (boneless)	6.3 4.0
Lean trim	49.2 31.6
Waste (fat, bone, & shrinkage)	<u>38.1</u> <u>24.4</u>
<b>Total Front quarter</b>	<b>156 100</b>

(From: Calif Beef Council "How to Buy Beef for Your Freezer")

Note that **46.2 %** of your product is lean trim.

### **Product Liability**

With the increase in concern over food safety, the rancher always has a small amount of product liability risk to deal with. Movement beyond raising the live animal increases the risk, as you add the responsibility of meat handling. One of the case study ranches described at the end of this article was asked to provide proof of \$2 million dollars of product liability insurance to be able to sell at a farmers' market. It would be prudent to discuss this business consideration with your insurance carrier to see if the ranch umbrella liability insurance coverage is sufficient or if additional coverage is required. The closer you get to the consumer direct marketing, the higher the liability risk.

### **Label Laws**

There are specific laws regarding product labels that will require state and federal review prior to their use in advertising. If you are going to market through a local farmers' market, you may want to coordinate with your health department and make sure that they are in agreement with state laws and regulations that govern the sales of beef products in such events.

To label a beef product as being unique or superior, a producer must first contact the Labeling Review Branch of the USDA to make an "Animal Production Claim" for labeling the product. The producer will then be required to submit a label application, a prepared (manufactured) label with the feature wishing to be claimed, and an Operational Protocol (OP). The OP is extremely important because it is this document that determines whether a producer can make the desired claim. An OP must be in the producer's own words and must include in detail how the animals are raised and cared for. An OP must include ration formulations, sick animal protocol and herd health management. It is difficult to list all things that must be included in an OP because each is based on the individual producer and the claim wishing to be made. Therefore, the Labeling Review Branch (LRB) stresses the need for a producer to get in contact with their office.

### Contacts

Labeling Review Branch, USDA  
 Kathy Leety  
 (202) 418-8934  
<http://www.fsis.usda.gov>

Once the application is completed, the label and the OP are sent to LRB it varies how long it will take to get the label approved. If the label is sent through the US Postal service, the process will be longer. If an express service or services specifically designed for label deliveries is used, the process will be expedited. In addition, the length of the process will be determined by how exact and specific the OP is and whether there are any questions about the raising/management techniques. A problem can mean many phone calls between the producer and the LRB, or the need for a rewritten OP. LRB emphasizes the importance of the wording in the OP. The time estimate for approval is at best one week with the use of the express services and an outstanding OP; in a worst case, it may be many months. LRB does not charge a fee to review label applications so the only cost is the actual processing fee, manufacturing the label and the cost of sending the materials to the LRB.

The following is a list of the most commonly used label terms; more information is available on the USDA Food Safety and Inspection Service web site (<http://www.fsis.usda.gov>):

**CERTIFIED:**

The term "certified" implies that the USDA's Food Safety and Inspection Service and the Agriculture Marketing Service has officially evaluated a meat product for class, grade, or other quality characteristics (e.g., "Certified Angus Beef"). When used under other circumstances, the term must be closely associated with the name of the organization responsible for the "certification" process, e.g., "XYZ Company's Certified Beef."

**CHEMICAL FREE:**

The term is not allowed to be used on a label.

**NATURAL:**

A product containing no artificial ingredient or added color which is only minimally processed (a process which does not fundamentally alter the raw product) may be labeled natural. The label must explain the use of the term natural (such as - no added colorings or artificial ingredients; minimally processed.)

**NO HORMONES (beef):**

The term "no hormones" may be approved for use on the label of beef products if sufficient documentation is provided to the Agency by the producer showing no hormones have been used in raising the animals.

**NO ANTIBIOTICS (red meat and poultry):**

The terms "no antibiotics added" may be used on labels for meat or poultry products if sufficient documentation is provided by the producer to the Agency demonstrating that the animals were raised without antibiotics.

**OVEN PREPARED:**

The product is fully cooked and ready to eat.

**OVEN READY:**

The product is ready to cook.

**ORGANIC:**

The word "organic" is not allowed to be used on a meat or poultry label. USDA is developing proposed regulatory standards for the production of agricultural commodities, including raising organic livestock and poultry. The proposal must be finalized before the products can be labeled "organic." There is currently tremendous disagreement by the producers over the proposed regulations; if you are interested in a possible "organic" label on your beef, it would be wise to check with the USDA at the time you are preparing your ranch plan. (see its web site: <http://www.ams.usda.gov/nop>)

## **Organic Certification**

**Contacts:**

National Organic Program, USDA

Ted Rogers

(202) 205-7804

<http://www.ams.usda.gov/nop>

According to California Department of Agriculture and USDA, meat products cannot be labeled as organic until USDA has developed rules and regulations. A bill to create organic standards was first introduced in 1989. That bill, the Organic Foods Production Act (OFPA), was passed in 1990 as part of the Food, Agriculture, Conservation, and Trade Act. The OFPA mandated the Secretary of Agriculture to establish an organic certification program for producers and handlers of agricultural products who use organic methods. The responsibility for developing the National Organic Program was assigned to USDA's Agricultural Marketing Service (AMS).

Production and marketing of agricultural products identified as "organic" began nearly four decades ago. As consumer demand steadily increased for organic products, production also increased. The market value of organic agricultural products, which include processed manufactured foods, was estimated to be \$3.5 billion for 1996. However, there was considerable variation in practices, attitudes, and philosophies of those involved in the organic movement. Because of these differences, organic producers recognized the need for uniform standards. There are currently 33 private certification agencies and 11 states that provide organic certification. The organic industry turned to Congress for assistance in developing national standards.

**How the Program Will Operate**

AMS will accredit state and private organizations or persons to become "certifying agents." Certifying agents will certify that production and handling practice's meet the national standards. AMS will provide oversight to ensure that the purposes of the OFPA are accomplished.

A state may establish its own organic program for the production, handling, and certification of organic products. Any state program may contain more restrictive requirements than the national program.

Contacts:

California Certified Organic Farmers  
1115 Mission Street  
Santa Cruz, CA 95060  
(408) 423-2263  
<http://www.ccof.org>

In addition, California Certified Organic Farmers (CCOF) has requirements to certify livestock products as "organic." Any beef cattle grower considering an "organic" niche, should contact CCOF before proceeding with a business plan. CCOF livestock production requires organically grown feeds, the active prevention of disease through nutrition and positive management of living conditions, and the humane treatment of all animals. Producers must complete an organic farm plan that is reviewed annually. Standards are subject to change according to federal and international accreditation standards. There is a certification handbook that has specific management requirements for certification.

The application process begins by contacting the CCOF Statewide Office and requesting an application for a certification packet, which includes:

Certification Handbook  
Application Form  
Farm Plan  
Handling Plan  
Instructions

When the application is returned, all portions pertinent to the operation must be completed, the Certification Supporting Affidavit must be completed and signed, proof of insurance must also be sent, and required application fees and dues (application fee: \$175; additional processing fees are variable; annual fees and dues vary from \$15 to \$150).

Once the application is received, the Statewide Office generates an individualized inspection form and it is sent to the appropriate chapter. The chapter assigns an inspector and an initial inspection must be performed within 90 days from the date the forms were generated and 30 days from the assignment date. The chapter has 90 days to review the inspection report and assign status. The chapter forwards all copies of the Certification Status Report to the Statewide Certification Coordinator who reviews the file and sends out an official written notice of status.

**Retail Law at Farmers' Markets and Sample Distribution**

A producer must contact the Environmental Health Office (EHO), Department of Public Health Service in any county in which they want to participate in the farmer's market, or provide cooked samples to the public. In Yolo County, for example, the products sold at farmers' market must come from an approved source, meaning a USDA-certified/inspected slaughtering facility or processing facility. The products must be prepackaged and have a USDA label.

If you are interested in handing out cooked samples, you must apply for a permit. To receive a permit, the food must be prepared in a certified location (i.e., an inspected restaurant), and served from a netted booth to keep flies, bugs, etc. off the samples. The guidelines are more stringent for preparation and distribution of the samples than for selling frozen products alone at a farmers' market.

Each producer must get in touch with the EHO of the county and abide by his or her requirements.

**Packaging**

Most restaurateurs are interested in a fresh product; packaging will not be as important as the quality of the product. Retail and individual sales will require packaging, in accordance with state food laws. Good packaging also enhances sales. Vacuum packaging provides superior product protection to hand wrapped. Label design and presentation will be an important part of your marketing. The cost of a professional artist to create a label can be expensive, especially when starting with a small volume.

Packaging Tip:

Many research studies have shown feeding animals high levels of Vitamin E the last two weeks increases the shelf life of meat products.

## Marketing Plan

### Identifying Your Market

Clearly, you need to identify the demographics of your purchaser, either directly or through your retail vendor. Market size, share and amount of money they are willing to pay for the product will be important to determine whether this will be a profitable venture. Advertising and sales do not have a linear relationship. Results from advertising are delayed and cumulative (stop ads and sale continue). It is important to identify what the consumer interest and product concerns are. The use of this information, either developed through focus groups or consumer surveys, will greatly help in the connection with potential purchasers of your product. Advertising takes a constant injection of cash to remind the public of your product. Cessation of advertising, after a large initial push, may greatly decrease the number of sales encountered.

It is important to know that the following five advertisement sources have different economic implications:

TV  
Radio  
Newspaper  
E-mail  
Farmers' Markets

## Evaluation of the Product

Once you move from selling a live animal to a product, you must manage its quality and appearance. Understanding the impact your feeding and breeding system has on the product is important. The dressing percent and retail yield needs to be evaluated to fully understand the economic implication of this business venture. Consider testing your product with a community slaughter house or one on a university campus (in California: UC Davis, CSU Chico, CSU Fresno). Yellow-colored fat that comes from green grass-fed systems needs to be addressed by educating the consumers or by changing the feeding system. The tenderness of the meat can be evaluated by taste testing and shear force experiments (see [Case Studies 3 & 4](#)). Since hamburger will make up almost 50 percent of your product, consider the percent fat that you want to market in it. Some fat will be required for flavor and to bind the meat together during the cooking process.

---

{ [Table of Contents](#) }

---

For more information about SAREP [email link](#).

---

[Home](#) | [Site map](#) | [Search](#) | [Calendar](#) | [Contact Us](#) | [Webmaster](#) | [Copyright Notices](#)