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THE NATURAL BEEF MARKET IN THE UNITED STATES

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ABSTRACT

The natural concept in the beef market has evolved in the United States. The majority of natural beef companies have exceeded the requirements set by the USDA definition of "natural" and have incorporated other dimensions related to health, nutrition, environment, animal welfare, and support to small farms. The objective of this paper is to examine those changes, review the literature and research related to consumer preferences and perceptions towards natural beef and, in particular, identify the major natural beef producers and their competitive positions in the marketplace. To achieve this, information was gathered from companies' websites and in-store product observations were made in natural and organic supermarkets. A total of 15 beef producer companies were analyzed.

Key words: beef, natural, organic, United Sates

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I. INTRODUCTION

The natural beef market in the United States has gone through transcendental changes that will redefine the future. Food safety, health, lifestyles and values of the new generations are the driving forces behind those changes.

Concerns about E. Coli and the use of antibiotics and hormones in animal growth have increased in the American population. An example of this is that in June 2003, McDonald's Corporation informed its suppliers that it will buy only meat from animals fed antibiotic-free feed, a production practice that is generalized in the United States, and approved since the mid-1950s. Another example, but on a regional basis, is Good Times Burgers, a fast food chain with more than 35 stores located in Colorado. Good Times announced two months later that all its burgers would be natural and supplied by Coleman. It became the first burger chain to base its entire menu on beef from animals raised without the use of antibiotics and hormones.

Another issue challenging the U.S. population is obesity. More than 25 percent of the American community is considered obese and the condition is seen more in children and low and medium income segments. Diet is a hot issue and top concern in the social and even political spheres.

The third point is related to the changes in private and public standards. Retail chains such as Whole Foods and Wild Oats, which specialize in natural and organic markets, have taken a strong position in leading consumers' educational campaigns and have developed rigorous production standards for natural beef.

In the public scope, the final rule was established for the National Organic Program in October 2002. This program established national standards for the production and handling of organically produced products, including a National List of substances approved for and prohibited from use in organic production and handling. The USDA Agricultural Marketing Service had reviewed by the end of 2002 the standards for the commercialization of meat, with claims regarding antibiotics, hormones, grass fed, among others.

According to The Food Safety and Inspection Service (FSIS), from USDA[1], "natural" may be used on a label for meat and poultry products, provided the applicant for such labeling demonstrates that: 1) the product does not contain any artificial flavor or flavoring, coloring ingredient, or chemical preservative (as defined in 21 CFR 101.22), or any other artificial or synthetic ingredient; and 2) the product and its ingredients are not more than minimally processed.

The above definition (from 1983) is wide and the way in which companies align their marketing programs to the "natural definition" varies in the United States. The definition does not consider the way in which animals were raised and fed. Numerous companies, whether beef producers or retailers, have gone beyond that concept and added other components to their value propositions. Many have begun to actively participate in communicating to consumers what natural means for their product. Their reputation, particularly in the case of supermarkets, is now behind those programs. In this sense, the

[1] Food Safety and Inspection Service (FSIS), Directive 7220.1 Policy Memo 55 "Natural Claims."

objective of this paper is to examine those changes, review the literature and research related to consumer preferences and perceptions towards natural beef and, in particular, identify the major natural beef producers and their competitive positions in the marketplace. To achieve this, information was gathered from companies' websites and in-store product observations were made in natural and organic supermarkets. A total of 15 beef producer companies were analyzed.

Why this research? Competitive analyses are necessary for elaborating a business plan. It implies the study of the market and industry (size, growth rate, geographical coverage and degree of vertical integration of the existing companies, number of buyers and sellers, innovation peace, channel distributions, etc.). It is also necessary to analyze the competition, the threats of new competitors, buyers' and sellers' power, and substitute products. The driving forces, key success factors, and overall attractiveness of the business must be considered. Finally, a company's strengths and weaknesses and abilities for targeting and positioning its products in the selected market must all be considered.

II. THE NATURAL AND ORGANIC RETAIL MARKET

The natural and organic food market has shown an impressive growth rate in the past years. According to the *Natural Food Merchandiser*, total food sales were $5.5 billon in 1997, reached $8.8 billon two years later, and $12 billon in 2002, which equates to a 24 percent cumulative annual growth. However, the natural and organic food market is still a small portion of the overall U.S. food market at 2 percent (Richman, 2000; Cunningham, 2002). Despite that, natural and organic markets appear not only in specialized stores like Whole Foods or Wild Oats (see Table 1), but also in other mainstream retail supermarkets or discount stores such as Wal-Mart or Costco.

Table 1 shows the relative percentage of meats, fruits and vegetables over total food retail sales in the United States. Considering the whole retail industry, meat share is 21 percent of total sales. However, the participation diminishes when moving to the natural and organic markets. In contrast, the percentage of fruits and vegetables increases. Organic and natural food is traditionally associated with vegetarians; meat has never been a large part of the organic diet. The fresh form of meat dominates the category, regardless of the market. However, frozen meat occupies a much higher portion in the natural and organic markets (Cunningham, 2002).

Table 1: Meats, fruits and vegetables sales in the U.S. food retail market (Percentage)

	Meats	Fruits and Vegetables
Total Food Market	21%	17%
Natural and organic Market	5%	22%
Organic Market	1%	41%

Source: Nutrition Business Journal 1999 (Cunningham, 2002)

Box 1: Whole Foods and Wild Oats, leaders in the natural and organic markets

Whole Foods (WFMI) is the largest natural and organic foods supermarket chain in the United States. Whole Foods began in Austin, Texas, in 1980. By the end of 2002, the company was operating more than 140 stores in 25 states and Canada. Whole Foods' stores average approximately 31,000 square feet in size and are supported by regional distribution centers, bakehouses, commissary kitchens, a seafood processing facility, two produce procurement and field inspection offices and a coffee roasting operation. It offers a broad product selection with a heavy emphasis on perishable foods designed to appeal to both natural foods and gourmet shoppers. Perishable products, defined as food and other products subject to spoilage, accounted for approximately 65% of the company's total retail sales. Annual revenue was $2690 million and net income was $84 million in 2002. www.wholefoodsmarket.com

Wild Oats (OATS) began in Colorado in 1987. By 2002, it was operating 102 stores in 23 states and Canada. Wild Oats provides its customers with a one-stop, full-service shopping alternative to both conventional supermarkets and traditional health food stores. The company's stores range in size from 2,700 to 45,000 gross square feet. The stores feature natural alternatives for virtually every product category found in conventional supermarkets. The annual revenue was $920 million and net income was $6.9 million in 2002. www.wildoats.com

Box 2: Changes in McDonald's global antibiotics policy

In June 2003 McDonald's informed its suppliers that it will buy only meat from animals fed antibiotic-free feed. The new policy will go into effect in 2004. McDonald's said it made its decision after consulting with various environmental, science, and consumer groups. Under the four-page policy, McDonald's told its direct suppliers — which provide most of its poultry and 20 percent of all its meat — to phase out the use of antibiotics that promote growth in animals by the end of 2004. They will be asked to submit annual certifications testifying they are complying and will face periodic audits.

McDonald's is also encouraging its indirect suppliers of beef and pork to stop the practice or risk losing business clout with one of the world's largest meat buyers. McDonald's said those seeking preferred status will have to certify compliance and maintain records of their antibiotic use. The new policy does not prohibit the use of antibiotics to treat sick animals.
More information on:
http://www.mcdonalds.com/corporate/social/marketplace/antibiotics/global/

2.1 Natural and organic standards

A survey conducted by Roper Starch in 2001 (Cunningham, 2001) showed that 75 percent of American consumers believe that "all natural" and "organic" mean the same thing. Twenty-one percent believed that the terms "organic" and "low-calories" were synonymous. Furthermore, the Roper Starch study also showed that 81 percent of consumers thought organic meant it must be grown without added hormones, synthetics, pesticides or fertilizers and 73 percent thought organic meant that environmental friendly growing practices were used.

Consumer studies make it apparent that a clear definition for natural and organic is necessary. In fact, the absence of standards has been a barrier for the introduction of natural, and particularly, organic products at the retail level. That has also contributed to the proliferation of certifying agents in the United States, which has grown to more than 40 agents in 2000 (Richman, 2000).

In October 2002, the USDA implemented the National Organic Program, which was aimed to facilitate domestic and international marketing of fresh and processed food that is organically produced and to assure consumers that such products meet consistent, uniform standards. The program established national standards for the production and handling of organically produced products, including a National List of substances approved for and prohibited from use in organic production and handling. The program also included requirements for labeling products as organic and containing organic ingredients[2].

The emergence of private standards must also be highlighted such as in the case of natural beef. Producer and retail companies have adopted rigorous production (included animal treatment) and marketing standards (see Box 3).

[2] www.ams.usda.gov/nop/

Box 3: Whole Foods meat and poultry quality standards

Whole Food standards have four main points: 1) Basic principles of production; 2) Annual Verification Statement Affidavits; 3) Annual on-farm/facility inspections; and 4) Third-Party Animal Welfare & Food/Safety Good Manufacturing Practices Audits.

In order to be considered as a producer or vendor eligible to sell meat, meat products or products that contain meat at Whole Foods Market, each farmer, rancher or processor must meet several requirements. These include: a) animals must not receive any added growth hormones; b) animals must not receive antibiotics, ever; c) all animals must be humanely raised, transported and slaughtered; d) no animal by-products are allowed in feed, including feather-meal or rendered fat; e) the time on a feedlot cannot be more than one-third of the animal's life; f) and the facility or ranch must be designed to support and enhance the land, water and air environmental quality.

The operation must submit information (updated annually) about raising and handling practices, animal welfare at the ranch/facility, feed, medical practices, facility design, split operation status, environmental conditions, environmental sustainability, traceability, labeling, animal welfare in transportation and in the slaughter facility, employee training, and recall systems. Whole Foods Market must also receive an agreement from each producer if any changes are made in their production system that would change answers previously submitted on the affidavit.

Finally, to verify if a producer's animals are humanely raised on the farm/ranch, each producer's operation must be audited annually by Whole Food Market to ensure that the following expectations are being provided. The mandatory 3rd party audit of animal welfare in the slaughter facility was developed by animal welfare expert Dr. Temple Grandin.

More information available at: "*Whole Foods Market: Our meat and Poultry Quality Standards*" Web site:
http://www.wholefoodsmarket.com/products/meat_standards.html

III. NATURAL BEEF MARKET RESEARCH

Many companies have promoted their products extending the concept of natural beef beyond the definition of being minimally processed and without artificial ingredients. Traits that have been identified as appealing to consumers in general include (Smith, 2002): a) Food Safety (lack of hormones, antibiotics); b) Humane (better treatment of animals); c) Environmental (better management of waste, protection of natural resources); d) Enhanced nutrients (increased conjugated linoleic acids, higher nutrient content); and e) Social (support to small farms).

From a marketing perspective, therefore, it is necessary to determine what attributes are valued by consumers in the natural beef segment, their willingness to pay for the desired attributes, and, finally, an effective communication and marketing strategy for the product.

Boland, Boyle, and Peterson (2002) surveyed meat managers in Kansas City supermarkets in 1998 with the objective to learn about how they viewed a natural beef product of a local cooperative. The results indicated that consumers are somewhat informed about how meat is raised and processed and that traceability of meat they purchase is important. They suggested that the promotion of the product could emphasize product features such as “beef produced without hormones or antibiotics.”

Shelquist (2002) conducted six focus groups across the Midwest (Minnesota, Wisconsin, Iowa). These groups were held in support of the development of key marekting messages for use by producers of pasture-raised products and to further assist producers in planning marketing efforts for these products. Several main issues were raised during the focus groups. First, respondents are most concerned about disease and bacteria and less concerned with hormones and antibiotics. Second, the environmental benefits of this type of production are not obvious to the consumers in these groups. Third, consumers are overloaded with information and therefore, respondents really need to have their attention caught with product marketing that emphasizes the direct benefits to the consumer. Finally, the name of production technique (i.e. pasture raised, free range) is less important that having a standard definition of that term that they can trust.

Whole Foods showed interesting data from a national survey conducted between March and May 2003. One of the most interesting results is that the majority of U.S. consumers are not aware that the meat they often consume has been raised with antibiotics in its feed. Few are aware of the scientific dialogues linking the consumption of such meat with the development of antibiotic resistance in humans. When made aware of these facts, a majority of Americans do not want to consume meat that has been raised with antibiotics.

Other results from the survey:

- ✓ 74% are concerned about the presence of antibiotics in meat.
- ✓ 8 out of 10 consumers believe it is important to have standards for natural meat that include being free of unnatural growth hormones, antibiotics, and the animals being raised and processed using humane methods.
- ✓ 48% of respondents know that the fresh beef and chicken they regularly buy in supermarkets has been raised on feed with antibiotics in it. Respondents of higher age, education and income, and the Americans of the west and south coast showed a higher percentage of awareness.
- ✓ Only 27% of Americans are aware of the scientific dialogue that suggests that people who eat meat raised on feed with antibiotics in it can develop resistance to antibiotics, which means that antibiotics taken by human for therapeutic reasons may be not effective. Once they were aware of this, almost 6 in 10 Americans would be likely to buy natural meat.

The definition of "natural meat" Americans would like to see, according the Whole Foods survey, includes:

Raised without antibiotics in the feed	80%
Raised without added growth hormones	75%
Raised without animal by-products in the feed	55%
Raised with humane treatment of the animals	37%
Animals slaughtered using humane methods	30%

Other studies have looked at consumers' willingness to pay for natural beef. In a survey in Colorado and New Mexico, Grannis, Hooker and Thilmany (2000) found that: a) hormones and antibiotics were the most important factors to all types of consumers; and b) 38 percent of consumers were willing to pay a 10 percent premium for a natural steak while 67 percent were willing to pay 12 percent for natural ground beef.

In another study, also in Colorado and Northern New Mexico, Grannis et al (2002) also found that consumers are willing to pay a higher percentage premium for natural ground beef than for a natural beefsteak (natural beef was defined as coming form animals raised without the use of antibiotics and hormones, and never confined). In addition, they found that several demographics (age and income), as well as shopping behavior and types of meat purchased, are significantly associated with those willing to buy at a premium.

NCBA (2002) research also shows less consumer confidence in ground beef when compared to a steak. In a national survey, 74 percent of consumers rated retail purchased beef as safety in the case of a steak and 58 percent for ground beef.

The USDA currently has no data for retail prices for natural beef. However, considering the above research and local observations where retail price for natural ground beef were almost double the price of conventional beef, suggests as a hypothesis that this is a category of strong growth within the natural beef segment.

IV. NATURAL BEEF PRODUCER COMPANIES IN THE UNITED STATES

The following information was gathered through companies' Web sites on the Internet. Table 2 shows a list of the 15 selected companies. The information was processed and classified according to companies' characteristics, process and production characteristics, and product characteristics.

Table 2: Selected companies producing natural beef in the United States

Name	Started	Location	Website
1. Coleman	1979	Denver, Colorado	www.colemannatural.com/
2. Laura's	1985	Lexington, Kentucky	www.laurasleanbeef.com
3. Maverick	1985	Denver, Colorado	www.maverickranch.com/
4. B3R Country Meat	1986	Texas	www.b3r.com/
5. Painted Hills		Oregon	www.natural-beef.com
6. Harris Ranch	1937	California	www.harrisranchbeef.com/
7. PM Beef Group	1991	Kansas, Missouri	http://pmholdings.com/b.html
8. Niman Ranch	1974	Oakland, California	http://nimanranch.com/
9. Meyer Natural Angus	1990	Missoula, Montana	www.meyernaturalangus.com/
10. Oregon Country Beef	1987	Oregon	www.countrynaturalbeef.com
11. Montana Range Beef		Montana	www.montanarange.com/
12. Wolfe's Neck Farm	1959	Maine	http://wolfesneckfarm.org/
13. North Star Neighbors	2000	Nebraska	www.northstarneighbors.com/
14. Small Farm Cooperative	1999	Nebraska	
15. Van Wie Natural Foods		Houston River Valley, NY	http://vanwienaturalmeats.com/

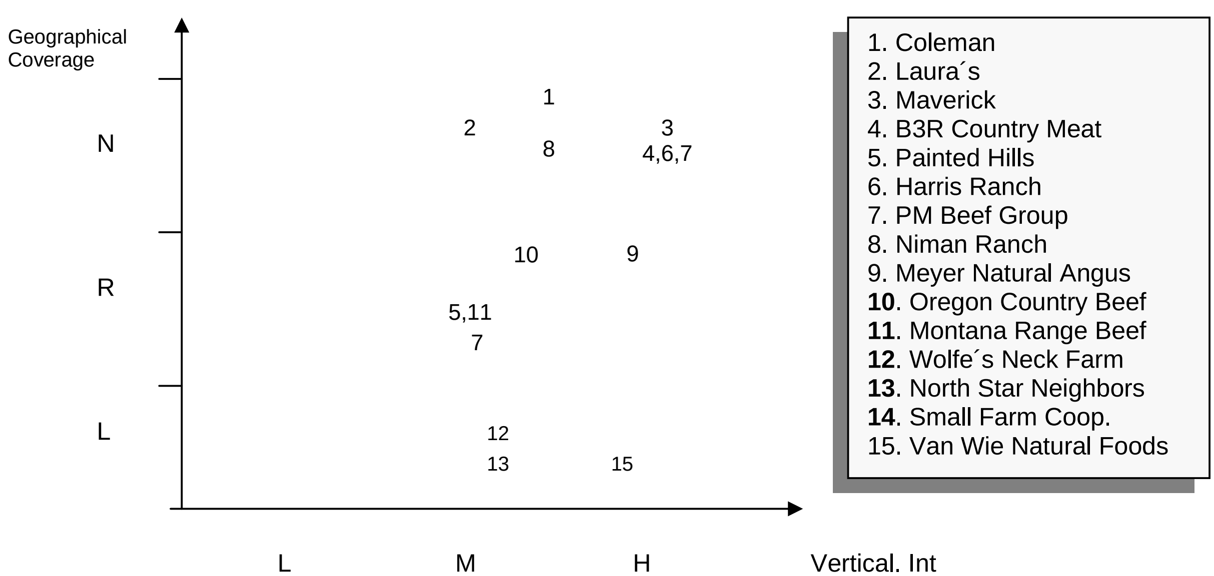
The restrictions of this type of study must be highlighted. The scope of the research and the competitive analysis carried are limited by the degree of development and information available on the Web sites. In some cases, the data was completed with observations in supermarkets and press interviews. A detailed study should include companies' interviews, and other relevant data, observations, and information such as anual sales and price strategy.

4.1 Companies' characteristics

The majority of the companies have been present for a long time in the United States. Coleman was the pioneer in 1979. In 2002, it was the leader in the segment, marketing more than 60,000 head per year with annual sales of $70 million, which was almost half of the natural beef market (Natural Food Merchandiser, March 2002).

Five of the 15 companies are cooperatives (numbers 10 through 14 in Table 2), and are integrated with just a few to more than 40 producers. There is one family farm.
Six of the companies have national coverage and their products are sold in more than thirty states. Five companies have a regional (two to five states) and four are local (one state). There is also a high degree of vertical integration (firms with livestock ownership, plant or that markets directly their products). See Figure 1.

Figure 1: **Companies' geographical coverage and degree of vertical integration**



Supermarkets are the main marketing channels, although some companies also distribute to restaurants. Online sales and farmers markets are important to co-ops. Table 3 shows the information regarding to marketing channels of the 15 firms.

Table 3: **Marketing channels for the selected companies**

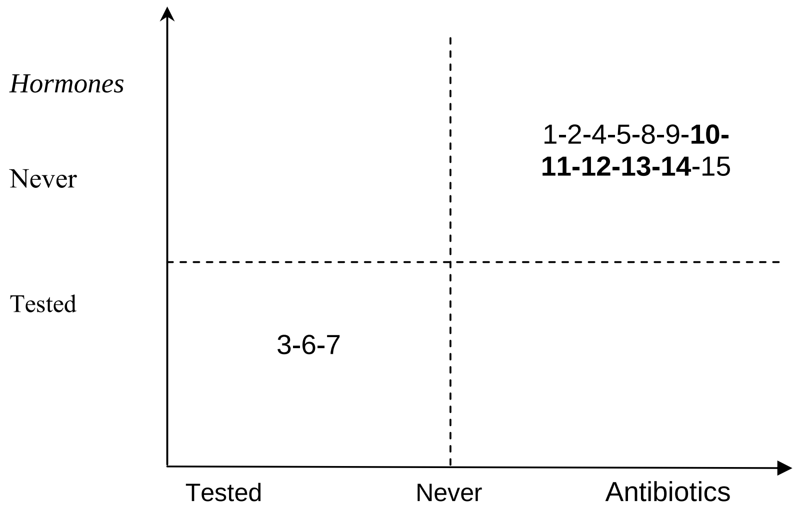
Company	Supermarket	Restaurant	Distributor	Online Sales	Farmers Market
Coleman	✔				
Laura's	✔				
Maverick	✔				
B3R Country Meat	✔				
Painted Hills	✔	✔	✔		
Harris Ranch	✔				
PM Beef Group	✔	✔	✔		
Niman Ranch	✔	✔		✔	
Meyer Natural Angus	✔	✔			
Oregon Country Beef	✔	✔	✔		
Montana Range Beef	✔	✔		✔	
Wolfe's Neck Farm	✔	✔	✔	✔	✔
North Star Neighbors	✔			✔	✔
Small Farm Cooperative	✔				✔
Van Wie Natural Foods				✔	

There is evidence that the natural beef market and production is in the expansion phase. Some starting companies, like North Star Neighbors, are having problems in fulfilling their demand. Concentration is also another signal of the extraordinary dynamic. As an example, Petaluma Holdings acquired Coleman and B3R in October 2002. It now has 700 supplying producers, while B3R had 150 associated ranches in 18 states.

4.2 Process and production characteristics

In this section, special attention was given to the position of the companies regarding the use of hormones and antibiotics in animal feeding and production. Another issue considered is the importance placed on animal welfare and environment. To evaluate these points, a profile using subjective ratings was made to position each firm.

Figure 2: Companies' position regarding hormones and antibiotics

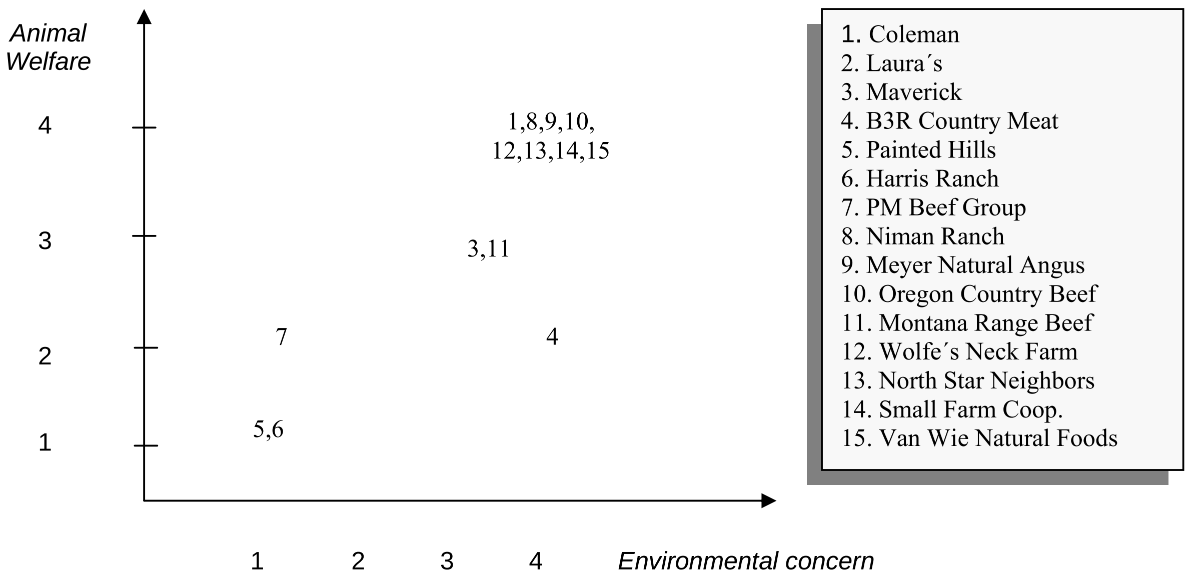


1. Coleman
2. Laura's
3. Maverick
4. B3R Country Meat
5. Painted Hills
6. Harris Ranch
7. PM Beef Group
8. Niman Ranch
9. Meyer Natural Angus
10. Oregon Country Beef
11. Montana Range Beef
12. Wolfe's Neck Farm
13. North Star Neighbors
14. Small Farm Coop.
15. Van Wie Natural Foods

The alternatives for hormones and antibiotics were either they were used or not used. In the case of animal welfare and environment concern, a rating between one and four was given to suggest the perceived emphasis (one is the lowest, four the highest).

Figure 2 shows the relative position for antibiotics and hormones. These two attributes are linked and highly correlated. Companies promoting the use of no antibiotics in cattle production also emphasize the absence of hormones. There are three firms that allow hormones implants and antibiotics, but they use residual tests and assure that use will never exceed the authorized limits. As an example, Maverick Ranch offers a "*Maverick Ranch Guarantee*."

Figure 3: Companies' position regarding animal welfare and environmental concern



The majority of the companies that are in favor of not using antibiotics and hormones also are more positive for animal welfare and environmental issues. Figure 3 shows companies' position regarding these attributes. Finally, it should be noted that Wolfe's Neck Farm and Small Farm Cooperative both emphasize the social value to the consumer, meaning the production by small farms.

Both attributes, as in the case of hormones and antibiotics are highly correlated. With regard to animal treatment, companies like Coleman, Meyer Natural Angus, and Small Farm Cooperative follow strict protocols with the participation of animal welfare specialists. Finally, some firms also support the decision of no agrochemical and GMO use in the animal feedings.

Box 4: Feeding systems examples

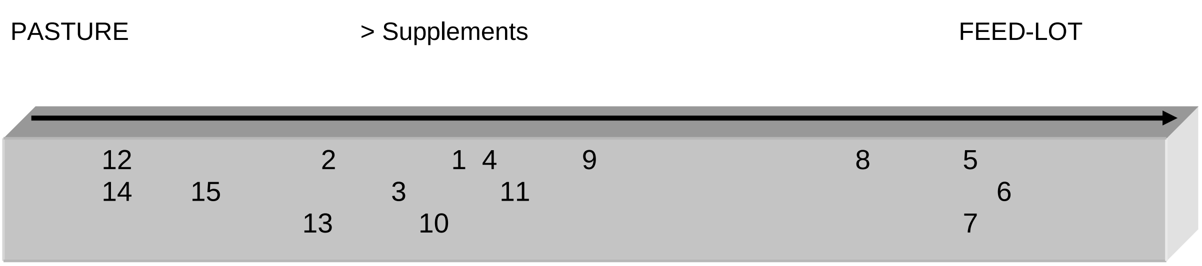
Coleman:

> We talk about our animals being “grass-fed.” That’s not the same as “pasture fed,” since it is impossible to keep the animals in the pasture year-round due to weather. Typically, our calves stay with their mothers for the first 7 to 9 months on the range. At 7 to 9 months, or 500 pounds, they are weaned, and are eating grasses and hay — a lot of it in pasture — until they are up to 800 or 900 pounds. From 900 to 1,200 pounds they are fed a ration of hay and grains at our feed lots until they reach a choice grade weight (Mel Coleman,Jr., Coleman Natural Meats. “Natural Meat: Raised to Taste Better.” A roundtable discussion held in New York City on May 28, 2003).

***Oregon Country Beef*:**

> Each ranch ascribes to a set of Graze Well Principles. To assure quality and consistency, each ranch takes turns placing 800 pound feeder cattle in a common feedlot for a 3 to 4 month finishing vegetarian diet consisting of hay, grain, potatoes and a vitamin-mineral supplement (Web site).

Figure 4: Feeding systems



4.3 Product characteristics

This section considers the types of meats marketed and, for beef, the following characteristics: “USDA grade,” “USDA process verified,” breed, country of origin, brands, type of products, and other relevant attributes. Table 5 shows a summary.

“USDA grade” is voluntary and a plant must pay a fee to obtain it. The criteria for the USDA quality considers marbling, with the levels Prime, Choice and Select (more to less fat). The lower grades, Standard, Commercial, Utility, Cutter and Canner, are primarily used for ground and processed beef. USDA Prime beef represents about 3.8 percent of the slaughter classified by USDA, while Choice represents nearly 58 percent, and Select is close to 38 percent. The second type of classification is called yield grading and measures the relation between muscle and fat. Yield grade goes from one to five. YG1 is the one that has more muscle in relation to fat. In 2002, about 9% of the USDA classification was YG1; 42 percent was YG2, 44 percent was YG3, 3.7% percent was YG4, and 0.5% percent was YG5.

With respect to the portfolio of meats, seven only offered beef. Table 4 shows the type of meats produced and marketed by each firm.

Table 4: Type of meats produced

Company	Beef	Lamb	Pork	Poultry	Others
Coleman	✔				
Laura's	✔				
Maverick	✔	✔			✔
B3R Country Meat	✔	✔	✔		
Painted Hills	✔	✔	✔	✔	
Harris Ranch	✔				
PM Beef Group	✔				
Niman Ranch	✔	✔	✔		
Meyer Natural Angus	✔				
Oregon Country Beef	✔				
Montana Range Beef	✔				
Wolfe's Neck Farm	✔	✔	✔		
North Star Neighbors	✔	✔	✔	✔	
Small Farm Cooperative	✔	✔		✔	✔
Van Wie Natural Foods	✔	✔	✔	✔	✔

As it is shown in Table 5, six companies use USDA classification and the majority are USDA choice. Six companies specify on the Internet the type of breed with Hereford, Angus, Salers, Charolais, Piedmontese, Limousin being the primary breeds represented. Other breeds include Belgian Blue, Romagnola, and Simmental.

Table 5: Product characteristics

Company	USDA Grade o USDA Certified	Breed	Branded Beef	Products	Other
Coleman	Choice			Cuts, Ground, hotdogs, burgers	
Laura's		Limousin, Charolais		Cuts, Ground	Lean
Maverick	Select o Choice YG 1-2	Salers y Angus	Naturalite Beef Gold Medal Brand Natural Choice Angus	Cuts, Ground, Pre-cooked Beef Patties	Only US Extra lean, Low Sodium, Test
B3R	USDA graded				Only US
Painted Hills					Only US
Harris Ranch	Choice			Cuts, Entrees, "read to heat"	Halal
PM Beef Group	Process Verified		Ranch to Retail Tasty Slim BSI-USA Shenson Supreme	Cuts, ground, offal, case ready, value added	Kosher
Niman Ranch		Angus, Hereford		Cuts, ground, Pastrami, Offals	Only chilled
Meyer N.Angus		50% Angus			
Oregon Beef	High Select/Low Choice YG1-2				
Montana Beef		Piedmontese		Cuts, Ground	Lean
Wolfe's Neck		Black Angus, Hereford		Cuts, ground, hotdogs	
North S. N				Cuts, ground, canned, burgers	
Van Wie Natural Foods	Prime			Cuts, ground, offals, prepared	

Regarding branded beef, Maverick and PM Beef Group stand out with specific programs for product lines. Most of the products offered are cuts, ground beef, and burgers. Some of them are offering 100% beef hotdogs, pastrami, pre-cooked and ready to heat packages. Three companies emphasize the lean attribute in their beef products (Maverick, Laura, Montana).

Another important point is the origin of beef. Three companies support on their websites the U.S. origin: animals born, raised and fattened in the U.S. (Maverick, B3R and Painted Hills). Maverick’s Web site explicitly says that they do not use imported beef.

V. FINAL COMMENTS

The natural concept in the beef market has evolved in the United States. The majority of natural beef companies have exceeded the requirements set by the USDA definition of "natural" and have incorporated other dimensions related to health, nutrition, environment, animal welfare, and support to small farms.

The natural beef market is growing steadily. There are signals that would suggest an extraordinary dynamic: high growth rates in sales, new companies competing, product and brand development, and evolution of public and private standards, certifications, and big players in the fast food and retail sector making important changes in their orientation are some examples.

There are interesting opportunities and challenges for firms competing in this market. The playing field seems very competitive, with established companies, high degrees of vertical integration and increasing product development, companies extending and strengthening their marketing channels (most of the time under exclusive arrangements). Any new supplier must meet this level, reach high standards of production and quality products without time to experience the learning curve.

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AGENCY: Agricultural Marketing Service, USDA.

SUMMARY: Some segments of the livestock and meat industries make claims to distinguish their products from competing products and may request third-party verification by USDA to increase the credibility of their claims. Verification of such claims may be accomplished through examination of the product or through documentation and auditing of the production process. Specifically, USDA established minimum requirements for common production/marketing claims that may be used in voluntary USDA Certified or USDA Verified programs for the livestock and meat industries.

Standardization of these marketing and production claims will permit marketers and purchasers of these products to make informed decisions by using common trade language. Participants whose products or processes do not meet these minimum requirements will not be recognized as USDA Certified or USDA Verified by AMS, and LCPS will not approve labels citing certification of such claims. The proposed marketing claim standards may be used in conjunction with existing regulations or voluntary USDA grade standards in USDA Certified and USDA verified programs.

Claims Relating to Live Animal Production

Antibiotic Claims — Existing antibiotic-residue testing technology can detect residues that exceed the FDA's minimum thresholds. These tests do not have the sensitivity to verify ‘‘antibiotic-free’’ or that no antibiotics were ever administered.

Claim and Standard:
• "No antibiotics used," or "Raised without antibiotics." — Livestock have *never* received antibiotics from birth to harvest.

• "No subtherapeutic antibiotics added," or "Not fed antibiotics." Livestock are not fed subtherapeutic levels of antibiotics. They may receive treatment for illness provided the approved FDA withdrawal period is observed.

• No detectable antibiotic residue (analyzed by ‘‘method x’’). — LCPS requires additional information on the label that clearly informs the consumer/ purchaser that the animal may have been treated with antibiotics.

Breed Claims — Claims for breed of livestock must meet criteria established by an AMS-recognized U.S. breed association for the referenced breed. If the breed association does not establish criteria for this claim, animals must be traceable to a parent registered with a breed association.

Free Range Claims — These claims relate to the practice of allowing livestock to have continuous and unconfined access to pasture throughout their life cycle. Producers must verify how livestock are cared for during normal and inclement weather conditions, birthing, or other conditions that would merit special protection.

Claim and Standard:

• "Free Range," "Free Roaming," or "Pasture Raised." Livestock that have had continuous and unconfined access to pasture throughout their life cycle. FSIS requires product labels from red meat species with these claims also include the following further qualifying statement: ''Free Range—Never Confined to Feedlot.''

Geographic Location Claims — References to individual States, countries, or specific or general geographic areas (*e.g.*, Dakotas, Western) will constitute geographic location claims.

Claim and Standard:
• Location of Raising (*e.g.*, ''Mid- Western Raised Lamb'' or ''Raised in Montana''). — The livestock are raised/ grown in the specified geographic location from birth to harvest.
• Location of Finishing (*e.g.*, ''Rocky Mountain Fed Lamb'' or ''Nebraska Fed Beef''). — The livestock are fed/finished in the specified geographic location for at least the last 100 days prior to harvest.

Grain Fed Claims — A high concentrate grain ration is any cereal plant product that meets or exceeds 60Mega calories (Mcal) Net Energy for gain (NEg) per 100 pounds of ration dry matter (1996 NRC for cattle, 1998 NRC for swine).

Claim and Standard (for Cattle)
• "Grain Fed" (*e.g.*, Corn Fed, if corn is the primary ingredient)
(1) Average grain consumption must equal 50% or more of the ration; (2) NEg must average at least 60 Mcal per 100 pounds of ration dry matter; (3) Dry Matter Intake (DMI) During the finishing phase must be at least equal to: ((Cattle shrunk weight at the beginning of the finishing phase × 0.014) + 10 pounds). DMI tolerance cannot be less than 10% of this formula; and, (4) Minimum number of days on feed is 100 days for slaughter steers and heifers and 30 days for cows.

Grass Fed Claims — This claim refers to the feeding regimen for livestock raised on grass, green or range pasture, or forage throughout their life cycle, with only limited supplemental grain feeding allowed.

Claim and Standard:
• "Grass Fed." — Grass, green or range pasture, or forage shall be 80% or more of the primary energy source throughout the animal's life cycle.

Hormone Claims — Since all plants and animals produce hormones, a ''hormone-free'' plant or meat product is a misnomer and a ''hormone-free'' marketing claim cannot be made.

Claim and Standard:
• "No supplemental hormones* used," "Raised without supplemental hormones,*" or "No added hormones.*" — The livestock have *never* received supplemental hormones from birth to harvest.
• "No hormones* administered during finishing." — The livestock have not received supplemental hormones during the feeding/finishing period.

* The terms ''hormone,'' ''growth promotant,'' ''growth stimulant,'' and ''implant'' are used interchangeably.

Livestock Identification Claims — Livestock identification is used to establish ownership, ancestry, pedigree, or age; to trace origin of livestock; or to manage herd health, artificial insemination, and performance testing programs.

Claim and Standard:
• Source Verified — Must include the following: (1) Method of livestock identification; (2) Location(s) where livestock are born, raised, fed, harvested, and processed; and (3) Identification of the producer(s).

• Individual Animal Identification. — Must fulfill the Source Verified requirements and also have unique, individual animal identification.

Vitamin E Claims — Retail-marketing claims, such as ''Vitamin E fed'' or ''Vitamin E enhanced,'' are not allowed by FSIS because consumers do not receive a supplemental level of Vitamin E by consuming Vitamin E-fed beef.

Claim and Standard:
• "Cattle have been fed supplemental levels of Vitamin E." (Promotion of Vitamin E use is limited to livestock producers, packers, and wholesalers.)

Claims Relating to Product (Meat) Characteristics

Aged Meat Claims — *Claim and Standard:*
• *Aged Meat Products.*—Type of aging and length of postmortem aging (in days) must be specified. The actual number of days aged and type of aging (dry or wet) may also appear on the retail label.
Beef.—Must be wet aged for a minimum of 21 days or dry aged for a minimum of 35 days.

Electrical Stimulation Claims — *Claim and Standard:*
• Electrically Stimulated Beef. — The electrical stimulation applied to the carcass must meet minimum requirements.

Tenderness Claims — Results of objective measurements (*e.g.*, mechanical measures, such as Warner- Bratzler Shear [WBS] or Instron tests) or subjective evaluations (*e.g.*, taste panel scores) can be used to develop quantitative ranking systems which provide a relative level or degree of tenderness. Specific details of evaluation techniques and conditions used to establish tenderness claims must be fully documented.

Claim and Standard:
• ''Company X's'' Tender ''Species.'' — A tenderness management system must include at least 3 of the following controlled elements and must be statistically verified ($P \leq 0.05$) to meet an objective tenderness evaluation of a WBS score $\leq$ 4.0 kg, using a 1⁄2 inch (1.27 cm) core, when cooked to 160°F (71°C).* The objective tenderness evaluation must be revalidated on an annual basis.
Controlled Elements: (1) Genetics; (2) Age of livestock; (3) Feeding management; (4) Electrical stimulation; (5) Aging; (6) Ingredients added to enhance tenderness; (7) Instrument assessment (*e.g.*, validated carcass sorting system, pH values, etc.); or, (8) Mechanical (*e.g.*, blade tenderization, etc.).

http://www.ams.usda.gov/lsg/stand/st-pubs.htm

Appendix 2: Additional company information

Company	Distribution Channels	Promotional Emphasis	Others
1	1,700, majority supermarkets	First natural beef without antibotics and hormone use in the US	Nutrition specialists support
2	4,000, majority supermarkets	Animals raised without hormones and antibiotics	Lean Breeds
3	30,000	Health and Nutrition, Select beef	Maverick Guarantee, Family values
4	-.-	Animals raised without hormones and antibiotics	Promotional support, tenderness guaranteed
5	Oregón; 83 super, 25 restaurantes, distributors, catering	Healthy, Tender	Promotional supprot
6	167 supermarkets for fresh beef, more than 200 supermarkets for prepared beef	"Beef at its best"	Cooking tips and suport from nutrition specialist
7	-.-	Product and service quality	Marketing support, guaranteed tenderness (age< 24m), A. Heart Association, guaranteed delivery
8	136 supermarkets, 339 restaurans, on line sales	Animals raised without hormones and antibiotics Animal Welfare	Animal program, humane slaugther
9	Supermarkets and restaurantes	Angus, Animals raised without hormones and antibiotics, Animal Welfare	Minimum 50% Angus, Stamp from American Human Association
10	56 supermarkets, 10 restaurants, 3 distributors	Producer responability	Lean beef, quality guarantee, fat composition research, human slaughter
11	Algunos supermarkets y restaurants selectos, venta on line	Nutritional benefits of lean beef Animals raised without hormones and antibiotics	Less cholesterol, less fat, support from the American Heart Association, Piedmontese
12	14 Foodstores, 6 restaurants, 3 Distribuidores, Farm Store, Venta on line	Family farms, animal welfare, environment	Strong emphasis to environment
13	Shipping to all US, farmer markets, supermarkets in Omaha, Lincoln, Grand Island	Producer responability, Animal Welfare	Achieve organic standard, but they do not certify it
14	Regional chains of supermarkets in Nebraska, local markets	Animal welfare, environment	Grass Fed
15	Shipping to all US	Natural	

Appendix 3: Maverick's certifications

U.S. OLYMPIC TRAINING CENTER SUPPLIER – Maverick Ranch Beef has been approved by and is served daily at the U.S. Olympic Training Centers since 1987. Important factors are the nutritional predictability and the testing program that provides proof of the absence of detectable artificial steroids, pesticides and antibiotics. We are proud to be ***"The Beef Behind the U.S. Olympic Athletes"***.

USA
36 USC 380
MAVERICK RANCH
Official Supplier
of the U.S.Olympic
Training Centers

AMERICAN HEART ASSOCIATION FOOD CERTIFICATION PROGRAM – This is a fast growing certification program sponsored by the American Heart Association to certify foods that are heart healthy. Maverick Ranch was accepted into the program in 1995. The USDA considers the American Heart Association Heart Check logo to be a health claim for labeling; therefore, accepted beef products must meet USDA requirements for health claims. These products must be 5 grams of fat or less per 4 oz. serving. Saturated fat and choleserol also are restricted. Maverick Ranch 96% Lean Ground Beef and Ground Round meet American Heart Association food criteria for saturated fat and cholesterol for healthy people over age 2.

American Heart Association

HEART SMART – Certain cuts of Maverick Ranch Beef and Buffalo became certified by Heart Smart International in 1998. Requirements for this certification are that products meet the USDA Heart Healthy claims. This certification pertains to cuts that we sell to restaurants. All of these same cuts are available to supermarkets.

SMART

MFit
UNIVERSITY OF MICHIGAN MEDICAL CENTER

UNIIVERSITY OF MICHIGAN M-Fit PROGRAM – This program was developed at the University of Michigan Medical School and identifies heart healthy foods in the supermarket. Recovering cardiac patients tour through a supermarket to learn healthy choices in food. Yellow dots indicate that certain foods are to be used with caution. Green dots show the most heart healthy products. Maverick's NaturaLite beef was the first beef to be approved by Medsport, which has evolved into the M-Fit Program. This program has listed us for 10 years. We're proud to have the green light approval.

HEALTHMARK – Maverick Ranch NaturaLite Beef was chosen to carry the HealthMark label in 1987. Dr. Robert Glesser, former Medical Director of the Pritkin Institute, founded HealthMark. We are very proud of this endorsement, as their diet philosophy is primarily a very low-fat diet.

MAVERICK RANCH HEART HEATHY CERTIFICATION – This symbol indicates cuts that meet USDA requirements for heart healthy. The criteria for this designation is determined by USDA guidelines and is the same for the health claims used by the American Heart Association Food certification, HealthMark or M-Fit. We use this logo in areas where others are not well known or if economics becomes a factor.

HEALTHY

Appendix 4: PMBeef Group Brands

As the U.S. Department of Agriculture's only source-verified beef producer, PM Beef has established production systems that certifies genetics, animal health, feed composition, residue testing and handling all along the production process to produce all natural, tender, tasty beef. No other beef production company can make this claim. It's the reason PM Beef Group worked to establish the Ranch to Retail™ verified beef production system.

Consumers have begun to ask more questions about the production processes behind their food and the safety of the food they feed their families. PM Beef set out to build the Ranch to Retail system to give grocers and consumers the peace of mind they desire in the foods they purchase.

The system begins with the calf where a "Ranch Portfolio" is required on all participating cow-calf operators. Every animal passing through the Ranch to Retail system also carries a "Health Passport."

Within the Ranch to Retail system, cattle are fed in a small number of certified feedyards that meet stringent quality standards. PM Beef has identified "family feeders" who share the vision and commitment to quality. Only selected types of cattle are used. Those bred to promote tenderness and consistent yield.

Cattle are fed according to specific management practices following a carefully controlled diet. For a full five years, PM Beef has excluded meat and bone meal from use in feed rations and imposed animal age restrictions. To further verify the process of the Ranch-to-Retail system, a PM Beef associate visits the feedyards once a month to conduct an audit. Each lot of cattle is inspected continuously by a PM Beef representative and ongoing documentation backs up the Ranch-to-Retail system. All meat is residue tested to insure grocers and consumers are getting all-natural, consistent cuts of beef.

Beef from cattle fed corn-based diets rank highest in overall flavor according to consumers. At PM Beef, cattle are fed corn more than 110 days to promote flavor and tenderness. Carcasses are selected with specific marbling score window, based on recommendations established by the American Heart Association. To promote tenderness, all beef except ground beef is aged an average of 14 days, nearly five times longer than others. Color is another key to consumer perceptions about beef quality. Cattle in the PM Beef system are supplemented with vitamin E to help product maintain its bright cherry-red color extending product shelf life.