

**MARKETING GEORGIA-GROWN, FORAGE-
FED BEEF**

by

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ABSTRACT

The cattle market has drastically changed over the last half century. Today, ranchers and farmers are faced with various governmental regulations as well as fluctuating grain and fuel prices. While beef may still be a commodity, it can be sold in specialized markets, in markets that have enhanced consumer demand. It is nearly impossible for a producer with a small herd to compete with a larger ranch if they are selling their cattle as a commodity. The primary economic objective of the producer is to generate revenue. Producers must be profitable to remain in business as well as provide a livelihood for their family. Providing a quality product is part of the business model.

Choice within a marketplace is beneficial for producers and consumers. That said forage-fed beef will prosper in marketplaces where consumers desire their product more than alternate products. If producers are intent on progressively growing their market share, Georgia-grown, forage-fed beef must be marketed correctly. This includes promoting it on a basis of locally grown, pasture raised, and other attributes consumer's desire.

The results of the marketing survey present data that may be helpful when marketing Georgia-grown, forage-fed beef. The weekly consumption of beef products provided insight into the potential scope of the market. Approximately 39 percent of respondents consumed beef products three or more times per week. Additionally, 43 percent of the respondents were not familiar with forage-fed beef. This is a significant share of the market that is possibly open to a new product like Georgia-grown, forage-fed beef. Similarly, traceability of the product was an important feature that customers

preferred. In addition to a larger selection of naturally produced beef products, respondents also indicated they were willing to pay more for the product. Approximately 49 percent of the respondents indicated that they would be willing to pay up to a dollar more per pound for Georgia-grown, forage-fed beef. Another 30 percent of the respondents indicated that they would be willing to pay more than \$1 per pound for Georgia-grown, forage-fed beef. The results of the survey appear to offer opportunities for producers of Georgia-grown, forage-fed beef to expand their market share.

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CHAPTER I: INTRODUCTION

Forage-fed beef in Georgia is an emerging market. Currently, most beef cattle produced in the Southeast are raised initially on forages and readied for the market on grain diets in feedlots usually located out of state. Increasing and fluctuating grain prices, environmental concerns associated with feedlots, and consumer demands for lower-fat beef have generated interest in using forages as finishing diets for beef cattle.

Even as America's population increased during the last decade, total annual beef consumption has remained at about 26.5 billion pounds. That is approximately 67 pounds per person at an average price last year of \$4.33 per pound (Seltzer 2009). Health concerns, mad-cow disease, *E coli* contamination, health risks, hormones, and price have weakened beef consumption. In response to worries over beef quality and healthiness, a tiny, but growing number of farms have turned to finishing beef cattle on grass, bypassing corn and feedlots altogether. This sector is so miniscule that the U.S. Department of Agriculture does not track its numbers, pounds produced, number and size of farms, costs and value of production, profitability, and growth trends.

The marketability of Georgia grown, forage-fed beef hinges on the producers' ability to understand and define their market. Because most forage-fed beef is marketed directly by producers to consumers and restaurants, a personal relationship is forged between the two. In an attempt to expand the market for forage-fed beef producers in Georgia, this thesis focuses on marketing Georgia grown, forage-fed beef.

1.1. Problem Statement

The client of this thesis is Georgia-grown, forage-fed beef producers. The client is interested in acquiring information that will allow producers of Georgia-grown, forage-fed beef to determine if consumers will buy and eat forage-fed "natural" beef? This thesis will assist in the determination of the viability of the market for Georgia beef producers.

The thesis is important because it can provide marketing and financial information to producers of forage-fed beef in Georgia. Additionally, it will provide statistical data that represents the demand for forage-fed beef, thus supplying producers the data to properly determine a successful business plan.

1.2. Objectives of Thesis

The objectives of this thesis are to determine if Georgia-grown, forage-fed beef has a market segment within Georgia. In addition, the thesis will ultimately attempt to learn more about the consumers understanding and preferences of new beef products.

Specifically, this thesis will help producers:

- I. Develop a clear, focused marketing plan that determines the key demographics, consumer preferences, and knowledge of forage-fed beef.
- II. Identify a marketing system for forage-fed beef that utilizes current technology to insure a consistent product.

The thesis will be delivered to a select few small business-owners that are involved in the Natural foods business within the North Georgia region. Results from an online survey conducted as part of this thesis will be part of the deliverables.

The information I will need to answer the question of the marketability of Georgia-grown, forage-fed beef will be derived from various sources. I will conduct a survey consisting of 19 questions that will be administered to residents of the North Georgia region. Fourteen of the questions pertain to beef/meat and consumer preferences. The remaining five questions are demographic questions that will allow the producers to identify a potential market segment for the product. The survey will be administered online. All respondents will have free access to the survey as well as the ability to complete it in total anonymity.

Information from the USDA and the state of Georgia Department of Agriculture will also be utilized. Information collected from these agencies will provide up-to-date facts and figures relative to the thesis objectives. Information will also be found in periodicals, research conducted utilizing online surveys, and in-field interviews. Agri-cola, Agecon search, USDA-ERS, Georgia Department of Agriculture, and other websites will be researched in an effort to support and verify sources deemed appropriate for the thesis.

CHAPTER II: CONSUMER PREFERENCE

2.1. Alternative Markets

Thilmany, Grannis, & Sparling, (2003) investigated consumer preference for locally produced meats in an expanding niche market. The research concluded that producers have chosen to seek alternatives as a response to the low margins they received in commodity meat markets. Producers should pay attention to consumer characteristics' and willingness-to-pay (WTP). However, equal, if not greater attention should be paid to the form of market and marketing channels for the products. Production practices, labeling, and demographics offer insight into the consumer's thoughts and financial motives when determining how much more they are willing to pay for a locally produced product. Producers should evaluate growth and alternative markets in an attempt to market their products. Based on the findings from this article, future research and forecasting should focus on the expanding interest in grass-fed beef.

Maynard, Burdine, & Meyer (2003-07) indicated that a consumer's willingness to pay (WTP) is of utmost importance when entering markets with similar products. Additionally, the ability to market a product through alternative channels (i.e., local restaurants and markets) can create niche markets favorable to the producer. Niche markets, such as the locally grown markets, are poised to expand. Furthermore, product verification systems and public awareness also provide opportunities within the "local" market. Consumer preferences indicated that increased prices on similar products do not necessarily deter a consumer's intent to purchase. The ability to avoid mainstream outlets and barriers to entry are avenues that local livestock producers should pursue in an effort to market their locally grown beef. Through assessments of markets for locally

produced meat products, livestock producers can more appropriately determine their market niche and consumer willingness-to-pay for locally grown products.

2.2. Niche Marketing

Rinehart (2006) examined conventional marketing systems for beef. The purpose of the study was to examine the differences between conventional beef production and the alternative niche markets. The stagnation of current beef markets has created an opportunity to market beef directly from ranches to consumers. Niche marketing may provide the farmer or rancher a larger share of the food dollar and a higher return on each unit sold. Adding value or marketing farm products directly to the consumer may be a way to enhance financial viability. While a successful direct marketing plan may not increase profits, it can provide for protection from fluctuating live-market prices. Producers must be absolutely sure they are ready for the demands on human capital if there is to be a possibility of success at the conclusion of their efforts.

Evans et al. (2008) conclude that the consumer's choice for beef products in the current market vary widely due to their perception, knowledge, and choices. Beef products are said to embody four general types of attributes: observed, experience, nutritional, and process. Furthermore, a consumer's preference is determined by one, or a group of such attributes. The lack of specific information about a product, such as forage-fed beef may also contribute to consumer's unwillingness to pay extra for the product. It appears that consumers do not have the knowledge of forage-fed beef products, nor do they have the product readily available to distinguish between grain-fed and forage-fed beef. Whether the consumer is driven by a demand for convenience, health concerns, or other factors, their behavior indicates that the beef products available in retail settings are not diverse enough to accommodate changes in consumer preferences.

Xue et al. (2010) found that a consumer's knowledge of nutrition and their willingness to pay for beef can be linked. The ability to inform consumers about forage-fed beef has a direct effect on the price of the product. Results suggest that the more knowledge a consumer acquires, the more they are willing to pay for forage-fed beef. Furthermore, the education and gender of a consumer can have a positive or negative effect on their willingness to pay. Several models including OLS and Tobit regressions were used to create a baseline for the analysis of a consumer's willingness to pay.

King et al. (2010) examined the ability to directly market a product like beef to the consumer and the result of increased opportunities that strengthened relationships between vendor and buyer. When a direct market chain is created and strategically implemented, buyers are able to understand their food source. They do not have the indirect relationship as they do with larger food retailers that do not promote the farmer/rancher who raised the beef. Some consumers buy local to save money, while others pay a larger premium to buy local. Consumers interested in this market may also believe that the product is fresher or freer of harmful chemicals. Other consumers gain non-monetary satisfaction with the direct interaction with producers, a greater sense of community, and the belief that buying local is helping the environment, small farmers, and the local economy. Often, the marketing initiative is started with a supply chain that fits the business. In the case of local food, direct supply chains are vital to success. The ability to successfully market local beef products that are in many cases, priced higher than similar products in local retail stores, reverts back to product information and relationships with the customer. More specifically, a link from farm to patron is what sells product. In a niche market like forage-fed beef or locally grown foods, differentiation and relationships are the backbone of success.

CHAPTER III: THEORY AND METHODS

3.1. Background

For the beef industry, the inability of the consumer to purchase a consistent, quality product from the traditional meat case has contributed to beef's loss of market share. Producers who find this unacceptable have turned to niche marketing in an attempt to capture value. Developing a niche market can be an essential tool used to gain market share. By creating specialty products, producers can cater to the changing demands of today's consumer. Therefore, strategically aligning the producer with new and emerging markets may produce positive results. Any planning activity involves thinking about the future. However, the focus of strategic planning is not on predicting the future, but instead on making better decisions in the present in order to reach a desired future. Because the future cannot be known with certainty, Georgia-grown, forage-fed beef producers must make certain assumptions about what the future will hold. An important part of the strategic planning process is to recognize and explicitly state any key assumptions about the future business environment or markets.

To be successful, the producers must find a fit between what the market wants and what the producer provides, as well as between what the business environment or markets will provide and what the producer needs. More specifically, the success of Georgia-grown, forage-fed beef depends on commonalities with consumers.

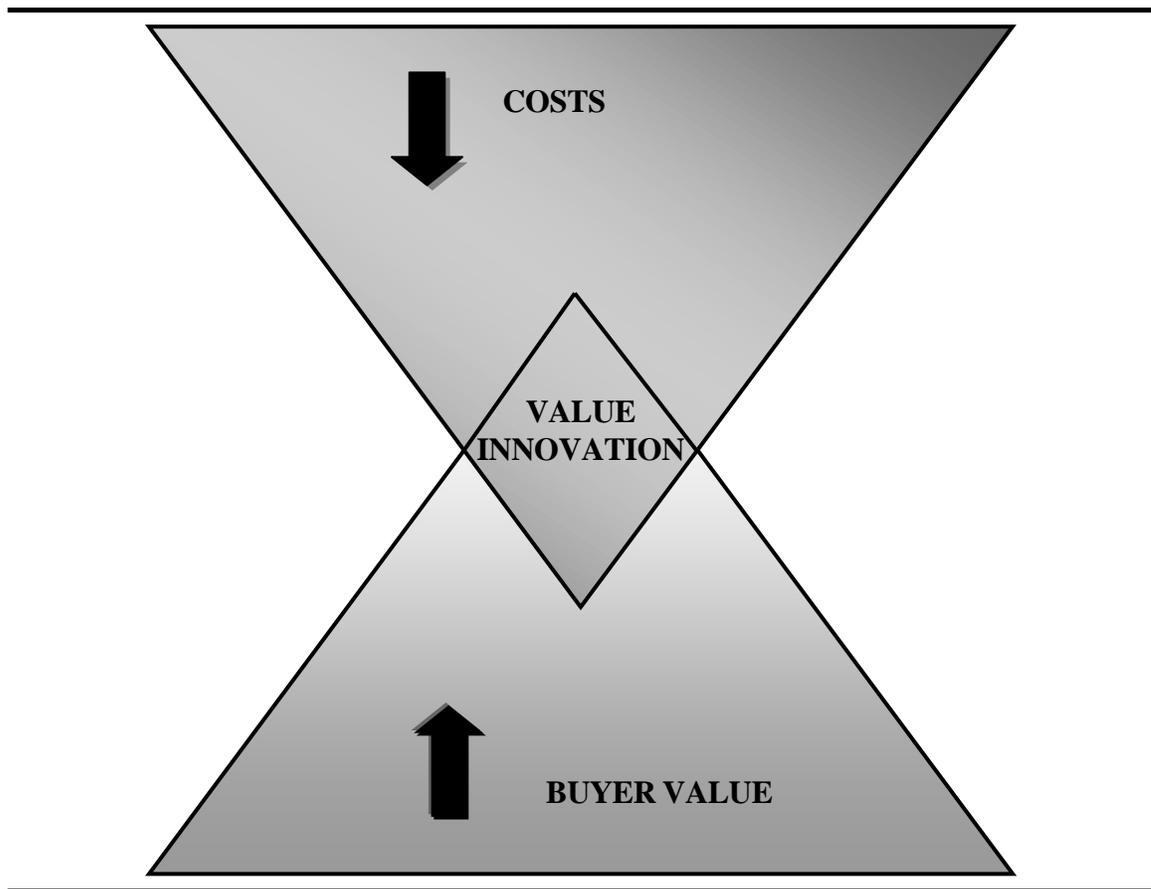
3.2. Value Innovations

Georgia-grown, forage-fed beef producers are trying to market their product so that they can maximize profits, sustain growth, and differentiate themselves from competitors. Inevitably, this will lead to an alternative strategy that may require setting sail in uncharted waters. The Blue Ocean Strategy, created by Kim and Mauborgne (2005),

provides an approach that offers alternatives to competing head-on with rivals; a classification known as a red ocean. The beef industry is constantly evolving; however, the market tends to accept the constraints of the head-to-head industry competitiveness. Furthermore, the beef industry and competitors within it follow conventional approaches. This strategy tends to align itself with the red ocean strategy, a strategy that fosters competing for a share of contracting markets that does not generally sustain high performance. Alternatively, the blue ocean strategy suggests that success involves creating uncontested market space and opportunities for growth (Kim and Mauborgne 2005). Georgia-grown, forage-fed beef is a product that may create value innovation. Value innovation is the foundation for a blue ocean strategy. In figure 3.1, value innovation is created in the region where the producer's actions favorably affect both its cost structure and its value proposition to buyers.

The term "value innovation" in the case of Georgia-grown, forage-fed beef focuses on making the competition irrelevant by creating a leap in value for buyers and the producers, thereby opening access to a new and minimally contested market. Cost savings are made by eliminating and reducing the factors the beef industry competes on. Buyer value is lifted by raising and creating elements the industry has never offered. Over time, costs are reduced further as scale economies begin due to the high sales volumes that superior value generates.

Figure 3.1: Value Innovation



Source: *Blue Ocean Strategy*, Kim and Mauborgne (2005)

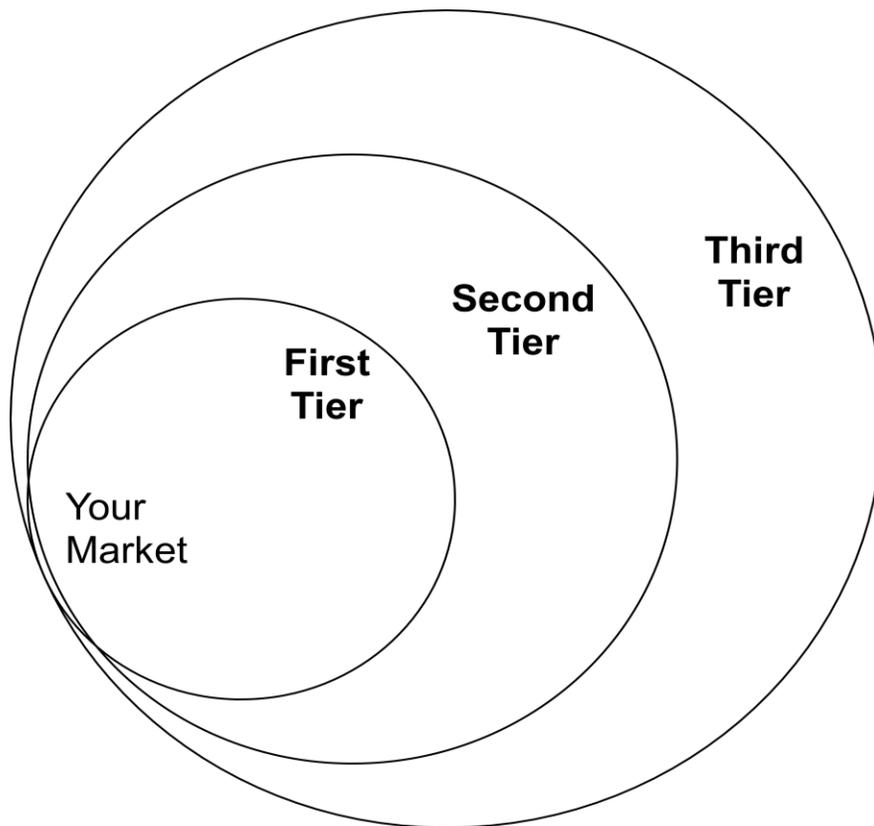
3.3. Noncustomers

The future of Georgia-grown, forage-fed beef depends on the ability of the producers to appropriately connect with their market. Conventionally, in an attempt to expand market share, producers utilize the existing customer as well as strategically focus on a more specific segment to accommodate buyer differences. The consequence of this strategy results in high risk situations that decrease target markets. To maximize the market for Georgia-grown, forage-fed beef, producers should seek an alternative course. The existing customer should always garner attention and appreciation; however, the noncustomers are the segment that provides blue ocean opportunities. Additionally, rather than concentrating on customer differences, great emphasis should be placed on relationship building commonalities in what the buyer values.

Kim and Mauborgne (2005), authors of *Blue Ocean Strategy*, indicate that there are three tiers of noncustomers. Each tier represents a buyer and their relative distance from the industry. The marketability of Georgia-grown, forage-fed beef and its success hinges on the ability of the producer to attract the noncustomers and expand their blue ocean opportunities. Figure 3.2, represents the three tiers of noncustomers essential to the expansion of Georgia-grown, forage-fed beef. Ultimately, the transformation of the three tiers of noncustomers to valuable customers of Georgia-grown, forage-fed beef is the goal.

The first-tier of noncustomers is often customers that remain on the fringe of the market. They purchase products less frequently and welcome opportunities to explore alternative products.

Figure 3.2: The Three Tiers of Noncustomers



First Tier: “Soon-to-be” noncustomers who are on the edge of your market, waiting to jump ship.

Second Tier: “Refusing” noncustomers who consciously choose against your market.

Third Tier: “Unexplored” noncustomers who are in markets distant from yours.

Source: *Blue Ocean Strategy*, Kim and Mauborgne (2005)

In an attempt to persuade and obtain the business of first-tier noncustomers, Georgia-grown-forage fed beef producers must offer an enticing product; a product that creates an increase in value to the noncustomer. In turn, the product will be purchased more frequently, and the product will create a stronger, more loyal customer base.

The second-tier of noncustomers simply utilize a product as an option to satisfy their needs. They may be constrained by financial means or find the product unacceptable. The marketability of a product, such as Georgia-grown, forage-fed beef will play a crucial role in persuading tier two noncustomers. Education about the product as well as brand notoriety can emphasize the importance of the product and the value it serves. The value should not only be seen as a certain price per unit; rather, it should be recognized for the opportunities and revenue it generates for the producer and surrounding communities.

Third-tier noncustomers are considerably farther away from the Georgia-grown, forage-fed beef industry customers. These are the noncustomers that most industries have overlooked and disregarded. These noncustomers offer great opportunities for expansion in the forage-fed beef market. They are noncustomers that could potentially possess a brand personality suitable for a product like Georgia-grown, forage-fed beef.

By recognizing and understanding noncustomers, marketing Georgia-grown, forage-fed beef will address a larger mass of noncustomers. The conversion of noncustomers to customers unlocks the opportunity for greater success within the market. Great emphasis should be placed on the commonalities of the buyers and what they value. To reach beyond existing demand, one must focus on noncustomers before customers; commonalities before differences; and desegmentation before pursuing finer segmentation (Kim and Mauborgne, 2005).

3.4. Porter's Generic Strategies

Commonalities and value among buyers are essential when developing a strategy. Relevant to the beef industry, Porter's Three Generic Strategies are fundamental building blocks that provide methods for gaining a competitive advantage to producers of forage-fed beef in Georgia. Figure 3.3 illustrates Michael Porter's Generic Strategies.

Cost leadership and differentiation require a considerable amount of attention when producers seek to implement a strategy. The implementation of a cost leadership strategy presents two ways of achieving a competitive advantage:

- Increasing profits by reducing costs, while charging industry-average prices.
- Increasing market share through charging lower prices, while still making a reasonable profit on each sale because you have reduced costs.

Overall cost leadership should be pursued adamantly to decrease production and distribution costs. This will allow producers the flexibility to apply competitive pricing plans for their products and increase profit margins. Price should not be the primary marketing focus of Georgia-grown, forage-fed beef. Marketing the product based solely on price will result in an onslaught of competitors continually lowering costs, ultimately diminishing the producer's profits and market share (Kotler and Keller 2009). Rather, the cost leadership strategy should be implemented in an effort to reduce overhead, not price. The results of a cost leadership strategy will offer Georgia-grown, forage-fed beef producers the option to strategically market forage-fed beef products.

Figure 3.3: Porter's Generic Strategies

		Competitive Advantage	
		Lower Cost	Differentiation
Competitive Scope	Broad Target	Cost Leadership	Differentiation
	Narrow Target	Cost Focus	Focused Differentiation

Source: Mind Tools

To appropriately market Georgia-grown, forage-fed beef, producers should also integrate a strategy of differentiation. Because differentiated marketing usually increases the cost of business for producers, the execution of overall cost leadership, as mentioned previously, is required to remain competitive. In order for producers to achieve a broader share of the beef market, forage-fed beef will need to strategically differentiate itself from competitors in order to concentrate on achieving greater market performance. Georgia-grown, forage-fed producers must effectively market the products attractiveness, quality, value, and relationship to the community of their product. By utilizing a differentiation strategy, producers are concentrating on gaining advanced performance in desired customer benefit areas. To effectively pursue a differentiation strategy, Georgia-grown, forage-fed beef needs:

- Good research, development, and innovation.
- The ability to deliver high-quality products or services.
- Effective sales and marketing, so that the market understands the benefits offered by the differentiated offerings.

3.5. Survey Questions

The ability to identify and understand the potential market for Georgia-grown, forage-fed beef required a survey. The survey was comprised of 19 questions; 14 involved beef products and the remaining five questions were centered on consumer demographics. The questions ranged from product awareness to pricing (table 3.4). Consumers within a five county radius of Bartow County were targeted. The marketing survey was created and administered online through a link provided by FreeOnlineSurveys.com. In total, 72 respondents participated in the survey. Once the survey was completed, the respondent was redirected to the Kansas State University College of Agriculture web site.

Table 3.4: Marketing Survey

MARKETING SURVEY

1. How often do you consume beef products?

- A.) Once a week
- B.) Twice a week
- C.) Three or more times a week

2. What value do you place on meat tenderness and taste (1 Low – 3 High)?

- A.) 1
- B.) 2
- C.) 3

3. Is traceability of meat product back to the farm important?

- A.) Yes
- B.) No
- C.) Indifferent

4. Do you prefer antibiotic/hormone free meat?

- A.) Yes
- B.) No
- C.) Indifferent

5. Is domestically produced meat important in your decision to purchase?

- A.) Yes
- B.) No
- C.) Indifferent

6. Do you prefer locally grown meat products?

- A.) Yes
- B.) No
- C.) Indifferent

7. Is a humanely produced meat product of importance?

- A.) Yes
- B.) No
- C.) Indifferent

8. Are meat products that contain naturally enhanced vitamins and omega-3 fatty acids important in your decision to purchase?

- A.) Yes
- B.) No
- C.) Indifferent

9. Is it important to you that the meat products provide the farmer/rancher with a living wage?

- A.) Yes
- B.) No
- C.) Indifferent

10. Are you familiar with forage-fed beef?

- A.) Yes
- B.) No
- C.) Indifferent

11. Would you be interested in a larger selection of naturally produced meats?

Note: Naturally produced meats are defined as natural meats that are raised without any antibiotics, added growth hormones, or animal byproducts.

- A.) Yes
- B.) No
- C.) Indifferent

12. If you had the choice, would you prefer a naturally produced, forage-fed, antibiotic and growth hormone free beef product?

- A.) Yes
- B.) No
- C.) Indifferent

13. Would you be willing to pay more for a naturally produced, forage-fed, antibiotic and growth hormone free beef product?

- A.) Yes
- B.) No

14. How much more per pound would you be willing to pay for naturally produced, traceable forage-fed steak with no added growth hormones?

- A.) None
- B.) \$0 to \$1
- C.) \$1 to \$2
- D.) \$2 to \$3
- E.) greater than \$3

SAMPLE CHARACTERISTICS

15. What is your age group?

- A.) 18 – 30
- B.) 31 – 45
- C.) 46 – 60
- D.) 61 and over

16. Ethnicity

- A.) White
- B.) African American
- C.) Hispanic
- D.) Other

17. Gender

- A.) Male
- B.) Female

18. Education level

- A.) High School
- B.) Undergraduate
- C.) Graduate level
- D.) PhD

19. Annual Household Income

- A.) \$30,000 - \$60,000
- B.) \$61,000 - \$90,000
- C.) \$91,000 – UP

The results of the marketing survey will offer insights into consumer's tastes, knowledge, and desire for the product. Likewise, demographic data will be gathered to provide insights into preferences groups. The survey will also serve as a tool to help guide producers in their marketing decisions.

The Origin of Beef Products category (question numbers 3, 5, 6 and 9) asked consumers if they were interested in knowing where their beef products came from. This category was comprised of four questions (table 3.4). Each question referred to the origin of the forage-fed beef product and the producer. The ability to trace a forage-fed beef product to its original location is an indication that consumers desire a personal relationship with their food. This would suggest that consumers are looking for a product that can differentiate itself from the average beef product. The ability to differentiate a product like Georgia-grown, forage-fed beef creates value innovation and strategy. In-turn, value innovation creates value for the consumers and producers. Due to the red ocean most beef products are marketed in, value innovation offers the ability to reconstruct market boundaries and seek alternative channels for expansion. Preferences for domestically and locally grown meat products would indicate that consumers are seeking products that provide a sense of origin. This may give the consumer a feeling of self-satisfaction knowing they are contributing to their community; versus, purchasing a product that is not known to be a domestically or locally grown product.

In the Forage-Fed Beef Products category (question numbers 4, 7, 10, and 11 in table 3.4), questions were asked in regard to nutritional traits and awareness of forage-fed beef products. This category is beneficial because it indicates the awareness of the consumers in regard to forage-fed beef and its possible attributes. Familiarity with forage-

fed beef products offers insight into the North Georgia market and indicates the approach producers should take in marketing their products. Porter's Generic Strategies indicate that the Georgia-grown, forage-fed beef producer's ability to differentiate their products in some way in order to compete successfully in a saturated beef market will offer more success. Georgia-grown, forage-fed beef customers will have very specific needs which are possibly under-served. The producers of Georgia-grown, forage-fed beef have unique resources and capabilities which enable them to satisfy these needs in ways that are difficult to copy for other conventional beef producers. This is extremely important when producers evaluate the desire of consumers to have a larger selection of naturally produced beef.

Questions referencing healthy attributes of forage-fed beef were necessary in the survey process (question numbers 8 and 12 in table 3.4). Such questions will indicate if producers should incorporate proper nutritional and identification labels on their products. Likewise, the question of humanely produced beef is an indication that consumers are conscious of environmental and societal protocols. The target market that producers will focus on will also be of importance when defining what their differentiation strategy will be. Moreover, this may be an opportunity to convert second- tier and third-tier noncustomers.

The Willingness-To-Pay (WTP) category assessed the consumer's initiative to pay more for quality forage-fed beef products (question numbers 1, 2, 13, and 14 in table 3.4). This category serves an influential role for the producers of Georgia-grown, forage-fed beef to market their products competitively and accurately. An indication of the frequency of consumption of beef products suggests the consumer's eating habits. The marketing efforts

of Georgia-grown, forage-fed beef producers will, in-part, be determined by the amount of product a consumer consumes. This will also signal the importance of strong brand recognition and market investment. To appropriately understand where to test the price ceiling and floor of Georgia-grown, forage-fed beef, producers will gain information from the responses to questions 13 and 14.

Concluding the survey was a category for Sample Demographics (table 3.4). The data collected from the Sample Demographics will help determine the target market of consumers interested in forage-fed beef products. The purpose of this category was to highlight demographic data that would lead to a precise market segment. Through examining the questions, producers can gain a focused competitive advantage and eliminate red oceans. The issue of age is a demographic indicator that will suggest to producers the type of marketing canvas they should utilize. The different interests of consumers tend to parallel their age group. By marketing a forage-fed beef product in the North Georgia region sensitive to age, producers will be targeting responsive consumers. Additionally, the gender and ethnicity of consumers will offer producers the chance to focus their marketing efforts on precise segments rather than implementing a shotgun approach.

The educational level and household income of the consumers surveyed represents another target market vital to success. Educational level represents the amount of information and substance a marketing approach should use. Too little information may be conceived as hiding facts, too much information may turn consumers to easier choices. The opportunity to promote the benefits of forage-fed beef hinges on the audience and their capacity to understand the message. Household income will possibly point out two factors:

geographic location to market the product and a likely price ceiling for the product in the region.

3.6. Data Analysis

The data compiled from the survey may reveal relationships between paying more for the product (Q14) and the other questions, which include the characteristics of the consumer. By assigning numerical values to each question, a summary of the data will more effectively allow for analysis. For the yes/no type questions, a value of 1 was assigned to yes, a value of 2 to no, and a value of 1.5 was assigned to indifferent.

Regression analysis was used to calculate the correlation coefficients between questions 1-19. The use of regression analysis will provide information that may indicate the significance of the coefficients. To appropriately determine the level of significance between the product (Q14) and the other questions, the data for question 14 was regressed on the data for each question. The expectation would be that at a 95 percent level the p -value less than 0.05 will indicate significance and those values greater than 0.05 would indicate that the relationship is not significant.

CHAPTER IV: RESULTS

4.1. Survey Results

Table 4.1 illustrates the results of the data collected from respondents during the Georgia-grown, forage-fed beef survey. Represented in the table are the respondents choices illustrated in percentage values.

The results of table 4.1 provide valuable information. Weekly beef product consumption was as expected with more than 39 percent of respondents claiming they ate beef three or more times a week. Likewise, traceability and tenderness also scored well which offers important information for Georgia-grown, forage-fed beef producers that desire to improve packaging labels. Question 4 of the survey indicated that a proportion of respondents are impartial to beef products that contain hormones and antibiotics. The responses to questions 4 and 10 may prove beneficial for forage-fed beef producers. Over 43 percent of respondents surveyed in question 10 admitted they were not familiar with forage-fed beef. This may be an opportunity to expand marketing channels in an effort to educate consumers about Georgia-grown, forage-fed beef.

Respondents indicated a favorable preference for locally grown beef products that provided farmers and ranchers a living wage (question 9). This was encouraging to discover and may offer producers advantages when marketing their products to local communities. Producers should also notice that a vast majority of respondents that answered questions 11 through 13 are interested in a larger selection of forage-fed beef. Likewise, they are also willing to pay more for the product. Quite possibly, the most important question in the survey was question 14. When asked exactly how much more the respondent was willing to pay, over 79 percent of them indicated they are willing to pay

Table 4.1: Survey Results

1) How often do you consume beef products?

	Percentage
A.) Once a week	33.3
B.) Twice a week	27.8
C.) Three or more times a week	38.9

2) What value do you place on meat tenderness and taste (1 Low – 3 High)?

	Percentage
A.) 1	4.2
B.) 2	8.3
C.) 3	87.5

3) Is traceability of meat product back to the farm important?

	Percentage
A.) Yes	61.1
B.) No	12.5
C.) Indifferent	26.4

4) Do you prefer antibiotic/hormone free meat?

	Percentage
A.) Yes	68.1
B.) No	4.2
C.) Indifferent	27.8

5) Is domestically produced meat important in your decision to purchase?

	Percentage
A.) Yes	72.2
B.) No	12.5
C.) Indifferent	15.3

6) Do you prefer locally grown meat products?

	Percentage
A.) Yes	70.8
B.) No	6.9
C.) Indifferent	22.2

7) Is a humanely produced meat product of importance?

	Percentage
A.) Yes	69.4
B.) No	8.3
C.) Indifferent	22.2

8) Are meat products that contain naturally enhanced vitamins and omega-3 fatty acids important in your decision to purchase?

	Percentage
A.) Yes	34.7
B.) No	29.2
C.) Indifferent	36.1

9) Is it important to you that the meat products provide the farmer/rancher with a living wage?

	Percentage
A.) Yes	81.9
B.) No	5.6
C.) Indifferent	12.5

10) Are you familiar with forage-fed beef?

	Percentage
A.) Yes	52.8
B.) No	43.1
C.) Indifferent	4.2

11) Would you be interested in a larger selection of naturally produced meats?

Note: Naturally produced meats are defined as natural meats that are raised without any antibiotics, added growth hormones, or animal byproducts.

	Percentage
A.) Yes	80.6
B.) No	11.1
C.) Indifferent	8.3

12) If you had the choice, would you prefer a naturally produced, forage-fed, antibiotic and growth hormone free beef product?

	Percentage
A.) Yes	76.4
B.) No	5.6
C.) Indifferent	18.1

13) Would you be willing to pay more for a naturally produced, forage-fed, antibiotic and growth hormone free beef product?

	Percentage
A.) Yes	77.8
B.) No	22.2

14) How much more per pound would you be willing to pay for naturally produced, traceable forage-fed steak (ground beef) with no added growth hormones?

	Percentage
A.) None	20.8
B.) \$0 to \$1	48.6
C.) \$1 to \$2	23.6
D.) \$2 to \$3	4.2
E.) Greater than \$3	2.8

15) What is your age group?

	Percentage
A.) 18 – 30	1.4
B.) 31 – 45	19.4
C.) 46 – 60	48.6
D.) 60 and over	30.6

16) Ethnicity

	Percentage
A.) White	95.8
B.) African American	0.0
C.) Hispanic	1.4
D.) Other	2.8

17) Gender

	Percentage
A.) Male	48.6
B.) Female	51.4

18) Education level

	Percentage
A.) High School	25.0
B.) Undergraduate or higher	30.6
C.) Graduate level	41.7
D.) PhD	2.8

19) Annual Household Income

	Percentage
A.) \$30,000 - \$60,000	34.7
B.) \$61,000 - \$90,000	23.6
C.) \$91,000 – UP	41.7

more for the product. The value paid by the respondents varied but the largest percentage (48.6 percent) admitted they would be willing to pay up to a dollar more per pound for Georgia-grown, forage fed beef. The demographic results from the survey will certainly aide in marketing beef products to the appropriate consumer groups.

4.2. Average Responses for Willingness to Pay Categories

Located in table 4.2 is a numerical average of responses generated from questions 1 through 13 and 15 through 19 based on the 5 possible responses to question 14.

Specifically, table 4.2 reports the differences in responses to questions 1 through 13 and 15 through 19 based on the possible responses to question 14. For example, the table indicates that respondents in question 1 who chose not to pay anything additional for Georgia grown, forage-fed beef (choice a, 15 respondents) consumed more beef per week (data value 2.40) while the respondents that indicated they would pay more than \$1 per pound or more for the product (choice c, d, or e, 22 respondents) stated they consumed less beef per week (data value 1.91). Upon further review of the data, several other differences among respondent groups are also apparent. Question 6 points out that consumers surveyed who chose to pay an additional \$0 to \$1 had a strong preference for locally grown forage-fed beef products (data value 1.29).

The results for question 12 illustrate the differences in the preference for a naturally produced, forage-fed, antibiotic and growth hormone free beef product and the willingness to pay of respondents. Those respondents that were willing to pay more stated that they desired a meat product naturally produced, antibiotic and growth hormone free (data value 1.27).

Table 4.2: Variations in Responses to Question 14

Choices	(A) None	(B) \$0 to \$1	(C, D, & E) Combined
Number of Responses	15	35	22
Question #1	2.40	2.00	1.91
Question #2	2.93	2.77	2.86
Question #3	1.40	1.47	1.68
Question #4	1.60	1.41	1.43
Question #5	1.57	1.19	1.48
Question #6	1.57	1.29	1.48
Question #7	1.70	1.43	1.20
Question #8	1.93	1.73	1.93
Question #9	1.20	1.17	1.39
Question #10	1.37	1.44	1.66
Question #11	1.43	1.19	1.18
Question #12	1.53	1.29	1.27
Question #13	1.33	1.17	1.23
Question #14	1.00	2.00	3.32
Question #15	3.13	3.17	2.91
Question #17	1.33	1.49	1.60
Question #18	2.07	2.43	1.80
Question #19	1.87	2.31	1.60

Note: Column (C, D, & E) is combined due to the lack of responses in the survey data for choice C, D, and E. Each questions data were numerically summarized and averaged to yield the value for each choice column. Question 16 was omitted from the results.

Also of importance was the data provided in question 18. There is an indication that respondents who chose paying up to one dollar more per pound of beef (choice b, 35 respondents) had a higher level of education (data value 2.43) than those who chose not to pay anything additional (choice a) for Georgia-grown, forage-fed beef (data value 2.07).

The intent of table 4.2 is to provide a summary of numerical scores that may allow producers to strategize their marketing program for Georgia-grown, forage-fed beef more productively. The differences in responses among questions 1 through 13 and 15 through 19 based on the 5 responses to question 14 may also offer insight into the complexity of current and future markets. Through concerted efforts, producers who utilize and interpret data effectively will eliminate inefficiencies throughout the marketing objective.

4.3. Correlation Coefficient Results

The correlation coefficients and significance levels of the relationships with question 14 are provided in table 4.3. To indicate the significance of coefficients the p-value was calculated and examined for each relationship. The summarized table indicates the level of significance for the 18 relationships with question 14. Of the 18 relationships, 10 were significant and 8 were not significant. Likewise, the correlation coefficients illustrate a distinct increase or decrease in the dependent variable. For example, the correlation coefficient for $Q14 = f(Q1)$ is -0.1223. This indicates that the two variables, question 1 and question 14 will respond in opposite manners. This may suggest that when one increases their consumption, the other decreases their amount of willingness to pay for the beef product. It is important to note that for the yes/no type questions that a value of 1 was assigned to yes, a value of 2 to no, and a value of 1.5 to indifferent.

Table 4.3: Correlation Coefficients

Summary Output	Correlation Coefficient	Significance
Q14 = f(Q1)	-0.1223	Not Significant
Q14 = f(Q2)	-0.0216	Not Significant
Q14 = f(Q3)	-0.2844	Significant
Q14 = f(Q4)	-0.4865	Significant
Q14 = f(Q5)	-0.1862	Not Significant
Q14 = f(Q6)	-0.4261	Significant
Q14 = f(Q7)	-0.3747	Significant
Q14 = f(Q8)	-0.2400	Significant
Q14 = f(Q9)	-0.1864	Not Significant
Q14 = f(Q10)	-0.1908	Not Significant
Q14 = f(Q11)	-0.4266	Significant
Q14 = f(Q12)	-0.5284	Significant
Q14 = f(Q13)	-0.6300	Significant
Q14 = f(Q15)	-0.1068	Not Significant
Q14 = f(Q16)	0.2925	Significant
Q14 = f(Q17)	0.2391	Significant
Q14 = f(Q18)	-0.0917	Not Significant
Q14 = f(Q19)	-0.0874	Not Significant

The summary output column represents the data for question 14 regressed on the data for each of the other survey questions. All other data originates from individual regression calculations. If *P-value* is greater than 0.05, there is no significance. If *P-value* is less than 0.05, there is significance. The correlation coefficient may take on any value between plus and minus one $-1.00 \leq r \leq + 1.00$.

Likewise, the correlation coefficient for $Q14 = f(Q11)$ is -0.4266 suggesting that the respondents that prefer a larger selection of locally grown beef are more likely to pay more for this larger selection. Also of interest is the relationship between question 14 and question 12. The correlation coefficient between Q12 and Q14 is -0.5284. This correlation indicates that those who prefer a naturally produced forage-fed, antibiotic and growth hormone free beef product are willing to pay more for the product.

4.4. Implications of Survey Responses

In an effort to learn more about the potential market for Georgia-grown, forage-fed beef, a survey was conducted in the North Georgia region. The responses from the survey provided data that may offer insight into the consumer's purchasing habits. The survey was constructed around one main objective; the amount a consumer is willing-to-pay for Georgia grown, forage-fed beef. Upon reviewing the data, the results indicate that the marketing plan is plausible. A direct approach to marketing Georgia-grown, forage-fed beef as well as utilizing effective strategies will favor the producer. The marketing plan's effectiveness hinges on the producers ability to recognize the market, satisfy the market, and repeatedly think outside of the box to remain competitive within the market.

Each question in the survey provided details that represented opportunities available to producers. For example, question 10 indicated that 43 percent of surveyed respondents were not familiar with forage-fed beef. Although this may be perceived as a negative representation of market share, the opportunity to expand and exploit larger markets is definitely available. This compliments the marketing plan's overall attempt to provide options and techniques for the producers to succeed in marketing their Georgia-grown, forage-fed beef.

Strategically speaking, the results of the survey provide critical information. Questions 5, 6, and 9 each support the notion of commonalities among consumers and producers. Producers of forage-fed beef products seek to satisfy the local market, in-turn, the consumer has strongly indicated through survey data that they would prefer locally produced forage-fed beef. Additionally, the responses generated in the survey indicate that consumers are interested in building relationships with their producers. They are curious about the forage-fed beef products origins, the health benefits provided by the product, and the emergence of a new locally produced product. Respondents emphatically noted (82 percent) that they supported the idea that money spent on a locally grown, forage-fed beef product financially benefited the producer. This parallels the marketing plans initiative of building relationships with customers and truthfully educating the market.

Insight into the lack of knowledge about forage-fed beef products presents an opportunity to target specific consumers, possibly first-tier customers that are interested in learning about the product as well as becoming loyal customers. 51 percent of respondents were female; therefore, implementing a strategy of differentiation as mentioned in the marketing plan may prove financially beneficial.

The data generated from the survey impacted and supported the marketing plan. The survey responses consistently pointed out the necessity for a decisive approach to marketing Georgia-grown, forage-fed beef. The application of a clear focused marketing plan and system will provide producers the ability to accurately build upon future forage-fed beef markets.

CHAPTER V: CONCLUSIONS

The objective of this thesis is to determine if Georgia-grown, forage fed beef has a market segment within North Georgia. The information provided from the thesis will ultimately supply important information that may lead to more accurate knowledge about the consumer's understanding and preferences of forage-beef products. By developing a clear, focused marketing plan that determines the key demographics, consumer preferences, and knowledge of forage-fed beef, producers of Georgia-grown, forage-fed beef will be properly equipped to begin or expand their market. Likewise, the identification of a marketing system for forage-fed beef that utilizes current technology to insure a consistent product, such as origin and content labels, will benefit producers.

5.1. Summary of Results

This thesis utilized a survey comprised of 19 questions. The survey was administered to 72 individuals located in the North Georgia region. Survey results were summarized and discussed. Approximately 79 percent of the respondents were willing to pay more for naturally produced, traceable forage-fed beef with no added growth hormones. Of the 79 percent willing to pay more, 49 percent of respondents were willing to pay between \$0 and \$1 per pound and 24 percent were willing to pay upwards of \$2 per pound of forage-fed ground beef. The interest in a larger selection of naturally produced meats was also favorable for the Georgia-grown, forage-fed beef market. A total of 81 percent of respondents preferred a larger selection of naturally produced meats.

Correlation analysis was used to examine the strength of the relationship between the willingness-to-pay more for forage fed beef and the other survey questions. The

correlation coefficients produced 10 significant relationships. Among the 10 significant relationships, consumption of beef and willingness-to-pay were correlated. Although consumers on average are willing to pay additional premiums for forage-fed beef products, as their consumption rate increases, their willingness to pay additional premiums decreases. Similarly, the relationships from the correlations also illustrated the importance of pricing. There is a limit to the amount consumer's are willing to pay for forage-fed beef products regardless of their preference for the product. An effective marketing plan will need to recognize correlations among consumers and products to efficiently operate.

5.2. Implications

The results of the survey offer insight into the future development of a marketing plan for Georgia-grown, forage-fed beef. Data collected from the survey confirms that a segment of North Georgia consumers are interested in forage-fed beef. The data also suggest that those consumers are willing to pay a premium price for the product. The implications of the survey should prove to be beneficial to producers of forage-fed beef producers.

Correctly correlating the results of the survey with an effective marketing plan can reduce risks. The implications of the results warrant a strategic marketing plan; a plan that recognizes the needs of its customers and the strategy of their competitors. Also of importance is the label or definition that the USDA assigns forage-fed beef. This could have a sizeable impact on the growth of the forage-fed beef industry. Ultimately, the Georgia-grown, forage-fed beef market relies on consumer demand, a producer's ability to

supply a reputable product, marketing and management practices, and various economic variables that may affect the beef industry as a whole.

5.3 Limitations

The limitation of the marketing survey data is important to note. The marketing survey data provided only a small amount of information necessary to help producers efficiently market their product. Likewise, the phrasing of the questions in the survey may project a level of bias in favor of Georgia-grown, forage-fed beef. It is also important to note that the survey group does not represent a random sample of consumers nor are they necessarily representative of consumers at large. Thus, careful attention should be used when assessing the willingness-to-pay of consumers based on the data generated from the survey. In essence, the survey may serve as a base-line for which producers analyze important data in an effort to channel their initial marketing strategy for Georgia-grown, forage-fed beef.

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