Feasibility of a Mixed-Species Slaughter Facility in West End, Colorado

Goldenhorn Consulting Group
Prepared by Dr. Michael Best, Dr. Kent Wolfe, and Sarah Best
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Introduction
Goldenhorn Consulting Group examined the feasibility of constructing and operating a multi-
species meat processing facility in Colorado’s West End region. This study examines the
technical feasibility, market area, management requirements, financial feasibility, and economic
impact of such a processing facility by utilizing area-specific data, overall market trends, and
locally distributed survey data.

Farmers, ranchers, and hunters were surveyed to determine the level of interest in sending
product to a new processing facility in the region. The middle capacity financial scenario
represents the high-end values of the producer survey results with 540 cattle, 205 hogs, 100
sheep, and 360 units of wild game expected to move through the facility, while the low capacity
model represents the lower end values from the survey. Both of the financial feasibility results
utilizing survey data were found to be infeasible, but a scenario under which the plant is running
at maximum capacity is profitable.
Technical Analysis

Regulations

Obtaining a License to Operate a Meat Processing Facility and Other Considerations

The most difficult technical aspect of operating a multi-species processing facility is that the current State and Federal regulations do not allow for more than one species to be processed at a time. In order to handle more than one species, they must be separated either in space (completely separate areas of the building), or in time (in the same area, but with a complete cleaning of the line between a change from one species to another). In addition, all raw materials would need separate storage areas prior to processing as would all finished products unless they are completely packaged before being placed into the cooler or freezer. The requirement for separate storage areas for each species could considerably increase the equipment costs, plant size, and operating costs in the form of increased utilities and maintenance costs.

Another issue that arises is that each species and product form (i.e., steaks, ground beef, sausage, etc.) would have to have its own approved Hazard Analysis and Critical Control Point (HACCP) food safety management plan. There is more information on HACCP below, but in a multi-species facility there might have to be upwards of 15 or 20 different HACCP plans to be managed which could be both expensive and time consuming.

Regardless of the final mix of species and products processed in the facility, the following general information deals with obtaining a license to operate a meat processing facility in the State of Colorado.

In slaughter plants, inspection personnel verify the humane handling of animals and conduct ante-mortem inspection to ensure that the live animal is fit for slaughter. These inspection personnel also conduct post-mortem inspection to ensure that the meat from the carcass and internal organs are fit for human food. When meat is distributed to other federally inspected establishments for further processing, the product is inspected to ensure that the product is safe, wholesome, and correctly labeled and packaged. Inspected establishments must maintain and follow written Sanitation Standard Operating Procedures (SSOP) and Hazard Analysis and Critical Control Point (HACCP) plans. In addition to inspecting the meat products, inspection personnel inspect the facilities and equipment to ensure sanitary conditions are maintained. FSIS also reviews records to ensure they accurately document establishment verification that the meat food products are in compliance with all applicable requirements.

Food Safety Issues Specific to Ground Beef

Ground beef is one of the more closely monitored production categories that falls under the USDA inspection system. This means that a facility producing ground beef will be closely scrutinized by the inspecting authority and that the various regulations and standards that must be met by the producer are more numerous and more stringent than other categories of meat processing. Of specific concern is the potential presence of E. coli 0157:H7 in the ground product which is a particularly dangerous human pathogen.
On October 7, 2002, Federal State Inspection Service (FSIS) published a notice requiring establishments that had not already reassessed their Hazard Analysis and Critical Control Point (HACCP) plans for raw beef products in light of relevant *E. coli* O157:H7 data to do so to determine whether *E. coli* O157:H7 contamination was reasonably likely to occur in their production process for raw beef products (67 FR 62329). In that notice, FSIS advised that it intended to scrutinize very closely the hazard analyses and HACCP plans of those slaughter or deboning establishments that had conducted a reassessment and decided that an intervention was not necessary. Also in that notice, FSIS stated that establishments receiving product for grinding should address *E. coli* O157:H7. FSIS explained that these establishments could employ validated Critical Control Points (CCPs) in their HACCP plans to address *E. coli* O157:H7, or the establishments could incorporate purchase specifications in their HACCP plans, Sanitation Standard Operating Procedures (Sanitation SOPs), or other prerequisite programs to prevent *E. coli* O157:H7-contaminated product from entering their establishments.

On 3/31/04 the USDA issued Directive 10,010.1 entitled “Microbiological Testing Program and other Verification Activities for *Escherichia coli* O157:H7 in Raw Ground Beef Products” which basically states that the producer should be able to show through microbiological testing that their products are free of *E. coli* 0157:H7, but if they chose not to do so, that they would be subjected to intense product testing by the USDA inspection system. The requirements of this Directive place additional operational and food safety requirements on the producer which will likely result in increased costs for product testing and the need for additional personnel to manage the matching of test results with product batches and to properly manage the inventory system so as to assure that no product that tests positive is released for sale or consumption. The full text of this directive can be found on the USDA website at the following link:

Labeling of Meat Products
The labeling of meat products is regulated by the USDA. The regulations cover standard labeling elements such as name, net weight, list of ingredients, nutrition information, etc, but also outline under what circumstances terms such as “Organic”, “Natural”, “Free Range”, “Grass Fed”, and the like are allowed. Information on the current regulations pertaining to such terms can be found at the following websites:

USDA Inspection
The Beef and Pork Wholesaling industry is one of the most heavily regulated and inspected industries in the United States. The US Department of Agriculture (USDA) requires stringent sanitation conditions and enforces these requirements during periodic quality checks. Operators have the choice of either federal or state inspection. Under federal inspection, operators must comply with the Federal Meat Inspection Act of 1906. A key component of this law is a strong inspector presence and the power to shut a plant down any time a threat to the public health or inhumane treatment of animals is noted. State-inspected plants comply with state requirements that are deemed to be the same as or equal to federal laws, but state inspection limits plants from shipping products across state lines or internationally. Meat wholesalers are also subject to state and local regulations involving the licensing of facilities, enforcement of state and local
health standards and regulation of wholesalers’ trade practices in connection with sales of their products.

*FDA Regulation*

Industry operators are subject to The US Food and Drug Administration’s (FDA) Federal Food, Drug and Cosmetic Act, the Bioterrorism Act and regulations promulgated there. The FDA also regulates manufacturing and holding requirements for food. It specifies the standards of identity for certain foods and prescribes the format and content of certain information required to appear on food labels. Industry food safety requirements have been further expanded by rules under the Food Safety Modernization Act, which requires operators to maintain comprehensive prevention-based controls across supply chains as well as implementing new standards for keeping food safe during transportation. Distribution centers must be registered with the FDA biennially and are subject to periodic inspections. Operators must also implement communication programs to provide transparency for the presence of certain chemicals in distributed products.

Following outbreaks of mad cow disease in 2003, the FDA banned the practice of feeding cow blood to young calves as a substitute for cow milk in January 2004. In addition to this, the USDA’s Animal and Plant Health Inspection Service announced an enhanced national testing program for the disease in March 2005. Up to 1,000 cattle per day are tested as part of the enhanced surveillance program to help reduce further incidences of the disease in the United States. In 2009, an outbreak of H1N1 was ruled a national pandemic. Even though the disease did not threatened humans, the colloquially named “swine flu” caused massive declines in pork demand. The USDA soon assured consumers that American pork was perfectly safe.

*Labor Laws and HACCP*

Wholesalers must also comply with regulations from the US Department of Labor, which sets employment practice standards for workers, and the US Department of Transportation, which mandates guidelines for the transportation of perishable and hazardous materials and waste. Wholesaling industries are additionally subject to specific labor regulations regarding transport professionals. For example, drivers must obtain specific commercial driver’s licenses prior to transporting industry products to downstream markets. Additionally, the Federal Motor Carrier Safety Administration strictly regulates the number of successive hours a commercial driver may work before a mandatory period of rest.

Hazard analysis and critical control points (HACCP), control systems for food processing, also seek to ensure food safety. Using HACCP plans, a company analyzes its processes to determine where problems may occur. Monitoring and prevention resources are then concentrated at those critical points. HACCP plans became mandatory for federally inspected US meat and poultry plants beginning in 1998.
Management and Ownership Structure Analysis
Management Analysis
At maximum production capacity it is assumed that a total of six full-time employees will be required for plant operations. One of these positions will be a plant manager, who will also work as a butcher. An additional butcher/supervisor is also required to be able to move the volume in the plant at full capacity. Three fabrication cutters and packagers will also be needed. There is one administrative position required and that individual will fill the role as an office manager.

Plant Manager Job Requirements
The plant manager will be responsible for overseeing all daily operations of the plant from slaughtering and processing to ensuring policies and procedures are followed. They develop processes that will maximize safety, quality and productivity.

Responsibilities
- Plan, organize, direct and run optimum day-to-day operations to exceed customers’ expectations
- Work to increase production and flexibility while minimizing unnecessary costs and maintaining current quality standards
- Be responsible for production output, product quality
- Monitor operations and trigger corrective actions
- Share a trusting relationship with workgroup and recruit, manage and develop staff
- Commit to plant safety procedures
- Address employees’ issues or grievances and administer collective bargaining agreements
- Influence and learn from below
- Stay up to date with latest production management best practices and concepts

Requirements
- Knowledge of the meat wholesaling industry
- Proven work experience as a Plant Manager
- Proven managerial experience
- Adequate knowledge of business and management principles (budgeting, strategic planning, resource allocation and human resources)
- Familiarity with industry standard equipment and technical expertise
- Be knowledgeable of safety, quality, productivity, demand creation, inventory and stewardship processes
- Ability to create accountability and to lead by example
- Strong team building, decision-making and people management skills

Butcher Job Requirements
The butcher must have proven experience in meat processing, knowledge of food safety, ability to maintain equipment, manage inventory, and have exceptional customer service skills.
Responsibilities
- Knowledge of primal meat cuts and human slaughter practices
- Weighing, packaging, pricing, and displaying products
- Performing quality inspections on meats and other products
- Negotiating and confirming orders with suppliers
- Adhering to food safety and sanitation controls

Requirements
- Education or food preparation or meat cutting experience
- Ability to use hand tools, stand or walk for extending periods, lift heavy items, and work in cold environments
- Additional training is often required
- Knowledge of meat preparation techniques and cuts
- Strong communication, task management, and customer service skills

Fabrication Cutter and Packager Job Requirements
The fabrication cutter and packager will turn the primal cuts of meat into retail cuts. They must have knowledge of various meat cuts and food safety.

Responsibilities
- Cutting, grinding, and preparing meats for sale
- Cleaning and maintaining tools and equipment and ensuring displays and signage are accurate and attractive
- Keeping records, budgets, and inventory
- Greeting and speaking to customers, providing advice, answering questions, and accepting orders or payments
- Coordinating deliveries or order pickups

Requirements
- Education or food preparation or meat cutting experience
- Ability to use hand tools, stand or walk for extending periods, lift heavy items, and work in cold environments
- Additional training is often required
- Knowledge of meat preparation techniques and cuts
- Strong communication, task management, and customer service skills

Office Administrator Job Requirements
The office administrator will be responsible for coordinating scheduling, filing necessary paperwork, fielding phone calls from customers, and supporting budgeting and bookkeeping procedures.
Responsibilities

- Manage phone calls and correspondence (e-mail, letters, packages etc.)
- Support budgeting and bookkeeping procedures
- Create and update records and databases with personnel, financial and other data
- Track stocks of office supplies and place orders when necessary
- Submit timely reports and prepare presentations/proposals as assigned
- Assist colleagues whenever necessary

Requirements

- Proven experience as an office administrator, office assistant or relevant role
- Outstanding communication and interpersonal abilities
- Excellent organizational and leadership skills
- Familiarity with office management procedures and basic accounting principles
- Excellent knowledge of MS Office and office management software

Ownership Structure Possibilities

The following paragraphs describe various business structures that the members of the proposed slaughter/processing facility may want to consider.

Traditional Cooperative

A cooperative is a business entity that is member-owned, meaning the business is controlled and owned by the same people who utilize its services. The owners of the cooperative finance and operate the business, striving for a mutual benefit by working together. By combining resources, the overall production costs are decreased, and the production capabilities and marketing successes are increased. Cooperatives are run similar to other business entities and usually incorporate under state laws. They require bylaws and a board of directors, who set policy and hire managers to run the day-to-day operations. In addition to the user-owned aspect, two other characteristics make a cooperative different from other business organizations: they are user-controlled, and user-benefited (Rapp and Ely, 1996).

The user-controlled characteristic refers to the election of a board of directors and the ability of common stock holders and/or cooperative members to vote on major organizational issues. User-benefited characteristics include the distribution of resources based on the member’s use of the organization. Cooperatives provide a direct cost savings through the purchase of bulk supplies, increases in market access, a distribution of overhead and fixed costs as well as the allocation of profits based on usage to the members.

Cooperative members may finance the start-up and operation costs of the organization through a variety of methods. One option is for members to make a direct financial contribution through a membership fee, or through the sale of common or preferred stock. Another finance method is for the cooperative to withhold a portion of the net earnings from cooperative members for reinvestment back into the organization. Finally, assessment fees can be charged based on the

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number of units procured from each member, or based on the number of units sold after processing. The advantage of soliciting a direct contribution or utilizing the sale of stock is the upfront cash requirements to purchase capital equipment and building services. Assessment fees and/or net earning withholdings are more beneficial once the cooperative has begun operations and require working capital or future replacement cash.

It is vital to the success of a cooperative that owners stay informed of the business practices. A cooperative is a democratically controlled organization that operates through a majority vote. Members have a monetary interest in the financial well-being of the organization and rely heavily on the education and success of the other member producers. While the pooling of resources helps reduce risk in the market place, judgments and decisions made on one farm can affect the profitability of other cooperative members.

**New Generation Cooperative ²**

The “New Generation Cooperative” (NGC) is similar in structure to traditional cooperatives, but the NGC focuses on marketing niche strategies rather than the traditional cooperative roles, such as production and storage. One of the main focuses of the NGC is delivery rights, which are tied directly to the initial investment required from each member. The NGC establishes a production volume, and then sells shares based on a delivery commitment from farmers, which stipulates that enough of the NGC’s product is produced to fulfill the NGC’s capacity requirement. One disadvantage of this system is the inability of the cooperative to encompass new producers, as the production capacity is already maximized at inception. However, delivery rights may be sold or traded to other members of the cooperative and future expansion can allow for the sale of additional delivery rights.

NGCs normally maintain a marketing agreement with the member producers, whereas traditional cooperatives do not. Because NGCs are limited to purchasing products from their members only, they require a much narrower level of quality standards than traditional cooperatives. The process of identity preserved is used to ensure that an acceptable quality product is grown by members, or it can trade lower quality member grain for the higher quality grain needed for processing.

The key advantage to NGCs is the fact that the organization can supply a large amount of its own start-up capital. NCGs can typically generate 30%-50% of their start-up capital, lowering long-term private debt commitments and freeing up future profits for larger dividend payments to farmers (Harris, Stefanson, and Fulton, 1996). Additionally, delivery rights ensure a reliable volume of product for the cooperative, while guaranteeing a home for the producer’s product. It also allows the cooperative to better react to market conditions.

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New generation cooperatives may choose a combination of options, but usually organizations stay within a stock or non-stock form of capital acquisition. Potential members may feel more comfortable with stock options, as it is a more commonly understood system of capitalization.

Capitalizing refers to the amount of money needed to begin operations and the mechanism for acquiring the cash. Important decisions include whether the cooperative will issue stock or non-stock options (i.e. membership dues), borrow from traditional financial institutions, and determine minimal rates of return for its members. The goal is to provide enough working capital to begin and maintain operations while sustaining manageable debt levels for the organization and making the investment affordable to prospective members.

Ownership certificates come in a variety of forms, including common stock, preferred stock, membership certificates, and capital certificates. In terms of cooperatives, common stocks are shares of the cooperative representing membership/ownership in the cooperative and are accompanied by voting rights. Common stock can be divided into classes, each carrying different voting privileges and assessed different values. Those with more privileges are more expensive to purchase. Cooperatives usually do not pay interest on common stock issued. Preferred stock is nonvoting stock that can be issued to both members and nonmembers of the cooperative. The proceeds from the purchase of preferred stocks are usually used for capital investment and, as with common stock, preferred stock can be divided into classes, each with a different value receiving different scales of interest payments. Preferred stock owners receive interest for their investment, and are usually given their interest dividends before the distribution of profits to common stock holders. If the organization ceased to exist, preferred stock holders are compensated first.

If the members of a cooperative decide that they do not want to offer stock, membership is derived through membership certificates. Voting rights accompany membership certificates, which are issued once membership dues are paid. Usually memberships and capital certificates are insured, but are non-interest bearing. Capital certificates are similar to preferred stock, but are not issued as stock. They are sold in a variety of denominations and do not have accompanying voting rights. Interest may or may not be paid to capital certificate holders, but nonmembers may purchase the certificates.

NGCs require a marketing contract, making all members producers. In an NGC, preferred stock and/or capital certificates are generally not offered. After the cooperative has begun operation, members continue their investment by providing additional risk capital. This can be accomplished in a variety of ways. The cooperative may retain a portion of earnings as an additional investment into the organization. This can be done in two ways: through the payment or retention of a per-unit fee for each member, or through the retention on the overall cooperative’s net earnings. Either way, the equity investment is credited to the members’ equity accounts and held as a liability on the cooperatives balance sheet.
Cooperative Legal Considerations

The legal considerations cooperatives must consider include the drafting of articles of incorporation, creating bylaws, membership applications, creating and maintaining marketing and purchase agreements, and revolving fund certificates. While the Capper-Volstead Act of 1922 and the Farm Credit Act of 1971 have aided cooperatives in their ability to work together in the handling, processing and marketing of their goods, and allows them to borrow jointly, cooperatives are still subject to numerous antitrust laws and are responsible for all tax codes relating to their enterprise.

Articles of incorporation give the cooperative a distinct legal standing. It limits personal liability for debt incurred by the cooperative, excluding the amount of their initial investment. The articles of incorporation also describe the nature of the business entity, its location, the proposed duration of the association, and the names of the principle parties involved. Once drafted, the articles are filed with the Secretary of State, activating the cooperative.

Bylaws define how the cooperative will conduct business. The bylaws describe membership requirements and list the rights and responsibilities of the cooperative's members. They also discuss voting procedures and the board structure that will govern the cooperative.

Membership applications are composed of five main parts: the applicant’s statement addressing membership; the signature of the applicant; a statement of cooperative acceptance; signatures of the board president and secretary; and a statement of the duties and intent of the prospective member. A membership certificate may be issued to each member as evidence of entitlements to the organization.

Marketing and purchasing agreements set the standard of quality acceptable to the cooperative. They also state how the proceeds of the cooperative will be distributed, once deductions for operating and capital expenditures have been taken. Often marketing and purchasing agreements are required when seeking outside financial backing.

The revolving funds certificate is a written receipt for capital investments and retained earnings that will eventually be revolved or redeemed. These investments may be deductions based on a per-unit of production, reinvested earnings, or original capital subscription, if not issued in stock form. All legal documents should be written with the help of a lawyer to ensure state provisions are addressed.

Investing risk capital is the responsibility of all members. The amount of risk capital invested is an important decision for the cooperative's members to consider. It must cover a large portion of the start-up and operational costs, so that outside investors feel comfortable that the membership will work to make the operation successful. Members must also invest enough capital to give them a financial stake in the success of the enterprise.

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Most private loan institutions will require the cooperative members to assume at least 50% of the capital risk, but it may take many years for the members to acquire this percentage. Long-term credit is available through federal and state sponsored credit programs. Sources of facility loans include: USDA Rural Development; Cobank; St. Paul Bank for Cooperatives; and National Cooperative Bank. Many commercial banks and credit unions have local programs for small business start-up, such as Bank of the West. Cooperatives can apply for short-term loans to cover operating costs during the first year of operation. These are acquired through the Farm Credit System and the National Cooperative Bank (Rapp and Ely, 1996).

C Corporation
The C corporation is the traditional form of corporation, which is a business entity that provides limited liability to its owners and shareholders, meaning the personal assets of the owners and shareholders are protected from the financial issues of the corporation (Legalzoom.com, 2006). Unlike a sole proprietorship or partnership, a corporation exists as a separate legal entity, and therefore is taxed separately from its directors and shareholders. When a C corporation goes public, it may have an unlimited number of shareholders (who are the legal owners of the corporation), who do not have to be residents or citizens of the United States.

The C corporation is managed by a board of directors elected by the corporation's shareholders and makes policy decisions on the corporation's behalf, while the officers and employees of the corporation conduct the business dealings of the entity. As mentioned, the directors, employees, and shareholders of the corporation are not personally liable for the corporation's debts. However, it is the responsibility of the directors and officers to ensure that certain formalities are observed on the corporation's behalf. This includes formalities such as annual meetings, appointment of officers and election of directors, and issuance of stock. Perhaps the largest responsibility of the corporation is to maintain enough capital to protect the corporation from any business debts. In the event that these formalities are not observed, shareholders may be held personally liable for corporate debts.

S Corporation
S corporations are C corporations that have elected to file for S corporation tax status. Filing as an S corporation combines the limited liability of the C corporation with the tax status of the sole proprietorship or partnership. The main difference between C corporations and S corporations (and also the major advantage to S corporations) is the tax treatment. While C corporations are subject to double taxation, S corporations are granted "pass through" taxation because all of the corporation's profits are passed on to the shareholders in the form of dividends, so there is no taxation at the corporate level. Another advantage to the S corporation is that the corporation's directors may pass business losses through to their personal income tax return. The biggest disadvantage of the S corporation is the restrictions that are placed on shareholders: an S corporation may not have more than 100 shareholders, who must be citizens or residents of the United States.

Limited Liability Company
As the name implies, a limited liability company (LLC) is a business ownership structure that provides limited liability to its owners, called members. The main differences between the LLC
and the corporate structure are that the LLC is more flexible and less formal than the corporation, and the two entities are subject to different tax laws. An LLC can also serve as the general partner in a limited partnership, giving the individual owners protection from liability, financial or otherwise.

Some of the advantages of the LLC are the operating flexibility they provide, including the fact that a board of directors is not required as with corporations, and there is currently no requirement in Nevada for an annual meeting of the shareholders. As with S corporations, LLCs are also free from double taxation because the LLC members report their share of profits or losses on their personal income taxes. The LLC is not taxed at the business entity level. The final advantage to the LLC is the limited liability the entity provides to its members. Disadvantages of the LLC are that they do not require an operating agreement, the lack of which may lead to management issues, and the fact that while the LLC isn't subject to double taxation, it may be taxed at a higher rate than a corporation.

**Management and Ownership Structure Summary**
Regarding the necessary management positions, the West End region of Colorado will have a sufficient labor pool to fill these positions. In determining the appropriate ownership structure one must take into account the financing and in the case for this business, the capacity. Given that the producer surveys show that capacity would not be sufficient to make the venture profitable, Goldenhorn Consulting Group believes that the New Generation Cooperative structure would be the desired one. This structure helps ensure that there is a steady supply of product moving through the facility throughout the year. However, it should be noted that for a New Generation Cooperative structure to be successful, there must be proven interest amongst both the owners and the community as a whole regarding production of finished beef and other livestock.
Market Analysis
Beef Consumption

Current Performance
Per capita beef consumption has slipped steadily for nearly two decades. In 1995, the average American consumed 62.8 pounds of boneless beef. That figure had fallen to 54.7 by 2018. Beef consumption has declined as misconceived health problems associated with it, such as obesity and heart disease were increasingly publicized. The lost consumption has mostly shifted to poultry, which is a lower-fat alternative for protein. In fact, beef was the most-consumed meat in America until 1993, when it was overtaken by poultry. The falling consumption continued through 2015, before increasing per capita income helped push demand for beef upwards. As beef remains a staple of American diets, its consumption increased in line with growing income and employment over the past two years. This trend is expected to continue in 2018, when per capita beef consumption is expected to grow 2.1 percent.

Outlook
Over the five years to 2023, the consumption of beef in the United States will decline. Over the past five years, consumer preferences have shifted toward perceived healthier lifestyles and increased their consumption of alternative sources of protein, such as poultry and fish, which has caused per capita beef consumption to decline. Consequently, beef consumption may decline further if the price of beef increases at a faster rate than other protein sources. Per capita beef consumption is expected to remain fairly stable through 2019.

Beef remains a staple of American diets; consequently, however uncertain science will hurt the commodity (Beef’s negative health effects are already well known, so further studies should not have a significant effect on consumption.) Outbreaks of Bovine spongiform encephalopathy (also known as Mad Cow Disease) usually cause sudden decreases in beef consumption. For example, beef consumption dropped 4.0% in 2003 after the disease was discovered in Canada and the United States that year. Although such outbreaks are unpredictable, they do not occur often and consumption usually rebounds the following year.
Regarding seasonality, demand for beef generally increases in the spring and summer seasons and decreases in the winter. Spring and summer are prime seasons for backyard barbecues in the United States, with generally nice weather and several "grilling holidays" such as Memorial Day, the Fourth of July and Labor Day. The demand for beef typically declines in the winter.

**Competing Protein**
As shown below, per capita consumption of chicken is still growing. Beef and pork are growing slightly and expected to remain fairly stable in 2019.
An important factor to consider is annual per capita expenditures on animal protein. Per capita, consumers spend significantly more on beef than they do on poultry and pork. This is important given that poultry and pork are relatively less expensive which will put downward pressure on beef products.
Figure 3. Expenditures for Meat & Poultry

Fresh and Frozen Consumption at Home
There are a number of alternative products that can compete with the demand for both frozen and fresh red meat. These include ready-to-cook meals which appeal to consumers who prefer ease of preparation which appeals to busy consumers who do not have the time to prepare a meal from scratch. An example would be a frozen bag of premixed beef and broccoli stir fry which takes considerably less time to prepare than making it individual ingredients. In addition, value-added frozen beef products, there are similar poultry based products which provide an alternative protein source at a lower price. There is growing competition from frozen fish and seafood products which also becoming more popular among health-conscious consumers.
Consumption of frozen both ground beef and beef portions decrease with age. Younger consumers are significantly more likely to consume frozen products than are baby boomers and the Greatest Generation (WWII). Interestingly, the two youngest generation have a significantly higher demand for frozen portions than the three older generations. Frozen options, therefore, may have a notable potential among younger consumers given that they are in their childbearing years and looking for easy to prepare, time saving meal options. This might be offering frozen products in stores or through online and meal subscription services. They tend to stock up on products on sale and like to have convenient meal options on hand as needed.
White consumers' weekly consumption levels have dropped notably from 2016 where 31% of white consumers ate refrigerated beef portions/steaks weekly, a number which fell to 25% in 2017. A similar drop (of five percentage points) was seen in the weekly consumption of refrigerated ground beef, while weekly consumption of frozen ground beef fell eight points, and that of frozen beef portions/steaks dropped nine.

Consumption levels for other races remained largely the same across those meat types, suggesting that White consumers, in particular, are adjusting their diet away from red meat and are instead turning to poultry or alternative proteins.
Looking back to 2016, there appears to be little difference in weekly red meat consumption for lower-income consumers. However, among higher income levels, consumption of frozen beef portions has fallen by 10% to 26% in 2017. In addition, consumption of refrigerated beef dropped six points among this group, while frozen ground dipped 11 points, and frozen steaks were 13 points off their 2016 levels. This drop in demand may be indicative of factors other than price such as health concerns related to red meat consumption or environmental factors related to red meat production.
A quarter of consumers (26%) agree with the statement "I am eating more protein from other sources (i.e. chicken, tofu)," including more than a third (36%) of households making $150K+. Consumers have grown more comfortable with goods and services that look, taste, sound or feel
like the real thing, even though they’re known pretenders." It notes that, sometimes, the inauthentic is even better than the real thing, and in the case of meat substitutes, they actually may be regarded as a healthier option than red meat, at least in some respects. Saturated fat content and cholesterol concerns are significant deterrents to a sizable percentage of consumers, and analysts note, almost a third of those who eat meat alternatives do so because they are watching their cholesterol (30%) or are worried about eating too much saturated fat (29%).

For these consumers who are watching their cholesterol or fat intake, the "authentic" item (i.e. red meat) may not be practical or safe, but such "Fauxthentic" alternatives can mimic the original's attributes, while at the same time making the consumer feel good about buying it. In the case of alternative proteins, they may well perceive it as easier on the heart/body, if not the environment, since these substitutes can fairly easily position themselves as better for the environment than red meat.

Health concerns from eating red meat appear to be a key deterrent to older consumers, with more than a quarter of Baby Boomers noting they are watching their cholesterol or worried about eating too much saturated fat. Roughly one in 10 of these consumers say their doctor has recommended cutting back on red meat consumption, which suggests healthier, leaner red meats could well resonate with these consumers in particular.

Issues of health are less of a concern for younger consumers. Thirty percent of Millennials and 31% of Generation X are much more likely to say meat is too expensive, and more than one in five members of each respective generation say they simply prefer other meat, with 10% of Millennials saying red meat is too difficult to cook properly. This interest in other meats does suggest this group may well be open to leaner red meat options, but cost is a particular concern, which could deter these consumers from experimenting with lamb, bison, or ostrich, up to now relatively expensive on a per-pound basis.

Messaging encouraging consumers to lose weight appears to be resonating with a number of consumers, and in the case of some, it is strongly impacting their likelihood to eat red meat. State of America's Obesity, a report from Trust for America's Health and the Robert Wood Johnson Foundation, finds African American adults are nearly 1.5 times as likely to be obese than White adults, with nearly half of African Americans (47.8%) being obese and three quarters either overweight or obese. Similarly, African American children were found to be statistically more likely to be overweight and obese, and this is in a nation where almost a third of all children (29% of White and 35.1% of African American) are considered obese. It would appear that concerns and warnings surrounding red meat are negatively impacting consumption levels among Black consumers, in particular, and may well be compelling them to turn to other proteins with a healthier reputation.

Purchase Outlet
Supermarkets maintained their lead as the channel where consumers most likely purchase red meat, with mass merchandisers maintaining a sizable portion of the audience and club stores as a
resource for more than a quarter of consumers. Butcher shops and natural/specialty supermarkets maintained a nearly identical share, but they appear to be suffering to a degree; out of consumer concerns about their expense, lack of convenience, or lack of available options nearby.

Mass merchandisers the likes of Walmart and Target continue to emerge as a resource for groceries in general. More than a quarter of consumers indicated they are purchasing groceries at Walmart more often than they were a year ago, with 15% of respondents noting they are purchasing more often at Target and 10% doing so at other mass merchandisers. These retailers, along with the likes of warehouse clubs, offer something of a "one-stop-shop" convenience and may well be attracting consumers with a variety of food and beverage options. As that Report notes, Walmart is investing heavily in grocery, which accounts for over half its sales. That investment is including staff training and what is described as aesthetic enhancements "to make the section feel more like a farmers' market." Such efforts will clearly speak to consumer interest in products perceived as more natural and fresher.

Industry analysis indicate a strong consumer interest in online shopping for groceries, which has yet to translate to red meat. Only 3% of those who ate red meat in the last month purchased red meat via an online food shopping service, an online retailer, or a meal kit subscription service, respectively. However, that Report found 18% of consumers are purchasing meat, poultry, or seafood "online," which was defined as grocers' websites, Peapod, FreshDirect, etc. There would appear to be a significant interest in online resources as a convenient source of meat products, but one that has gone largely unrealized among red meat consumers as of yet. In addition, this channel could provide a greater diversity of meat options (possibly offering suggestions of other red meats, to encourage trial) and serving suggestions and preparation tips for any consumers concerned about the challenge of properly cooking red meat. Any effort to market red meat to consumers in an online arena or via subscription service, however, must note that younger men and women are the most likely consumers for these products in these arenas.

Factors Influencing Purchase by Market
Consumers who purchase red meat from a supermarket factor meat's appearance strongly in their purchase decision. They are also more apt to consider the type of meal they are planning and the package size needed. However, for consumers shopping for meat from an online vendor or subscription service, all-natural claims play a prominent role, much more so than for supermarket purchases, and an organic claim is also notably more impactful to online/subscription patrons.

Such online/subscription venues may well bring a degree of brand loyalty to a category largely regarded as a commodity, for which brand plays little to no role in purchasing. More than a third of consumers (37%) indicate brand is important to their online/subscription service red meat purchase, making it the third leading attribute among purchasers via these channels. Not surprisingly, considering these channels also require shipping, consumers are notably concerned about the freshness of these options and express strong interest in packaging that helps extend the meat's shelf life. However, considering the stronger degree of appreciation for all-natural and
organic claims from online vendors in particular, it almost begs the question: are these claims almost becoming a brand unto themselves? An organic red meat from an online vendor may well be regarded as essentially identical to an organic red meat from a supermarket, a mass merchandiser, or even a butcher shop – particularly if that online vendor has delivered quality red meats previously.

![Importance of Factors in Purchase Decision](image)

**Figure 8.** Factors in Purchase Decisions

**Premium Steakhouses**

The Premium Steak Restaurant industry has fared relatively well over the past five years. As unemployment has continued to decline since 2012, consumer spending has increased amid renewed confidence in the economy. Additionally, with more consumers returning to work, time available for home-cooked meals has decreased, resulting in a higher propensity to eat out rather than at home. Coupled with an overall increase in per capita disposable income, many consumers have become more comfortable with spending more liberally on restaurant meals. As a result, many consumers returned to industry establishments to purchase high-end meals. Over the five years to 2017, industry revenue is expected to grow at an annualized rate of 2.9% to $8.3 billion. Revenue is projected to grow 3.0% in 2017, mainly as a result of increased spending by wealthier consumers and companies returning to their business lunches.

Despite an increase in consumer spending driving demand, this industry has had to weather volatile beef costs and changes in consumer preferences toward organic and locally produced goods. Both trends affected the way companies conducted business in this industry. Major

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4 IBISWORLD, Premium Steak Restaurants in the US, August 2017.
restaurants have expanded the number of healthy options on their menus and began to source more of their ingredients from local providers. Some steakhouses have made the healthy factor a core component of their marketing strategy, enabling them to target new segments of the market. As the cost of beef directly affects profit margins, many companies have increased menu prices to offset higher food costs.

Over the five years to 2022, industry revenue is expected to increase at an annualized rate of 1.4% to $8.9 billion. Revenue will continue to grow as personal incomes rise and consumers increase their spending on discretionary items, such as expensive meals. Companies will also increase their spending on the industry's products and services as corporate event and dining activities rebound. Despite this growth, steakhouses will continue to experience increased competition and changing consumer preferences, resulting in some companies adjusting the way they do business.

**Consumer Spending**
Factors that influence the growth of personal consumption expenditure also influence the Steakhouse industry. During a recession, any spike in unemployment generally leads to declining consumption. Conversely, when personal consumption expenditure is high, consumers will be more likely to spend money on eating at restaurants. Consumer spending is expected to increase in 2019, providing a potential opportunity for the industry.

**Consumer Confidence Index**
Changes in consumer sentiment have a significant effect on household expenditure on discretionary items, including premium restaurant dining. During a recession, demand for lower-priced value products from restaurants increases. The Consumer Confidence Index is expected to continue to increase through 2019.

**Households Earning More Than $100,000**
Full-service restaurants tend to draw their customers from higher-income households. Therefore, growth in the number of households earning more than $100,000 per year benefits the industry. The number of households earning more than $100,000 per year is expected to increase slowly during 2019.

**Corporate Profit**
Businesses are a major market for the industry because businesspeople often wine and dine clients at premium steak restaurants to win their business or to nurture a relationship. When corporate profit is growing, the industry benefits due to the greater propensity for businesses to spend. Corporate profit is expected to increase in 2019.

**Healthy Eating Index**
Consumers are becoming increasingly aware of issues related to weight and obesity, fatty food intake and food safety issues. Therefore, as the healthy eating index rises, demand for some
restaurants with less healthy options will decrease. The healthy eating index is expected to increase in 2019, posing a potential threat to the industry.

Current Performance
The Premium Steak Restaurants industry has benefited from a rise in demand over the past five years. Industry revenue is expected to grow at an annualized rate of 2.9% to $8.3 billion over the five years to 2017, with revenue projected to jump 3.0% in 2017 alone. The large boost is partially attributable to a rise in income for the upper class and an expected increase in business travel. Although consumer spending primarily drives industry sales, steakhouses have long been a client-friendly dining option for business travelers as well. As the economy improves and corporate profit rises, many businesses will increase their travel expenditure, indirectly improving this industry’s sales.

Changing Consumer Preferences
Industry revenue has improved over the past five years largely thanks to the improving economic landscape. As unemployment has declined, per capita disposable income has increased and consumers’ financial fears have subsided. Consumer spending has risen an annualized 2.5% over the past five years. Furthermore, the number of households earning more than $100,000 has increased an annualized 3.0% over the five years to 2017, expanding the industry’s customer base. As a result, more wealthy individuals visited high-end restaurants, including steakhouses.

Another major boon for industry operators has been the shift in consumer eating habits amid rising employment rates and less leisure time. Over the early half of the five-year period, consumers decreased spending on high-ticket items like expensive steak dinners. Even with growing disposable income, spending on restaurants actually declined in 2013 due to a slight rise in some consumer items, such as food prices. The rise led more consumers to spend their money on food at home. In fact, despite the drop in spending away from home across even the upper quintiles, total spending on food increased, indicating that consumers had increased their grocery purchases while decreasing restaurant purchases. The slight dip led revenue to experience near-flat growth in 2013. Nevertheless, these trends have weakened in response to greater consumer confidence amid busier lifestyles. As consumers’ daily schedules fill up, convenience and the importance of service become paramount. According to recent data from the Bureau of Economic Analysis, 2015 marked the first year in which restaurant spending exceeded spending on groceries for the home.

Consumers are also becoming increasingly health conscious, eco-conscious and interested in eating local produce. Due to these rising trends, major restaurants expanded the number of healthy options on their menus and began to source more of their ingredients from local providers. For many steakhouses, the health factor has become a key focus of their marketing strategy and has enabled them to target a new segment of the market and renew interest in their products. In addition, operators have started marketing campaigns directed more toward women, as men are already a large part of their customer base, offering smaller and lighter meals and more cocktails catered to this demographic.
Other than affluent consumers, this industry also caters to business meetings and, therefore, relies on corporate spending for revenue. Many premium steakhouses provide private meeting rooms and high-end presentation equipment to attract businesses to their venues. Corporate profit has grown an annualized 1.6% over the five years to 2017, driving industry sales from this market.

*Shifting Costs*

Although the industry experienced an uptick in demand since 2012, it was negatively impacted by volatile food and beverage costs during the five-year period, particularly with regard to volatility in the price of red meat. Purchases represent 36.1% of industry revenue, a large portion of which comes from purchasing quality beef and premium alcohol. Since many operators differentiate themselves from each other by the high-quality products they offer, they continue to buy premium beef despite the volatility in cost. Therefore, when beef prices increased over the past five years, operators’ costs rose because they continued to buy the highest-quality products.

A shortage of beef over the past five years, combined with rising incomes that continue to demand beef, have pushed the price of meat up significantly. In 2011, the price of red meat rose 21.5%, only to rise another 21.1% in 2014. While the price of red meat has plummeted over the latter half of the five-year period, severe swings in any input cost can negatively affect overall profit margins. To help offset these costs, many companies increased their menu prices, which boosted revenue for some, but tightened profit margins for those that did not raise prices significantly enough to offset costs. Nevertheless, some companies have chosen to maintain their prices to keep customers, pushing down their profit margins during severe upswings in meat prices. Major player Darden Restaurants, for example, reports the same average price of its meals at its The Capital Grille restaurants in 2014 as it did in 2012, despite the rapid rise of beef prices. This practice has led the company’s profit margins to decline over the past five years.

More recently, food prices have hit historic lows as a result of plummeting transportation costs. This has galvanized a larger number of consumers to cook more frequently at home, siphoning demand away from restaurants attempting to fill their tables. While higher-end establishments have been somewhat inoculated from this drop in demand for restaurants, particularly thanks to strong growth in the number of households earning more than $100,000, the higher rate of cooking at home has nevertheless heightened competition as the potential consumer pool has decreased. This has resulted in larger losses during lunch hours, redoubled efforts to offer lower prices and discounts, both of which have pushed profit margins downward over the past five years. Nevertheless, still-growing demand for high-end restaurants has led the number of industry establishments to increase over the past five years. Establishments have risen an annualized 1.8% to 2,524 over the five years to 2017. Similar to establishment numbers, employment numbers have also grown, increasing an annualized 2.3% to 115,344 workers over the same period.
Revenue Growth
Similar to the past five years, the Premium Steak Restaurants industry is expected to expand over the next five years, with revenue forecast to grow at an annualized rate of 1.4% to $8.9 billion. Demand for steak restaurants will increase as consumers with greater incomes continue to recover from the recession and businesses expand their spending on eating out. Furthermore, the price of beef is expected to continue falling, contributing to widening profit margins among industry consumers. Healthy options and responsibly produced beef will become greater priorities for consumers, increasing potential markups as well.

This industry primarily targets affluent individuals and businesses; therefore, as the upper class continues to grow, purchases of high-end goods are expected to increase. Therefore, steakhouses’ revenue will primarily grow from purchases by the wealthy.

Consumers and Businesses Return
Over the five years to 2022, the number of households earning more than $100,000 is projected to increase at an annualized rate of 1.1%. As households become more affluent, spending on luxury items is expected to increase. Additionally, many consumers will feel more confident about spending as incomes return and the economy stabilizes. As a result, these consumers will return to high-end restaurants such as premium steak restaurants. As consumers shift back to pre-recessionary preferences, with consumers purchasing expensive steaks, drinks, appetizers and desserts again.

While consumers are expected to order more over the next five years, individuals will also continue to increasingly demand locally grown ingredients. Therefore, operators will have to strategize on how to adjust to this consumer preference while keeping the quality of their goods high. Morton’s Restaurant Group Inc. currently ships their meat directly to three meat-cutting operations, where it is aged and portion cut, in accordance with the company’s specifications, and then delivered to restaurants. The company believes this process allows the restaurants to serve a more consistent product in each steakhouse. Although this process allows the company to maintain consistent quality, operators like Morton’s will have to shift this process to include local meats and produce, as consumers strongly demand more local goods, which could be very costly.

In addition to wealthy consumers increasing their visits to steak restaurants, businesses are also expected to increase their spending at steakhouses. These restaurants are usually located in major metropolitan areas near large office buildings. Therefore, due to their high-end menu offerings, steakhouses are an ideal place for business lunches and corporate events. Corporate profit is forecast to increase at an annualized rate of 1.7% over the five years to 2022. As corporate profit expands, analysts expect companies to increase their business lunches and events, benefiting the Premium Steak Restaurants industry.
**Beef Prices**

Unlike in the previous five-year period, the price of beef is expected to fall over the five years to 2022. This decline in the price of beef is primarily due to decreases in the cost of cattle feed causing cattle expansion and then leading to an oversupply. Cattle herd numbers were also low over the past five years, which pushed up prices, but are expected to increase over the next five years. This will relax supply constraints and decrease prices. As a result of falling beef prices, companies will be able to maintain their prices, or even lower them slightly, and earn higher profit margins. As a result, profit is expected to increase slightly, accounting for 6.7% of revenue in 2022.

With the prospect of increased profit margins, new operators will continue to enter the industry. With steak restaurants having wider profit margins compared with other restaurant industries, such as fast food, more operators will want to enter the market. Over the five years to 2022, the number of enterprises is expected to rise at an annualized rate of 1.0% to 1,149 companies. This includes both single-location restaurants and companies that own chain restaurants. As company numbers expand, employment numbers will follow, as new companies and restaurants will need cooks, waiters, hosts and more. Employment numbers are projected to grow at an annualized rate of 1.3% to 122,880 workers over the same period.

**Industry Life Cycle**

This industry is currently entering a long-term slow-growth phase, which indicates that it is approaching market saturation. The limits on the number of higher-income households, urban density and growth within a city or town that can support a number of competing high-end restaurants are being reached. Competition for prime operating sites is also significant. Over the 10 years to 2022, industry value added (which measures an industry's contribution to GDP) is expected to grow at an annualized rate of 1.7%, compared with an annualized 2.1% GDP growth over the same period.

This industry is also experiencing significant market and consumer changes, with increasing demand for healthy foods and locally grown ingredients. Significant quality-based competition is continuing to occur, as operators strive to capture an increasing market share in a slow-growth domestic market. Given the state of the domestic market, major franchised operators are currently receiving most of their sales growth from newly opened restaurants and restaurants located in very affluent neighborhoods.

**Products and Markets**

All of the restaurants included in this industry are fine-dining steak restaurants; however, the industry can be segmented by specialty cuisines that the establishments serve. The most popular is the traditional American steakhouse (35.0%), followed closely by steak and seafood restaurants that emphasize premium steak and seafood offerings (32.6%), Brazilian-style steakhouses (10.4%) and other premium steak restaurants.
Although most American steakhouses traditionally offer seafood in addition to premium beef, restaurants included in the steak and seafood segment of the industry offer a complementary and comparable range of quality seafood in addition to steaks. These restaurants also frequently brand and market themselves as steak and seafood fine dining restaurants. This market segment has remained relatively stable over the past five years.

Industry analysts estimate that fine-dining Brazilian-style steakhouses, also known as churrascarias, represent about 10.4% of total industry revenue in 2013. Fine-dining churrascarias typically offer rodizio service, where servers carve various cuts of beef and other meats (e.g. lamb, chicken, duck and ham) at diners' tables. This segment has been steadily increasing in popularity and as a share of total industry revenue in recent years. Two popular Brazilian steakhouse chains operating within this industry are Fogo de Chao and Texas de Brazil. Texas de Brazil grew from three locations (all in Texas) in 2001 to over 44 full-service US locations across 14 states; the company also opened two Texas de Brazil Express fast-casual locations. Fogo de Chao has over 20 fine-dining locations in the United States, in addition to five locations in Brazil.

**Major Markets**

Corporate-expense diners are a key component of steakhouse sales. For some premium steakhouses in central business districts, corporate-expenses diners account for well over 50.0% of revenue. For example, Morton's The Steakhouse, one of the industry's biggest players, states that corporate-expense diners account for 65.0% of its business. This segment's share of revenue is expected to have grown in the past five years as corporate profit has increased, pushing up corporate entertainment budgets.

**Consumers**

Every age group and income level dines out; however, the extent to which they dine out can be projected based on age and income level. According to the Bureau of Labor Statistics, households that make less than $50,000 per year spend 36.6% of their food budget on dining out (amounting to about $1,626 per year). Households that make between $50,000 and $75,000 per year spend 42.4% of their food budget on dining out ($2,711 per year), while households that pull in more than $75,000 per year spend 45.7% of their food budget on dining out ($4,490 per year). The more money a household makes, the more money it spends on dining out and the more likely a premium steakhouse will be to claim some of that expenditure.

Trends in household disposable income greatly affect demand for industry services, given the high-end nature of this industry. Periods of low economic growth typically result in higher unemployment, reducing per capita income among consumers. Following reduced income, more consumers chose to decrease their spending on luxury dining and instead choose to eat at more casual restaurants or cook at home. Demand for the industry is most strongly correlated with income levels among the top income quintile since these households have considerably higher disposable income. However, as unemployment has declined over the past five years, which has increased per capita disposable income and overall consumer spending, more consumers have
become more comfortable with spending a little more liberally at eating establishments. Furthermore, recent data from the Bureau of Economic Analysis indicated that, for the first time, consumers have begun spending more on food outside of the home than on groceries, suggesting that demand for industry operators among individuals within the highest income brackets is expected to increase over the next five years.

Establishment locations in the Premium Steak Restaurant industry follow trends in population and household income distribution, so locations are generally in major metropolitan and surrounding areas with a considerable number of wealthy households. Establishments in the Southeast (24.6% of industry establishments) and Southwest (11.3%), which include Florida (8.4%) and Texas (8.1%), tend to be slightly larger than average in employment terms. Establishments in the Mid-Atlantic, including New York (9.9%), and West, including California, tend to be slightly smaller than average. This trend is due in part to a slightly higher share of franchised establishments in the former regions or higher levels of competition in the latter ones. Within regions, cities and towns, however, population densities and the level of average household incomes directly affect the distribution of premium steak restaurants, with a larger number and concentration in or near higher household income areas.

Many operators cannot compete for high-profile, high-traffic locations because of the industry's small-business nature; these places are usually garnered by the major chain and franchised restaurant operators. A large proportion of operators tend to be located in downtown central business district neighborhoods. These locations are generally desirable due to the close proximity of major corporations, high-grossing businesses and wealthy clientele and well a heavy flow of tourism activity. Therefore, this level of geographic concentration is not expected to change significantly in the near future.

**Market Share Concentration**

The industry has a low concentration of ownership. Analysts estimate that in 2017, the four largest companies account for less than 25.0% of annual industry revenue and the 10 largest enterprises currently account for just less than 40.0% of industry revenue. The industry has a fragmented structure and most companies operate within a narrow geographic market.

Despite the presence of a handful of nationally recognized chains, concentration is brought down by the vast number of single, owner-operated establishments that are not part of a chain or franchise operation. Annual average revenue per establishment is estimated to be about $3.3 million in 2017, and each operator has about 45 employees. Because of its fragmented nature, the level of industry concentration is not expected to change in the near future.

**Basis of Competition**

Although there are some indications of price-based competition within this industry, premium steak restaurants mainly compete on the basis of location, food quality, and reputation. Style and presentation, food range and variety, ambiance, hospitality and service are also major competitive factors. Premium restaurants are involved in marketing the meal experience, so it is
important that the owner-operator understands the restaurant's positioning in the marketplace, the clientele they are attracting or want to attract and the meal experience. Most importantly, the restaurant must consistently deliver on the customers' expectations.

In addition to the competitive factors listed above there are a number of growing trends in full-service dining, some of which are specific to steak restaurants. Growing emphasis throughout the broader dining category on sustainable food offerings and organic options is moving some industry operators to change menu options and marketing campaigns to emphasize their organic and locally sourced offerings. Additionally, industry operators compete on the availability of amenities such as private rooms and presentation tools to attract business clientele. Other areas of competition include the range of food and beverage offerings at restaurant bars and the variety and quality of specific types of beef offered.

The competitive conditions within this industry are estimated to steadily increase over the next five years. The industry is reaching saturation in most urban central business districts and suburban markets with a large proportion of higher income households.

**Wholesale**

The Beef Wholesaling industry is experiencing challenging conditions. The industry, which serves as the middleman between beef producers and retailers is expected to slow as red meat prices fall and consumer taste favors substitute products. Recent studies linking beef consumption to heart disease has put industry operators in a tricky predicament at a time where issues of health have strongly shaped trends in consumer taste. While red meat demand has not been hindered as much as originally expected, alternative protein sources, such as poultry and seafood, have seen a relatively larger boost in demand. Furthermore, price decreases in red meat resulting from increased supplies in upstream livestock farms have hindered revenue growth prospects in the latter half of the period. As a result, analysts estimate industry revenue will decrease at an annualized rate of 0.3% to $55.3 billion over the five years to 2018, including a 1.0% decline in 2018.

The Beef Wholesaling industry is comprised of businesses that buy beef, pork and other red meat products from upstream cattle and hog industries, such as slaughterhouses and processors, and then resell these products to a variety of downstream markets. Over the past five years, the industry has experienced consolidation of industry operations as major processors have begun to take on a wholesaling role. This has been coupled with an increased downstream demand for beef as US households have experienced an uptick in disposable income during this period. However, health concerns linked to beef consumption, such as heart disease and cancer, as well as a decrease in the price of red meat has cut into industry revenue over the five years to 2018.

The wholesaling sector is undergoing major structural changes due to the growing trend of manufacturing companies transforming into their own wholesaler. Both large and small retailers have increasingly made purchases directly from food manufacturers, allowing these players to avoid wholesale costs and high markups. This development has led to widespread
industry consolidation as these new industry operators seek a higher efficiency and economies of scale. Independent wholesalers in turn either compete for a smaller pool of contracts or join the new industry entrants through mergers.

Over the five years to 2023, demand is projected to rebound slightly as manufacturers’ sales branches and offices (MSBOs) gain more of a foothold in the industry. The MSBO structure will continue to solidify and MSBOs will benefit from economies of scale and increased operating efficiencies. Furthermore, projected increases in household disposable income and demand from downstream markets will keep demand for beef products stable. In addition, the decline in red meat prices is anticipated to decelerate during the period, and is projected to remain consistently higher than its low in 2017. The relative stability of the industry’s key input price will enable industry players to more successfully plan and pass on costs to consumers. As a result, revenue is forecast to rise at an annualized rate of 0.4% to $56.3 billion over the five years to 2023.

With rising health concerns and total health expenditure rising at an annualized rate of 3.7% over the five years to 2018, many health-conscious consumers shifted to alternative sources of protein, such as fish and poultry. Furthermore, decreasing prices of red meat has limited the prices that industry operators could potentially charge downstream markets for their products. Nevertheless, red meat is still considered a staple in many households. Overall, revenue has fallen over the past five years, decreasing at an annualized rate of 0.3% to $55.3 billion over the five years to 2018, including a 1.0% decrease in 2018.

**Shifting Industry**

For many years, large supermarket and restaurant chains have increasingly purchased directly from beef processors to take advantage of lower prices and increase profit margins. This trend of utilizing wholesalers through manufacturers’ sales branches and offices (MSBOs) has concentrated more revenue in the hands of fewer industry operators. MSBOs’ growing sales have offset revenue declines stemming from reduced numbers of smaller merchant wholesalers. MSBOs provide a direct distribution link from industrial beef processing plants to downstream markets, which reduces the potential for a traditional merchant wholesaler to act as an intermediary between producers and retailers. Furthermore, new technologies that enable the entire distribution process to be handled and tracked electronically have aided this trend, making it easier for retailers and other customers to deal directly with meat processors, limiting demand for smaller independent industry wholesalers. These MSBOs have become increasingly important players in the industry.

A growing number of manufacturers have improved efficiency by bringing transportation and handling activities in-house to create MSBOs. By cutting out the cost of a traditional merchant wholesaler, these branches can sell meat products to downstream retailers at lower prices. Therefore, larger retailers and major food service establishments are leveraging MSBOs to reduce their own costs and better compete with discount mass-merchandise stores such as Walmart.
By using economies of scale, the ascension of MSBOs has created a new large-scale industry structure for meat wholesalers. Consequently, while many wholesalers exited the industry due to a declining pool of customers, others decided to merge or become vertically integrated to compete in the changing industry. As a result, exiting companies and consolidation are expected to decrease the number of enterprises by an annualized rate of 1.6% to 2,015 operators over the five years to 2018. Similarly, employment is expected to fall at an annualized rate of 0.2% to 43,350 workers over the five years to 2018.

Competing Industries
Health-conscious consumers are making business difficult for operators in the Beef Wholesaling industry. The consumption of red meat has been increasingly linked to life-threatening diseases, causing consumers to seek protein alternatives. Despite these fears, per capita beef consumption has increased over the five years to 2018 at an annualized rate of 0.5% and 1.6% respectively. However, the growth of substitutes like poultry and seafood outpaced their red meat counterparts with per capita consumption of these products increasing 1.5% and 2.0%, respectively, during the five-year period. Consequently, operators in the Fish and Seafood Wholesaling industry and Egg and Poultry Wholesaling industry are becoming more of a threat to beef wholesalers.

In addition, increased competition from the Frozen Food Wholesaling has hindered demand from beef wholesaling. Meat processors constantly seek to widen profit margins with value-added products, particularly prepackaged and frozen meats that appeal to time-poor consumers. Instead of buying fresh red meat included in this industry’s product offerings, some consumers switched to meat products outside this industry’s scope, including canned and packaged frozen beef products, because of their lower prices and ready-to-eat microwave meal options. By supplying more alternatives to fresh beef, meat processors and packagers are siphoning revenue away from the Beef Wholesaling industry.

Meat and Diesel Prices
Operators in the beef wholesaling industry purchase beef primarily from producers in the Meat, Beef and Poultry Processing industry. Profitability in the industry largely depends on the price of red meat, which represents the price set by meat processors. Although increases in the price of red meat make it more expensive for industry operators to purchase from upstream industries, they are typically able to pass on the costs to consumers in the form of higher prices, thus expanding revenue.

Overall, the price of red meat has been highly volatile, including a 21.1% increase in 2014 followed by double-digit declines from 2015 through 2017. This volatility is expected to continue with an anticipated 9.1% increase in 2018. As a result, operators were unable to pass costs on to consumers because of price uncertainties and steep price drops.

While this negativity affected revenue, the general fall in key input prices benefitted profit margins. A major input for wholesalers is the price of diesel, which has fallen 5.5% over the five years to 2018. Diesel is the primary fuel for large trucks, most often used in wholesaling
distribution operations. Thus, the average industry profit margin (measured as earnings before interest and taxes) increased from 1.4% in 2013 to 2.1% in 2018.

Higher profit margins can also be attributed to the surge in consolidation and MSBOs. Large MSBOs can leverage economies of scale and better absorb higher purchase costs in the face of falling revenue. The number of MSBOs has increased among meat processors over the past five years. Since MSBOs operate with lower costs, they can achieve higher profit margins and offer lower prices to downstream customers.

Industry Outlook
The Beef Wholesaling industry is projected to marginally rebound over the five years to 2023 as downstream demand for beef remains stable. Additionally, the presence of manufacturers’ sales branches and offices (MSBOs) in the industry is expected to grow; these operators will generate demand from downstream retailers because they can charge lower prices. Due to economies of scale, these companies will be able to excel despite falling prices of red meat. Consequently, overall industry revenue is forecast to increase at an annualized rate of 0.4% over the five years to 2023, to total $56.3 billion.

Industry Structure
Over the next five years, more MSBOs are expected to enter the industry and capture declining third-party dealers’ market share. MSBOs will expand operations to achieve economies of scale, enabling them to compete with smaller independent wholesalers on levels of price and efficiency. Since MSBOs are a division of meat processors, they can guarantee the distribution of industry products and, as a result, they will experience increased demand from downstream retailers. This trend will greatly increase the overall efficiency of the industry, which should lead to higher industry revenue, putting greater pressure on external competition. Smaller wholesalers that survive the transition into a market dominated by large-scale MSBOs will likely consolidate or focus on niche and local markets to remain competitive. Since MSBOs make purchases internally from one division to another, a streamlined company’s wholesaling division will record significantly lower costs than its independent merchant competitors. Also, as MSBOs grow in scale, they will save more on equipment and transportation costs, while the availability of advanced technology will help optimize employment levels.

While the industry is expected to continue to consolidate, it is unlikely to retreat from capital investments. Following anticipated acquisitions and exits of merchant wholesalers, the number of enterprises is forecast to fall at an annualized rate of 0.6% to total 1,957 companies over the five years to 2023. However, employment is anticipated to remain stagnant. Total industry employment will rise to 43,413 workers, with gains being relatively negligible at 0.0%. Industry operator’s success depends largely on their ability to add value for the production source and retail channel alike. Specifically, human labor is required to take and process orders, receive and ship goods, and manage all the various logistical aspects of a warehouse operation. The skill and knowledge of experienced labor employees will encourage employers to retain
employees in the newly consolidated operations. This consolidation will lead to larger, more resourceful wholesaling departments under the control of large meat processors.

*Transportation Costs and Profit*

Industry operators transport much of their goods with trucking fleets, which usually run on petroleum-based fuels such as diesel or gasoline. Food product wholesalers incur significant costs from transportation, which often require special adjustable temperature containers. The Beef Wholesaling industry is therefore affected by the price of diesel fuel. Over the five years to 2023, the price of diesel is expected to increase at an annualized rate of 4.3% raising operating costs for companies.

This increase in the price of diesel fuel is anticipated to hurt industry profitability during the five-year period. However, while rising transportation costs hinder operators’ bottom lines, other developing trends will mitigate these negative effects. Red meat, the key industry input, is anticipated to continue its decline during the period. Beef wholesalers will continue to pay less and less to their upstream markets, which will lower these purchasing costs for industry operators. These declines should offset some of the increased costs caused by rising fuel prices.

Furthermore, industry profitability may also be helped by stronger overall positioning for industry operators. Accelerated vertical integration and a higher incidence of MSBOs within the industry should enhance the purchasing power of the average industry operator. Overall, the average industry profit margin is forecast to fall from 2.1% in 2018 to 1.9% in 2023.

*Potential Growth*

Industry performance is expected to be buoyed by a few favorable conditions over the five years to 2023. Per capita beef consumption is anticipated to remain relatively steady during the period through 2023. Moreover, as the US population continues to grow and household disposable income levels increase, consumers are expected to purchase higher quantities of higher quality meat products. Companies can be expected to enhance operations that service for lean meat products and choice cuts to satisfy growing demand. Additionally, as incomes increases, more consumers will dine out at restaurants, leading industry operators to focus on servicing this market over the next five years.

Much like the previous period, industry performance will be greatly affected by the price of red meat. Over the five years to 2018, red meat prices are anticipated to decrease at an annualized rate of 0.5%. While still declining, this development represents a strong stabilization of the key industry input. During the previous period, red meat prices experienced four separate year to year shifts of over 10.0%. This volatility is not expected to continue over the five years to 2023, which should grant industry operators more power regarding how to strategize operations. Companies will more effectively pass on costs to consumers, helping to increase overall industry revenue. This enhanced managerial position should only be further aided by increased vertical integration and presence of MSBOs, as these consolidated players improve efficiencies granted by economies of scales.
Products and Services
Beef makes up the largest industry product segment, accounting for 37.8% of total revenue. The United States is the world's largest beef producer and beef is the second most-consumed meat per capita in the country. US expenditure of beef is higher than expenditure for any other meat, except chicken. Many believe health concerns linked with beef consumption, such as heart disease will lead to a decline in beefs significance to industry revenue. However, despite these heath concerns, per capita beef consumption has slightly increased over the past five years and is expected to remain relatively stable.

Competition from Substitutes
The availability of close substitutes also affects demand for red meat. Substitute products include frozen and ready-to-cook foods, which are sold by operators in the Frozen Food Wholesaling industry. These foods have a competitive advantage in ease of preparation, which appeals to time-poor consumers. For example, a frozen bag of premixed beef and broccoli takes less time and effort to prepare than the same meal made from scratch. Other substitutes include poultry products that are sold by the Egg and Poultry Wholesaling industry, which often provide an alternative protein source at a lower price. In addition, fish and seafood products, sold by the Fish and Seafood Wholesaling industry, are also becoming more popular among health-conscious consumers.

Other Wholesalers
Other wholesalers, including manufacturers' sales offices and branches (MSBOs), account for a significant portion of industry revenue at 36.3%. MSBOs generally sell products to merchant wholesalers of grocery items. Major grocery operators have longstanding relationships with retailers, stifling out wholesalers who distribute limited products from obtaining supply contracts with these retailers. This segment has experienced further acceleration over the past five years as MSBOs have become a primary path of sales to other wholesalers. Thus, this market has increased over the past five years as downstream food service and retail customers seek a more direct source of purchases.

Retailers for Resale
Retailers include grocery stores, supermarkets, meat markets and specialty stores. This segment makes up the second largest downstream market for industry operations. Over the past five years, retailers lost a marginal share of industry revenue, as consumers scaled back purchases of higher-valued meats and reduced quantities of meats purchased. Nevertheless, retailers still make up more than a third of industry revenue at 35.6% in 2018.

Food Service
Restaurants, hotels and contract caterers for schools, hospitals and other institutions, constitute the industry's third-largest segment, accounting for 20.3% of revenue in 2018. Meats sold to these segments often require further processing prior to shipment, taking some of the workload
off chefs and servers in preparing meals. This value-added dynamic enables wholesalers to charge a premium for their products. This segment is increasing as per capita disposable income increases and consumers begin eating out more often.

All Others
All other markets consist of households, businesses, contractors, farmers, the government and miscellaneous customers. Manufacturing and industrial users make up the most significant market within this category and MSBOs generally service the industrial market because most downstream processors source directly from other upstream food processors. The wholesaling branch of a company that slaughters and creates meat slices from live animals will usually supply a downstream processor that puts meat slices into premade sandwiches. This segment is expected to remain a relatively marginal share of revenue over the next five years. Overall, other markets account for 7.8% of industry revenue in 2018.

Market Share Concentration
The Beef and Pork Wholesaling industry has a moderate level of market share concentration. In 2018, the top four players are expected to account for 44.0% of industry revenue. Vertical integration is causing an increase in manufacturer’s sales offices and branches (MSBOs), thereby increasing the number of larger operators and forcing out smaller ones. As beef and pork processing companies increasingly take on distribution and sales roles, the need for smaller independent wholesalers dwindle. Also, the MSBO channel benefits downstream to clients because they avoid the potential markups incurred when purchasing from a traditional merchant wholesaler. Many meat-processing companies are combining their activities to cover all phases of the production, processing and distribution chain to gain all possible profit prior to retail.

Industry concentration is projected to continue increasing through the coming five years as the major players pursue greater market share through MSBOs. As a result, third-party wholesalers will be under more pressure to maintain their business partners and boost their margins. Still, the larger and more efficient companies will be likely to lure much of retail and grocery business, and independent wholesalers will experience significant declines due to MSBO increases.

Cost Structure Benchmarks for Wholesaling

Profit
The average industry profit margin, measured as earnings before interest and taxes, is estimated to rise from 1.4% in 2013 to 2.0% in 2018. Wholesalers in this industry operate on a low-margin, high-volume strategy, realizing only a small return per sale. Industry per-unit fixed costs are only driven down by leveraging high volume orders. In other words, it takes a high volume of sales for an industry operator to turn a profit. Over the past five years, profit has risen because of a sharp drop in fuel costs as well as increased efficiencies realized through technology lowering operating costs. However, with the expected rise in the price of diesel fuel over the next five years, profit margins are expected to slightly fall to 1.9% by 2023.
Cost of Goods Sold

Purchases make up the largest share of revenue at 86.0%. Across most wholesaling industries, purchases are by far the greatest expense for operators. Purchases consist of goods bought from vendors that are intended for resale to retail outlets. In the case of the Beef and Pork Wholesaling industry, operators consistently allocate most of their expected annual revenue to purchases of beef and pork from processors.

Purchase costs have decreased slightly for wholesalers over the past five years, thanks largely to corn’s correlation with oil prices. When oil prices go down, demand for substitutes like corn-based ethanol goes down as well, thereby decreasing the value of corn crops. Since corn is also a main ingredient in most animal feeds, the relationship with oil also serves to decrease farmers’ costs for growing livestock that are raised on corn-based feed. Over the five years to 2018, the world price of crude oil and the price of corn decreased by 11.3% and 11.7%, respectively. Therefore, the oil and corn relationship has decreased the price of meat that wholesalers purchase from farmers over the past five years. Purchases as a share of revenue have also been decreased due to declining meat prices.

Wages

A wholesaler’s success depends largely on their ability to add value for the production source and retail channel alike. Customer service, dependability and reputation come into play, and these characteristics can only be displayed through knowledgeable and reliable human resources. More technically, human labor is required to take and process orders, receive and ship goods, and manage all the various logistical aspects of a warehouse operation. Analysts estimate wages as a share of revenue to have risen from 3.9% in 2013 to 4.1% in 2018, as total wages have increased. This increase is in part attributable to operators’ reliance on a knowledgeable and experienced labor force.

Other Costs

The cost of depreciation and rent and utility costs will invariably fluctuate between operators depending on their size and the number of assets involved. Depreciable assets include buildings, storage equipment, machinery used to move vehicles and computer inventory systems. Since the majority of industry operators are smaller merchant wholesalers, their depreciation levels are very slim. As consolidation continues over the next five years, increased technology and larger plants will lead to greater industry depreciation costs.

Reputation is also important and, as a result, operators typically spend 0.4% of revenue on marketing expenses. Miscellaneous costs are expected to account for the remaining 5.4% of overall industry costs. They primarily include distribution and freight costs as well as various administrative, legal, accounting costs, insurance, outsourced labor, as well as other supervising necessary to the proper functioning of the wholesaling process.


**Basis of Competition**

**Internal Competition**

Operators in the Beef and Pork Wholesaling industry compete primarily on price, assortment and service. Due to the diversity in producer sizes, competition for beef and pork wholesalers is high. The industry also competes against retailers' self-distribution facilities based primarily on location and operating costs regarding efficient transportation. Furthermore, the majority of internal industry competition has been between Manufacturers’ sales branches and offices (MSBO's) and independent wholesalers, as distribution arm of major processors has continued to gain footing over available market share.

It is important for wholesalers to base operations close to clients because saving on transportation costs allows wholesalers to reduce prices and allocate more resources toward value-added products. Meanwhile, having a wide range of meat cuts to choose from can help in differentiating a company's product, as does the ability to price meat products affordably. Furthermore, brand competition is increasingly important because branding allows for operators to set higher prices for their products, thus realizing higher profit margins.

Technology is also quickly becoming a basis of competition in the industry. This aspect includes the integration of advanced logistics systems to efficiently track inventory, monitor sales trends and manage customer orders. Establishments have increasingly become involved in complementary services to retailers, such as private brand label development, warehousing, retail store development and various financial and technical support services.
**External Competition**

Packaged frozen food wholesalers sell prepackaged frozen meat and meat products that are direct substitutes for the fresh meat and meat products supplied by beef and pork wholesalers. For this reason, operators in the frozen food wholesaling industry are beef and pork wholesalers’ main competitors. Other key competitors include operators in the Egg and Poultry Wholesaling industry and those in the Fish and Seafood Wholesaling industry, which both wholesale alternative sources of protein. Price, location, quality and the products' perceived nutritional values form the major bases of external competition among these industries. However, per capita beef and pork consumption has increased in recent years despite growing health-consciousness of consumers.

One major source of external competition stems from operators in the grocery wholesaling industry. These wholesalers move a large portion of the total tonnage of specific food items. One major player in that industry, the Sysco Corporation, was formed in 1969 following the merger of nine US wholesalers. After acquiring more than 100 companies in the food wholesaling business, Sysco has grown to become the largest food distributor to the food service market in North America. In fiscal 2017, total company revenue is expected to total $58.4 billion. Sysco threatens to steal customers and revenue from industry operators thanks to its brand recognition and size. It distributes food products through its broad line segment to downstream markets which are the same as the ones in the Beef and Wholesaling Industry.

**Barriers to Entry**

The Beef and Pork Wholesaling industry has high and steady barriers to entry. This particular wholesaling industry is highly regulated (see the Regulation and Policy section), and so compliance with federal and state food handling, storage and distribution requirements can be very expensive for potential market entrants. Similarly, obtaining licenses can be prohibitive for some potential entrants. Industry operators must also invest in large refrigerated warehouse and delivery facilities capable of keeping perishable meat fresh and safe for consumption. The cost of obtaining these facilities may deter some operators from entering the industry.

Entering into beef and pork wholesaling is also difficult due to the mature nature of the industry. The major players are reputable companies that have been established for decades. These companies have superior corporate and management skills and new entrants will find it difficult to compete on the basis of price, service and reliability. There is also a medium concentration of operators within the industry giving these established players the ability to excise a high degree of market power. The cost of entering and competing with established operators that have strong relationships in industry downstream markets may limit market entrants.

**Operating Conditions**

The Beef and Pork Wholesaling industry has a low level of capital intensity in relation to other industries. In 2018, operators typically invest $0.09 of capital for every dollar spent on labor. Capital expenditures in the industry include the purchase, storage and distribution of industry
products. These tasks involve minimal transformation of the product, but they incorporate marketing activities, preparation and checking and shipping orders to customers. Since these tasks are generally labor intensive, the industry heavily depends on labor rather than capital goods, explaining the low level of capital intensity in the industry.

The capital costs for this industry are still significant because meat is perishable. Climate-control systems are particularly important in warehouses and delivery trucks, requiring operators to invest capital in cooling and refrigerating equipment, computerized inventory management and delivery vehicles for transportation. The industry is increasingly using new technology to improve operating efficiencies and reduce costs, which has slowed employment growth. Despite the increasing use of computerized inventory control, a high degree of labor remains in taking orders, checking for anomalies, transporting goods and providing specialized customer service.

**Market Potential**
The West End project will reach out past the Telluride, Colorado area. Locally Grown is not limited to the state of production only, but according to the USDA it ranges up to 400 miles. Given this and following discussions with other producers and processing facilities in the area there is a significant population.

This study will assume three different market areas, the first is 100 miles from Telluride, then, 200 miles finally 300. Telluride was used as the center point for this study and represents where the beef might be processed.

| Table 1. Population within Three Market Areas Originating from Telluride |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| **Year**       | **100 Miles** | **200 Miles** | **300 Mile** |
| 2010          | 502,221       | 3,725,890     | 8,798,776    |
| 2020          | 517,937       | 4,149,778     | 9,896,052    |
| 2025          | 524,285       | 4,261,272     | 10,215,389   |

Figure 10 shows geographically the areas encompassed by each of the three market areas. The first (100 miles) encompasses a large portion of Colorado.
Figure 10. Three Market Areas

The population in these three market areas will be used to determine beef consumption by production methods at both 5,000 and 10,000 head of production annually.

Total Beef Consumption
Assuming that per capita beef consumption is 80 pounds annually, we were able to estimate the total market potential for the three market areas.

<table>
<thead>
<tr>
<th>Year</th>
<th>100 Miles</th>
<th>200 Miles</th>
<th>300 Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>40,177,680</td>
<td>298,071,200</td>
<td>703,902,080</td>
</tr>
<tr>
<td>2025</td>
<td>41,942,800</td>
<td>340,901,760</td>
<td>817,231,120</td>
</tr>
</tbody>
</table>

Grass Fed
In a recent Forbes article⁵ they referenced an industry study that found grass-fed beef demand in several major US metropolitan markets estimated to be between 3 and 6 percent of the total beef market share.

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Table 3. Annual Per Capita Grass Fed Beef Consumption (lbs.) within Three Market Areas

<table>
<thead>
<tr>
<th>Year</th>
<th>100 Miles</th>
<th>200 Miles</th>
<th>300 Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,807,996</td>
<td>13,413,204</td>
<td>31,675,594</td>
</tr>
<tr>
<td>2020</td>
<td>1,864,573</td>
<td>14,939,201</td>
<td>35,625,787</td>
</tr>
<tr>
<td>20235</td>
<td>1,887,426</td>
<td>15,340,579</td>
<td>36,775,400</td>
</tr>
</tbody>
</table>

The market potential for grass-fed beef in the 100-mile area radius is nearly 1.8 million pounds annually by 2023 using the average grass-fed beef demand of 4.5% of total meat consumption. This figure grows to 15.3 million pounds at 200 miles and 36.8 million pounds at 300 miles.

*Branded Beef Production versus Consumption*

USDA suggests that a half carcass for cattle is approximately 300 pounds. This figure will allow a production estimate of the potential beef that could be involved in the proposed West End project.

Table 4. Beef Production in Pounds at 5,000 Head

<table>
<thead>
<tr>
<th>Whole Carcass weight</th>
<th>Number of Head</th>
<th>Total Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>5000</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

Looking ahead to 2023 it is possible to compare the West End production with consumption for grass fed beef.

Table 5. Estimated Grass fed Beef Consumption in 2023 in Pounds

<table>
<thead>
<tr>
<th>Miles</th>
<th>Total Beef</th>
<th>Percent Grass Fed</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>703,902,080</td>
<td>316,755,936</td>
</tr>
<tr>
<td>200</td>
<td>791,684,160</td>
<td>356,257,872</td>
</tr>
<tr>
<td>300</td>
<td>817,231,120</td>
<td>367,754,004</td>
</tr>
</tbody>
</table>

*Business Surveys*

A phone survey of local business that potentially purchase meat was conducted to estimate current and potential demand of local meat. A list of 74 business, which primarily consisted of restaurants, but also included some hotels and grocers, was constructed with the help of community members as well as internet research to attempt to construct an inclusive list of West End businesses.

Survey collection began May 1, 2020 and concluded on August 3, 2020. The survey extended over a significant period of time due to the COVID-19 pandemic. Because of the pandemic, many businesses appeared to be closed and were unable to be reached, even as multiple attempts were made over the course of the summer. A total of 12 businesses were reached over this period.
of time, with eight respondents completing 100 percent of the survey. The remaining four respondents finished a portion of the survey and their responses are also included in the analysis.

Respondents were first asked who their current meat supplier is, and responses were incredibly varied. Listed meat suppliers included Callaway, US Foods, Coleman, Kinikin, Gravy Brothers, Taylor Quality Meats, Shamrock, Laid Back Ranch, Vicky’s, Farm Runners, Mavrick Ranch, and Cisco. Shamrock and Cisco were the only suppliers appearing in multiple responses, with two tallies for Shamrock, and four tallies for Cisco. One respondent indicated that they do not purchase meat, so their survey was terminated after this question.

Next, respondents were asked whether they would be interested in purchasing meat produced in the West End region (west Montrose, Ouray, and San Miguel Counties). Seven respondents indicated they would be interested in purchasing local meat, with an additional three respondents indicating they may be interested. Only one respondent indicated they would not be interested.

Moving to the next question, responses dropped down to the final eight respondents who completed the survey. Six of these eight indicated they would be willing to pay a price premium for local meat, while one indicated they may be willing to pay a price premium, and one individual indicated they would not be willing.

Respondents were then asked to rank their preference between serving local, grass-fed, or organic meat. Seven of the eight respondents indicated they would prefer to serve local meat over grass-fed or organic, with grass-fed receiving the remaining first place vote. The second place spot between grass-fed and organic was closer, with grass-fed receiving five tallies, and organic receiving two.

To measure the concern of consistency in the taste and quality of local and grass-fed beef, respondents were asked whether they, or their patrons, had their concern with local, grass-fed, or both types of meat. Five respondents indicated that they had concern over the consistency of taste and quality of both local and grass-fed beef, while two indicated they have concerns for only grass-fed, and one indicated they have no concerns.

Regarding the consistency in availability of local meat, six respondents indicated that they would still be willing to purchase local meat when it is available, even if it is not consistent. The remaining two respondents indicated they would not be willing to purchase local meat if it was not consistently available.

Moving on to preferences between purchasing fresh and frozen meats, four respondents indicate they do have a preference between fresh and frozen, and an additional four indicated they did not have a preference. Those that indicated they do have a preference indicated which they prefer. Two indicated they prefer fresh, while one respondent indicated it depends on the cost as to which they prefer. One respondent did not respond to the question. In the final question regarding fresh or frozen preferences, respondents were asked whether they would be willing to
purchase frozen meat if it was produced locally. Only two of the eight respondents indicated they would be willing to purchase froze if it was produced locally.

Finally, respondents were asked about their purchasing habits for beef, chicken, sheep/goats, pork, and wild game. Raw response data is displayed in each table below. It should be noted that some respondents refused to give price data for their purchasing and that some purchasing quantities appear to be much larger than is reasonable. This could be due to individuals responding on a yearly purchasing basis as opposed to the weekly basis that was asked of them.

<table>
<thead>
<tr>
<th>Table 6. Meat Purchasing Habits of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beef</strong></td>
</tr>
<tr>
<td>Cuts of Beef Most Commonly Purchased Each Week</td>
</tr>
<tr>
<td>Ground Beef</td>
</tr>
<tr>
<td>Ribeye, Bison</td>
</tr>
<tr>
<td>Ground Beef, Round, Rib,</td>
</tr>
<tr>
<td>Steak, Ground Beef</td>
</tr>
<tr>
<td>Ground, Sausage, Ribeye,</td>
</tr>
<tr>
<td>Ground Chuck</td>
</tr>
<tr>
<td>Steak, Beef</td>
</tr>
<tr>
<td>New York, Flank, Skirt</td>
</tr>
<tr>
<td><strong>Chicken</strong></td>
</tr>
<tr>
<td>Cuts of Chicken Most Commonly Purchased Each Week</td>
</tr>
<tr>
<td>Breast</td>
</tr>
<tr>
<td>Breast</td>
</tr>
<tr>
<td>Breast, Thigh</td>
</tr>
<tr>
<td>All Cuts</td>
</tr>
<tr>
<td>All Cuts</td>
</tr>
<tr>
<td>Breast, Whole Chicken</td>
</tr>
<tr>
<td><strong>Pork</strong></td>
</tr>
<tr>
<td>Cuts of Pork Most Commonly Purchased Each Week</td>
</tr>
<tr>
<td>Farm Raised</td>
</tr>
<tr>
<td>Loin and Tenderloin</td>
</tr>
<tr>
<td><strong>Sheep/Goat</strong></td>
</tr>
<tr>
<td>Cuts of Sheep/Goat Most Commonly Purchased Each Week</td>
</tr>
<tr>
<td>Whole Lamb, Local</td>
</tr>
<tr>
<td><strong>Wild Game</strong></td>
</tr>
<tr>
<td>Cuts of Wild Game Most Commonly Purchased Each Week</td>
</tr>
<tr>
<td>Elk</td>
</tr>
</tbody>
</table>
Business Survey Summary
While the response numbers were lower in regard to the population for this survey, if it is representative of the population it indicates that there is interest in purchasing locally grown meats amongst West End businesses. Seven respondents indicated they would be interested in purchasing meat, with an additional three indicated they may be interested. Only one respondent indicated they would not be interested. Additionally, when given the option between serving locally-grown, organic, or grass-fed, seven of the eight respondents indicated they would be interested in serving locally-grown as opposed to either organic or grass-fed. Respondents did seem, however, to prefer fresh meat over frozen.

Producer Surveys
Four producer surveys were conducted through an online survey tool. These four surveys targeted beef producers, hog producers, sheep and goat producers, and wild game hunters. The surveys were published February 21, 2020 and closed on August 20, 2020. The goal of the surveys were to estimate the amount of product that has the potential to be processed locally, as well as the interest producers and hunters have in sending their meat to either a new or updated meat processing facility in the region.

Beef Survey Results
Over the course of the survey, 69 individuals opened the survey link, with 38 individuals completing 100 percent of the survey. An additional three respondents partially completed the survey with reportable responses. Many of the survey questions allowed for multiple responses, which is why some questions may appear to have more responses than number of total completed responses.

Regarding operation type, respondents were asked to indicate which option best describes their operation. Response choices included cow/calf, back-grounding feeder calves, finishing, feedlot, and other. The majority of producers (39 responses) indicate that they are a cow/calf operation, with finishing cattle coming in at a distant second (nine responses). “Other” responses included “backyard cattle raising”, “breeding seed stock”, “direct to consumer”, “4H”, and “two calves”.
Next, respondents were asked to describe their beef production method. Response choices included conventional, USDA certified organic, natural (no antibiotics, no hormones, etc.), pasture-raised, grass-fed, and other. Responses were fairly even distributed between conventional, natural, pasture-raised, and grass-fed, with conventional, natural, and pasture-raised each receiving 21 responses, and grass-fed receiving 19. “Other” responses included “small scale”, “USDA Triangle Stamp”, “grain-fed”, and “natural could be easily achieved with additional record keeping”.

To determine average size of herd, respondents were asked to indicate the average number of head they raise in cow/calf pairs, feeder calves, finished cattle, and bulls. The following table
illustrates descriptive statistics from this question and the large difference between the mean and median likely indicates that there are a much higher number of smaller operations, but the significantly larger operations cause the mean values to skew larger. The average number of finished cattle is 6.1, with the mode of the dataset being 2.0. Out of the 41 respondents, the sum of all finished cattle is 249.

### Table 7. Average Number of Cattle Raised Each Year

<table>
<thead>
<tr>
<th>Cattle Type</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow/Calf Pairs</td>
<td>156.2</td>
<td>45.0</td>
<td>20.0</td>
<td>0.0</td>
<td>12.5</td>
<td>97.5</td>
<td>1400.0</td>
<td>6402.5</td>
</tr>
<tr>
<td>Feeder Calves</td>
<td>70.2</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>37.5</td>
<td>1200.0</td>
<td>2880.0</td>
</tr>
<tr>
<td>Finished Cattle</td>
<td>6.1</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>8.0</td>
<td>50.0</td>
<td>249.0</td>
</tr>
<tr>
<td>Bulls</td>
<td>6.4</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.5</td>
<td>70.0</td>
<td>261.5</td>
</tr>
</tbody>
</table>

The following question asked respondents to indicate the number of cattle they anticipate finishing from 2020 to 2025. Similar to the previous table, the median and mean show some differences indicating that more operations are smaller. The following chart illustrates the mean, median, and sum of the data for the 41 respondents over the course of the six years. The sum of finished cattle is 293, slightly above that indicated in the previous question. It can also be seen that the number of cattle individuals anticipate finishing increased each year and results in a value of 435 in the final estimated year.

![Number of Cattle Participants Anticipate Finishing Through 2025](image)

**Figure 13. Number of Cattle Participants Anticipate Finishing Through 2025**

The next question sought to determine the percent of the operation’s farm income that came from the sale of beef cattle. This figure seems to reinforce the idea that there are a significant number of small, hobby farmers, in addition to the larger operations that receive a significant portion of their income from the sale of beef.
This idea may be again reinforced by the number of acres the respondents currently have in farmland. While the mean of the data set was nearly 1,200 acres, the median drops to 250 acres.

| Table 8. Number of Acres in Farmland |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Mean            | Median          | Mode            | Min             | 25th Percentile | 75th Percentile | Max             |
| 1196.4          | 250             | 80              | 5.4             | 88              | 1350            | 8500            |

Further, the number of acres that respondents have in pasture is described by the statistics illustrated in the following table.

| Table 9. Number of Acres in Pasture |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Mean            | Median          | Mode            | Min             | 25th Percentile | 75th Percentile | Max             |
| 1023.961        | 150             | 150             | 5.4             | 60              | 750             | 8500            |

Moving back to the slaughter of cattle, the majority of respondents (29 responses) indicated that they raise cattle for slaughter.
However, the mean and median again differ fairly significantly when those that do raise cattle for slaughter were asked how many are slaughtered in a typical year.

Table 10. Number of Cattle Slaughtered in a Typical Year

<table>
<thead>
<tr>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.34375</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>11.5</td>
<td>750</td>
</tr>
</tbody>
</table>

Most respondents also indicated that their cattle weight between 1,200 and 1,399 pounds at slaughter.

Figure 15. Do you raise cattle for slaughter?

Figure 16. Average Live Weight in Pounds per Head at Slaughter
Respondents were then given the opportunity to indicate where they currently have their cattle slaughtered and processed. Respondents were allowed to enter their own answer as opposed to selecting from a pre-determined list. Homestead Meats and Kinikin were the two most popular facilities, with each receiving 12 responses.

**Figure 17.** Where do you currently have your cattle slaughtered and processed?

Respondents are driving an average of 73 one-way miles to take their cattle to slaughter, with a median of 80 miles, indicating that range is a fairly accurate depiction of actual miles traveled.

<table>
<thead>
<tr>
<th>Processing Facility</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT's Meat Block</td>
<td>2</td>
</tr>
<tr>
<td>Diamond D</td>
<td>1</td>
</tr>
<tr>
<td>Good's Processing</td>
<td>1</td>
</tr>
<tr>
<td>Homestead Meats Processing Facility</td>
<td>12</td>
</tr>
<tr>
<td>Hotchkiss Meats</td>
<td>2</td>
</tr>
<tr>
<td>Kinikin</td>
<td>12</td>
</tr>
<tr>
<td>Mountain Meats</td>
<td>1</td>
</tr>
<tr>
<td>Naturita</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 11.** Please indicate the distance in one-way miles that you currently travel to take your cattle to slaughter.

<table>
<thead>
<tr>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.75</td>
<td>80</td>
<td>100</td>
<td>2</td>
<td>51</td>
<td>100</td>
<td>150</td>
</tr>
</tbody>
</table>

Regarding the sale of finished meat, respondents were asked where they currently sell their finished meat. Response choices included processing plant, direct retail, farmers market, on-farm store, wholesaler/distributor, restaurants, institutions, other, and I do not sell finished meat. 23 respondents indicated that they do not sell finished meat, while 13 indicated they sell direct retail, and nine selecting the “other” category. The low selection values for some other categories may indicate a market opportunity for meat sales in different arenas. Responses included in the “other” category included “family”, “online through website”, “friends”, “distributors”, “keep for food”, “1/2 and wholes”, “friends and family”, “CSA program & fresh food hub”, and “family”.

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Next, respondents were asked what characteristics they use to market their product. Response choices included USDA certified organic, grass-fed, specialty breed, local, other, and none of the above. The two most popular choice were grass-fed and local, with 14 and 13 responses respectively. “Other” responses included “humanely raised”, “healthiest meat, unique best flavor, yaks”, and “grain fed”.

Moving to the expansion of a current meat processing facility in the region, respondents were asked whether the expansion of a current meat processing facility would influence their decision to begin finishing their cattle. Response choices included yes, maybe, no, and I already finish my own cattle. While the majority indicated that they already finish their own cattle, 17 percent
indicated this would influence their decision, and another 25 percent selected “maybe”, indicating that the expansion may influence their decision.

**Figure 20.** If you do not currently finish cattle, would the expansion of a current meat processing facility in region influence your decision to begin finishing your own cattle?

Regarding the issue of expansion of a current facility, or the construction of a new facility, respondents were asked whether they felt that a new facility would be necessary if a current facility in the region had their capacity expanded. Responses were fairly mixed to this question, with 12 indicating that yes, a new facility would still be necessary, ten indicating they were unsure, and eight indicating they think a new facility would not need to be constructed if a current facility was expanded.
Do you believe that if current processors in the region and surrounding area were to increase their processing capacity, scheduling options, and storage options, that there would be a need to construct a new processing facility in the region?

![Bar chart showing responses](chart.png)

**Figure 21.** Do you believe that if current processors in the region and surrounding area were to increase their processing capacity, scheduling options, and storage options, that there would be a need to construct a new processing facility in the region?

AT’s Meat Block was asked to be included in the survey of producers to determine respondent interest in the facility becoming USDA certified. As with the last question, responses were mixed, with 13 respondents indicating that the facility would need to be USDA certified to send their cattle there for processing and 11 indicating that the facility would not need to be USDA certified.
Figure 22. Would AT’s Meat Block need to become USDA certified before you would send your cattle there for processing?

To determine which of the current facilities would be most beneficial to producers if it were to be expanded, respondents were given a list and asked to select which would benefit their operation the most if it were to increase its processing and storage capacities. The list of processing facilities included Homestead Meats, Kinkin Processing, Mountain Meat, Blue Mountain Meats, Sunnyside Meats, AT’s Meat Block, none of the above, and unsure. Kinkin Processing received the most responses with 14, with AT’s Meat Block coming in second with ten responses.
To determine whether there may be an effect on cattle production resulting from the expansion of a current processing facility, respondents were asked how many cattle they anticipate finishing from 2020 to 2025 if a current facility was expanded. The following table illustrates the mean, median, and sum number of finished cattle. When this question was asked previously under the assumption that all things remain constant, the sum of finished cattle ranged from 293 in 2020 to 435 in 2025. With the expansion of a current facility, this range increases to 387 in 2020 to 557 in 2025. This illustrates a roughly 30 percent increase in estimated production over the course of the six years if a current facility was expanded.
Moving on to the construction of a new facility, respondents were asked whether they would be interested in sending cattle to a new USDA inspected slaughter/processing facility. 19 respondents indicated they would be interested, with an additional 14 indicating they may be interested.

To help determine the optimal location for a new facility, respondents were asked to select the potential location that would most benefit them. Response choices included west Montrose County, San Miguel County, Ouray County, not sure, and none of these locations would benefit.
me. West Montrose County and San Miguel County were overwhelming more popular than Ouray County with 12 and 15 responses, respectively.

![Bar chart showing responses to the location preference question.]

**Figure 26.** If a new facility were to be established, which location would benefit your operation the most?

When asked whether the construction of a new meat processing facility would influence their decision to begin finishing cattle, the responses followed a similar trend to when this question was asked of expanding a current facility. While 18 percent do indicate that this would influence their decision, this is only a one percent increase compared to when the question was asked previously. This indicates that there does not seem to be a preference between a new or expanded facility when it comes to the decision of whether or not to finish cattle. However, there may be differences when it comes to the number of cattle being finished.
If you do not currently finish cattle, would the construction of a new meat processing facility in one of the above locations influence your decision to begin finishing your own cattle?

![Pie chart showing responses to the question: Yes 18%, Maybe 24%, No 6%, I already finish my own cattle 52%]

**Figure 27.** If you do not currently finish cattle, would the construction of a new meat processing facility in one of the above locations influence your decision to begin finishing your own cattle?

Interestingly, when asked to indicate the total number of head they would finish between 2020 and 2025 if a new facility was constructed in the region, the sums in 2020 and 2025 are slightly lower than when asked the same questions regarding an expansion of a current facility. In the previous question, these sums were 387 and 557, respectively. With the construction of a new facility, these numbers slightly decrease to 336 for 2020 and 539 in 2025. However, this is still a 15 percent and 24 percent increase, respectively compared to the same two years in the original question where it was assumed all things remained the same. A conclusion can be drawn that producers may be willing to increase the number of cattle they finish if there are improved facilities for them to send their cattle to.
Figure 28. Number of Cattle Participants Anticipate Finishing Through 2025 if a New Processing Facility was Established

Producers were then asked what qualities a new facility would need to have for them to choose to bring their beef there. Response choices included better scheduling options, better communication, better prices, more storage, larger processing capacity, delivery, closer to my farm/ranch, none of the above; I would take my beef to the new facility regardless of these factors, none of the above; I would NOT take my beef to the new facility regardless of these factors, and other. The most popular response choices were closer to my farm/ranch, better prices, and better scheduling options, with 21, 19, and 15 responses respectively. “Other” responses included “allow for hanging 21 days of my meat”, “a small facility where my animals are not standing around”, “honesty and responsibility, customer service”, “quality”, better quality than AT's”, “need a feedlot”.
If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your beef there?

Respondents were then asked what type of processing they would like available to them. Response choices included slaughter only, primal cuts, retail cuts, value-added (smoking, aging, etc.), halal, kosher, USDA organic, and other. The most popular response was retail cuts with 25 responses, with primal cuts and value-added each garnering 15 and 14 responses, respectively.

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**Figure 29.** If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your beef there?

**Figure 30.** What type of processing would you like to have available for your cattle?
When asked whether they would be willing to pay a price premium to have their cattle slaughtered/process at a new facility, the majority of respondents indicated they may be willing to pay a price premium, but a large proportion also indicated they would not be willing to pay a price premium.

Figure 31. Would you be willing to pay a price premium to have your cattle slaughtered/processed at a new facility with increased slaughter capacity and storage?

However, respondents indicated they would be willing to travel approximately 90 to 100 one-way miles to have their cattle processed, which is an increase from the 73 to 80 they currently travel.

Table 12. What is the maximum distance (one-way) you are willing to travel to have your cattle processed?

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90</td>
<td>100</td>
<td>100</td>
<td>20</td>
<td>80</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

Time of slaughter is also an important factor when it comes to scheduling. When asked what time of year respondents intend to slaughter their cattle, responses were fairly evenly distributed, with winter being the least popular time of year.
Figure 3.2. When do you anticipate having your cattle slaughtered?

Regarding branding of the product, respondents were asked whether they would be interested in selling their meat to the facility as part of a brand. Brand choices presented to the respondents included “Colorado Branded Beef”, grass-fed beef, and USDA certified organic beef. The most popular branding option was Colorado Branded Beef, with USDA certified organic being the least popular option.
If a processing facility were to develop and market a brand of locally raised meat, such as "Colorado Branded Beef", would you be interested in selling your meat (specific cuts or whole animals) to the facility?

![Pie chart showing responses: Yes 39%, No 6%, Maybe 55%]

*Yes  ▶  No  ▶  Maybe

**Figure 33.** If a processing facility were to develop and market a brand of locally raised meat, such as "Colorado Branded Beef", would you be interested in selling your meat (specific cuts or whole animals) to the facility?
If a processing facility were to develop a grass-fed beef brand, would you be willing to raise your cattle as grass-fed and sell your meat (specific cuts or whole animals) to the facility?

**Figure 34.** If a processing facility were to develop a grass-fed beef brand, would you be willing to raise your cattle as grass-fed and sell your meat (specific cuts or whole animals) to the facility?

If a processing facility were to develop a USDA Certified Organic beef brand, would you be willing to raise your cattle as USDA Certified Organic and sell your meat (specific cuts or whole animals) to the facility?

**Figure 35.** If a processing facility were to develop a USDA Certified Organic beef brand, would you be willing to raise your cattle as USDA Certified Organic and sell your meat (specific cuts or whole animals) to the facility?
**Hog Survey Results**

Over the course of the survey, 13 individuals opened the survey link, with 8 individuals completing 100 percent of the survey. An additional respondent partially completed the survey with reportable responses. Many of the survey questions allowed for multiple responses, which is why some questions may appear to have more responses than number of total completed responses.

Respondents were asked to describe their operation type with response choices being conventional, USDA certified organic, natural (no antibiotics, no hormones, etc.), pasture-raised, and other. Seven respondents indicated their pork is pasture-raised, with an additional five indicating their pork is natural. “Other” responses included “humanely raised”, “supplemented with organic grain”, and “non-GMO”.

![Bar Chart](image)

**Figure 36.** What best describes your pork production method?

Size of operations varied as with the cattle operations. The mean and median number of hogs raised each year varied significantly, indicating that there are a larger number of smaller operations.

<table>
<thead>
<tr>
<th>Production Method</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>2</td>
</tr>
<tr>
<td>USDA Certified Organic</td>
<td>0</td>
</tr>
<tr>
<td>Natural (no antibiotics, no hormones, etc.)</td>
<td>5</td>
</tr>
<tr>
<td>Pasture-raised</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>

**Table 13. Average Number of Hogs Raised Each Year**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hogs</td>
<td>17.2</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>26.5</td>
<td>80</td>
</tr>
</tbody>
</table>

Average live weight as slaughter was more consistent across responses, with a mean of 249 pounds and a median of 250 pounds.
Table 14. Average Live Weight in Pounds per Head at Slaughter

<table>
<thead>
<tr>
<th>Weight</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>249</td>
<td>250</td>
<td>300</td>
<td>20</td>
<td>223</td>
<td>300</td>
<td>380</td>
</tr>
</tbody>
</table>

To give a base for expected production through 2025, respondents were asked to indicate the total number of hogs they anticipate finishing for slaughter each year. Production is expected to increase, with the sum of all responses being 136 head in 2020, and 201 in 2025. The following chart displays the sum, mean, and median of responses.

Figure 37. Number of Hogs Participants Anticipate Finishing Through 2025

Regarding farm income, all but one respondent indicated that zero to 25 percent of their farm income comes from hogs. This indicates that most individuals are making the majority of their income from other farming operations.
The farm size of the hog farmers seems to be considerably smaller than that of the beef farmers. The mean and median are also similar in value, which indicates a more consistent range in the data set.

Table 15. Number of Acres in Farmland

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>77.7</td>
<td>80.0</td>
<td>120.0</td>
<td>0.4</td>
<td>36.5</td>
<td>120.0</td>
<td>160.0</td>
</tr>
</tbody>
</table>

Of total farm acreage, respondents indicate that approximately 60 percent of that acreage is in pasture.

Table 16. Number of Acres in Pasture

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55.8</td>
<td>50.0</td>
<td>50.0</td>
<td>0.3</td>
<td>8.5</td>
<td>82.5</td>
<td>160.0</td>
</tr>
</tbody>
</table>

Regarding where hog farmers currently have their hogs slaughtered and processed, responses were fairly evenly distributed across facilities, with Hotchkiss Meats receiving three responses, and Homestead Meats receiving two.
Figure 39. Where do you currently have your hogs slaughtered and processed?

Miles traveled to have their hogs slaughtered is similar to what was seen with the cattle. The data set had a mean of 80 miles, with the median being 90 miles.

<table>
<thead>
<tr>
<th>Processing Facility</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT's Meat Block</td>
<td>1</td>
</tr>
<tr>
<td>Good's Processing</td>
<td>1</td>
</tr>
<tr>
<td>Homestead Meats</td>
<td>2</td>
</tr>
<tr>
<td>Hotchkiss Meats</td>
<td>3</td>
</tr>
<tr>
<td>Kinikin</td>
<td>1</td>
</tr>
<tr>
<td>Salazar Meats</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 17. Please indicate the distance in one-way miles that you currently travel to take your hogs to slaughter.

<table>
<thead>
<tr>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>90</td>
<td>65</td>
<td>3</td>
<td>65</td>
<td>103</td>
<td>120</td>
</tr>
</tbody>
</table>

Most of the surveyed hog farmers either sell their finished meat through direct retail, or other unique methods of sale. Responses in the “other” category included “friends/family”, “family and friends”, “direct custom customers”, “CSA program and fresh food hub”, “Alamosa food bank”.
Regarding how these farmers market their meat, the most popular response option was local (seven responses), with grass-fed and other both receiving four responses. “Other” responses included “humanely raised”, “organic”, “non-GMO feed”, and “marbleized, non-GMO”.

Regarding the expansion of a current meat processing facility, all but one respondent indicated that they already finish their own hogs, so the expansion of a current meat processing facility would not have an impact on their decision-making regarding finishing hogs for slaughter. The remaining respondent indicated that no, a potential expansion would not influence their decision.
If you do not currently finish hogs, would the expansion of a current meat processing facility in region influence your decision to begin finishing your own hogs?

![Pie chart showing responses]

Figure 42. If you do not currently finish hogs, would the expansion of a current meat processing facility in region influence your decision to begin finishing your own hogs?

When asked whether they believe that a new facility would still be needed if a current slaughter facility was expanded, responses were almost perfectly evenly distributed amongst response categories. Two respondents indicated that yes, a new facility would still be needed, two respondents said no, and three indicated they were unsure.
Do you believe that if current processors in the region and surrounding area were to increase their processing capacity, scheduling options, and storage options, that there would be a need to construct a new processing facility in the region?

When asked whether AT’s Meat Block would need to be USDA certified for respondents to send their hogs there for processing, responses were split, with three respondents indicated that it would need to be certified, and three indicating that it would not need to be certified.

Next, hog producers were asked which of a list of local processors would most benefit their operation if they were to expand its processing capacity. Three respondents selected AT’s Meat Block, and Homestead Meats and Blue Mountain Meats each received one response.
Of the processing facilities described in the previous question, which location(s) would most benefit your farming operation if it were to expand its processing capacity and increase available storage?

Respondents were then asked whether the expansion of one of the previously mentioned processing facilities would influence the number of hogs they anticipate finishing each year. Two respondents indicated it would influence their decision, while five indicated it would not. Of the two that indicated it would influence their decision, one individual indicated they would increase their herd size by 50 percent, while the other respondent indicated they would increase their herd size by 200 percent.

Moving to the construction of a new facility, respondents were asked whether they would be interested in sending their hogs to a new USDA inspected facility. Four respondents said yes, while two each said no and maybe. Similar to with the cattle responses, hog farmers indicated that a new facility in either San Miguel County or west Montrose County would be most beneficial to their operation.

**Figure 45.** Of the processing facilities described in the previous question, which location(s) would most benefit your farming operation if it were to expand its processing capacity and increase available storage?
Figure 46. If a new facility were to be established, which location would benefit your operation the most?

Responses varied from the original question when respondents were asked whether the construction of a new facility would influence the number of hogs they raise for finishing each year. Three indicated it would influence their decision, with an additional two indicating it may influence their decision.

Figure 47. Would the construction of a new processing facility influence the number of hogs you raise each year?

Regarding the anticipated increase in number of hogs raised, values for percent increase in herd size given were 50 percent, 7.5 percent, 200 percent, and 25 percent. This indicates that hog
farmers may be more willing to increase their herd size for a new facility as opposed to an updated current facility.

In order for hog farmers to send their hogs to a new facility, farmers were most interested in the facility having better prices and being closer to their farm. “Other” responses included “custom buchery” and “no nitrates”.

If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your hogs there?

The most popular types of processing that hog farmers would like to be available at a new facility were retail cuts and value added (smoking, aging, etc.), with each receiving five responses.

What type of processing would you like to have available for your hogs?

Figure 48. If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your hogs there?

Figure 49. What type of processing would you like to have available for your hogs?
Responses were evenly distributed when it comes to whether farmers would be willing to pay a price premium to send their hogs to a new facility with increased capacity.

![Figure 50. Would you be willing to pay a price premium to have your hogs slaughtered/processed at a new facility with increased slaughter capacity and storage?](image)

However, the distance farmers are willing to travel to send their hogs to slaughter does not vary much from the distance they currently travel. The dataset had a mean of 89.2 and a median of 92.5, indicating fairly consistent responses.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>89.2</td>
<td>92.5</td>
<td>N/A</td>
<td>50.0</td>
<td>72.5</td>
<td>105.0</td>
<td>120.0</td>
</tr>
</tbody>
</table>

The slaughter time period for hog farmers seems to be more condensed amongst respondents than that of the beef farmers. Four respondents indicated they anticipate slaughtering in the fall, while two indicate they anticipate slaughtering in the summer.
Figure 51. When do you anticipate having your hogs slaughtered?

Finally, respondents were asked whether they would be interested in selling their meat to the facility if the facility developed a “Colorado Branded Pork” brand or a USDA Certified Organic pork brand. Respondents seem to be more interested in the “Colorado Branded Pork” brand.

If a processing facility were to develop and market a brand of locally raised meat, such as "Colorado Branded Pork", would you be interested in selling your meat (specific cuts or whole animals) to the facility?

Figure 52. If a processing facility were to develop and market a brand of locally raised meat, such as "Colorado Branded Pork", would you be interested in selling your meat (specific cuts or whole animals) to the facility?
If a processing facility were to develop a USDA Certified Organic pork brand, would you be willing to raise your hogs as USDA Certified Organic and sell your meat (specific cuts or whole animals) to the facility?

![Pie chart showing survey results](chart.png)

**Figure 53.** If a processing facility were to develop a USDA Certified Organic pork brand, would you be willing to raise your hogs as USDA Certified Organic and sell your meat (specific cuts or whole animals) to the facility?

**Sheep and Goat Survey Results**

Over the course of the survey, 11 individuals opened the survey link, with three individuals completing 100 percent of the survey. Many of the survey questions allowed for multiple responses, which is why some questions may appear to have more responses than number of total completed responses. Due to the low number of responses for this survey, results of all survey questions will be discussed in a more concise manner.

Of the three respondents, two raise only sheep, while one individual raises both sheep and goats. However, these three individuals seem to use many different production methods for their animals, with responses being fairly evenly split between the available response options. “Other” responses included “no hormones” and “natural could be achieved with additional record keeping”.

What best describes your production methods for sheep and/or goats?

Of the four operations (counting the sheep and goat operations separately for the individual who raises both), herds of sheep are five, 20, and 80 head, and the goat herd is five head. Regarding live weight at slaughter, the three sheep responses resulted in live weights of 110, 125, and 150 pounds, with the goats also being 150 pounds.

When asked whether the expansion of a current processing facility would increase the number sheep or goats respondents anticipate finishing, the sum of sheep producers anticipate finishing did increase each of the six estimated years from 65 in 2020 to 140 in 2025, a 115 percent increase. The goat producer indicated that an increase in production would not be carried out until 2024.

Regarding farm income, two respondents indicated that zero to 25 percent of their farm income comes from sheep or goats, while one respondent indicated that sheep and/or goat production makes up 25 to 50 percent of their farm income. The sizes of the farm regarding acreage were varied, with responses including 160, 280, and 8,500 acres. Of the two smaller farms, 50 and 110 acres respectively are in pasture, while the entire 8,500 acre farm is in pasture.

Moving to current slaughter practices, one individual has their meat process at AT’s Meats, and two individuals have their meat processed at Blue Mountain Meats. Mileage traveled to slaughter does not vary significantly from the previous surveys, with responses including 30, 100, and 96 miles. This gives an average one-way distance of 75.3 miles.
When asked where they sell their finished meat, the first respondent indicated they sell at a farmers market and an on-fam store, the second sells direct retail, and the third sell to restaurants as well as the fresh food hub and private parties. To market their product, each producer markets it as local, with one marketing it at USDA Certified Organic, and another marketing it as Colorado Lamb.

Two respondents indicated they were unsure whether increasing the processing capacity of a current processing facility would mitigate the need to construct a new facility, while one individual indicated that a new facility would still need to be constructed even if a current facility increased their capacity. Specifically for AT’s Meat Block, one response each of yes, no, and maybe was received when asked whether it would need to be USDA certified for the producer to be willing to send their meat there.

Of the local processing facilities provided to the respondents, results were mixed regarding which location would benefit them the most if it expanded. Homestead Meats received two responses, Kinikin received three, AT’s Meat Block received two, and Mountain Meats received one. Respondents were allowed to select more than one response for this question. However, when asked whether the expansion of one of these facilities would increase the number of sheep or goats they raise for slaughter, one response each was received for yes, no, and maybe. Of the two respondents that said yes and maybe, they also indicated that they would increase their herd sizes by 20 and 25 percent if one of the current facilities were to be expanded.

When asked whether respondents would be willing to send their sheep or goats to a new USDA inspected facility, one response of yes was received, and two responses of maybe were received. Of potential locations, two respondents indicated that west Montrose County would be most beneficial, while one respondent indicated San Miguel County would be most beneficial. Responses were exactly the same when asked whether the construction of a new facility would influence the number of sheep or goats raised each year, with one response each for yes, no, and maybe. Additionally, the percent anticipated increase in herd size was again 20 and 25 percent.

Regarding the qualities that respondents would like a new facility to have in order for them to bring their sheep or goats there, respondents each seemed to select several categories that were important to them, with being closer to their farm or ranch receiving a tally from each respondent.
If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your sheep and/or goats there?

Regarding the types of processing individuals would like available at a new facility, retail cuts were the most popular feature, with one tally being recorded for several other services.

What type of processing would you like to have available for your sheep and/or goats?

Figure 55. If a new meat processing facility were to be established, what qualities would it need for you to choose to bring your sheep and/or goats there?

Figure 56. What type of processing would you like to have available for your sheep and/or goats?
However, only one respondent indicated that would be willing to pay a price premium to send their livestock to the new facility, while the other two indicated they would not. Distance respondents are willing to travel to have their meat processed did not vary significantly from what they are already traveling, with one response of 30 miles, and two of 100 miles. This is an average of 76.7 one-way miles. For slaughter time, one individual indicated they slaughter in the spring and fall, while two individuals indicated they slaughter throughout the year.

Regarding the potential of the facility developing “Colorado Branded Mutton/Chevon”, one respondent indicated they would be willing to sell their meat to the facility as part of the brand effort, while the other two indicated they may be willing to participate. For a potential USDA organic branded mutton or chevon, one response of each was recorded for yes, no, and maybe.

Wild Game Survey Results
Over the course of the survey, 37 individuals opened the survey link, with 18 individuals completing 100 percent of the survey. An additional three respondents partially completed the survey with reportable responses. Many of the survey questions allowed for multiple responses, which is why some questions may appear to have more responses than number of total completed responses.

The most popular wild game being hunted by survey respondents are deer and elk, with several individuals also hunting wild turkey and grouse.

![Figure 57](image)
Further, the average number of animals hunted/harvest in a given year are presented in the following table. As is expected, elk, deer, and grouse had some of the largest totals.

<table>
<thead>
<tr>
<th>Animal</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Min</th>
<th>Max</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild turkeys</td>
<td>1.5</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>4.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Wild geese</td>
<td>6.5</td>
<td>6.5</td>
<td>N/A</td>
<td>3.0</td>
<td>10.0</td>
<td>13.0</td>
</tr>
<tr>
<td>Wild ducks</td>
<td>9.7</td>
<td>6.0</td>
<td>N/A</td>
<td>3.0</td>
<td>20.0</td>
<td>29.0</td>
</tr>
<tr>
<td>Grouse</td>
<td>6.6</td>
<td>4.0</td>
<td>4.0</td>
<td>2.0</td>
<td>20.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Quail</td>
<td>15.0</td>
<td>15.0</td>
<td>N/A</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Pheasant</td>
<td>15.0</td>
<td>15.0</td>
<td>N/A</td>
<td>10.0</td>
<td>20.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Reindeer</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Elk</td>
<td>3.5</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
<td>30.0</td>
<td>74.5</td>
</tr>
<tr>
<td>Deer</td>
<td>3.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
<td>20.0</td>
<td>45.5</td>
</tr>
<tr>
<td>Antelope</td>
<td>1.3</td>
<td>1.3</td>
<td>N/A</td>
<td>0.5</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Water buffalo</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Bison</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Wild hogs</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other wild land mammals</td>
<td>7.0</td>
<td>7.0</td>
<td>N/A</td>
<td>4.0</td>
<td>10.0</td>
<td>14.0</td>
</tr>
<tr>
<td>Other fowl species</td>
<td>20.0</td>
<td>20.0</td>
<td>N/A</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

*Values of zero not included in data analysis if other numerical values were given by other respondents.

Respondents were asked what percent of the wild game they hunt/harvest is processed locally. The median of the data set was 90, indicating that most individuals are having a majority of their wild game processed locally.

Next, respondents were asked whether the sale of wild game provided them with income. It should be noted that while the sale of wild game is illegal, it is possible that those who sell livestock such as farm-raised elk are also classifying these animals as wild game. As such, two individuals indicated they receive income from the sale of wild game.
Relative to the previous question, respondents were asked how much of their income comes from the sale of wild game. Only three respondents indicated that any of their income comes from the sale of wild game with two respondents selected the zero to 25 percent range and one individual indicating that they receive 75 to 100 percent of their total income from the sale of wild game.

Differing from the previous surveys, only about half of respondents have their wild game processed at a processing facility, indicating that many individuals process their own wild game. Ten respondents indicated they have wild game processed at a facility, while 11 indicated they do not. Of those that provided information regarding where they have their wild game processed, four individuals use AT’s Meat Block, four use Kinikin, and one uses Good’s Processing. The average distance traveled by these individuals to have their game process is also less than that of the livestock producers. The data set had a median of 50 one-way miles traveled.

Moving on to where respondents currently sell their finished meat, 19 of the 20 respondents now indicated that they do not sell finished meat, while one respondent indicated they sell halves and wholes directly to customers. That one individual also indicated that they market their product as a specialty breed.

When asked whether the expansion of a current facility would influence their decision to begin processing their wild game, six respondents indicated that it would influence their decision, while an additional four respondents indicated that it may influence their decision.
If you do not currently have your wild game processed at a facility, would the expansion of a current meat processing facility in the region influence your decision to begin processing your wild game?

However, respondents seem to also indicate that even if a current facility were to be expanded, there would still be a need to construct a new facility in the region.

Do you believe that if current processors in the region and surrounding area were to increase their processing capacity, scheduling options, and storage options that there would be a need to construct a new processing facility in the region?

Regarding AT’s Meat Block specifically, five respondents indicated that the facility would need to become USDA certified before they would send their wild game there for processing.
Would AT’s Meat Block need to become USDA certified before you would send your wild game there for processing?

Dissimilar to the previous surveys, six respondents indicated that if AT’s Meat Block were to be renovated that it would be the location that would benefit their operation the most, while seven indicated they were unsure which location would benefit their operation the most.

Of the processing facilities described in the previous question which location(s) would most benefit your operation if it were to expand its processing capacity and increase available storage?

Ten of the 20 respondents indicated they would be interested in sending their wild game to a new USDA inspected slaughter facility, while an additional seven indicated they may be interested.
Would you be interested in sending wild game to a new USDA inspected slaughter/processing facility located in the region?

Of the potential locations given to respondents, 11 indicated that a new facility in San Miguel County would be most beneficial, with four indicating west Montrose County would be most beneficial. This is on trend with the previous surveys.

If a new facility were to be established which location would benefit your operation the most?

Moving on to the construction of a new facility, seven respondents indicated that the construction of a new facility would influence their decision to begin having their wild game processed.
If you do not currently have your wild game processed, would the construction of a new meat processing facility in the region influence your decision to begin having your wild game processed?

In order for respondents to use the new facility, there were several factors that respondents found to be important. Some of the most popular qualities were better scheduling, better prices, and more storage.

If a new meat processing facility were to be established in the region, what qualities would it need for you to choose to bring your wild game there?

When asked whether they would be willing to pay a price premium to have their wild game processed at a new facility with increased capacity, four respondents indicated that they would
be willing to pay a price premium, while an additional nine indicated they may be willing to pay a price premium.

![Bar chart: Would you be willing to pay a price premium to have your wild game processed at a new facility with increased slaughter capacity and storage?

<table>
<thead>
<tr>
<th>Response Type</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Maybe</td>
<td>9</td>
</tr>
</tbody>
</table>

**Figure 67.** Would you be willing to pay a price premium to have your wild game processed at a new facility with increased slaughter capacity and storage?

Interestingly, when asked about the maximum distance respondents would be willing to travel to have their wild game processed, the data set had the same median value of 50 one-way miles as the question where respondents were asked how many miles they currently travel to have their wild game processed.

**Summary of Producer Survey Results**

The survey with the most respondents and also the most animals being collectively produced by respondents was the beef survey. Production methods were relatively mixed amongst respondents across conventional, natural, pasture-raised, and grass-fed. The average number of cattle being finished for slaughter each year was 6.1 across 41 respondents. However, the sum of the number of cattle respondents anticipate finishing between years 2020 and 2025 was 293 and 435, respectively, indicating that respondents anticipate finishing more cattle in the future. If a current meat processing facility were to be expanded, respondents indicated they would finish 387 cattle in 2020, which would increase to 557 cattle by 2025. If a new processing facility was established, respondents indicated they would finish 336 cattle in 2020, which would increase to 539 in 2025. Responses to these questions indicate that farmers may be willing to finish more cattle if a current facility was expanded or a new one was established. Regarding location preferences for a new facility, respondents preferred a location either in west Montrose county or San Miguel county. Of the services and/or perks that may be offered at a new facility, respondents indicated they would prefer a facility that is closer to their farm or ranch, has better prices, better scheduling options, and more storage.
Financial Analysis and Economic Feasibility

The true costs and revenues of a small meat processing plant vary greatly by the size and scale of operations, inspection status, the amount of capacity utilized by different species (both among amenable species and amenable/non-amenable species), the size and type of retail operations, and the various "进一步 processing" activities performed by the plant. Accuracy of cost/revenue estimates are contingent upon factors such as: having finalized plant drawings, knowing the actual costs and specifications (including utility requirements) of equipment, and the availability of commitments (i.e. letters of intent, contracts with customers) for both slaughter services and product processing services. That being said, the economic model for this study was developed using information from the project organizers, construction companies, equipment suppliers, published reports on Colorado meat processing activities, salary information from the U.S. Bureau of Labor Statistics, and research on small plant operating costs. A template developed by researchers at Oklahoma State University was modified to incorporate this data and generate financial projections. This basic model assumes almost strictly custom butchering, with no retail sales or co-packing.

Basic Operating Assumptions

Table 20 provides details on the basic operating assumptions of the plant model. Opportunities exist to process species other than cattle, these species include hogs, sheep and wild game. While wild game might seem to be limited and sporadic in nature, if managed correctly it could add a needed revenue stream for the project. However, interviews with other small plants suggest the greatest financial opportunities come from cattle because of their hanging weight and per-pound charges, and then hogs due to the further processing opportunities. The assumptions made for this project is that the plant capacity in head of cattle is 1,500 head annually. The plant is expected to run 50 weeks out of the year and will have two weeks down for repairs and maintenance and any severe weather. This would be 30 head per week on a beef basis. Since other livestock and wild game is expected to be slaughtered in this plant an assumption needed to be made as to mix of these animals coming in. It was assumed that beef cattle would be the main livestock processed. At 70 percent of capacity 1,008 cattle could be slaughtered annually in this size plant. Furthermore, hogs, sheep and wild game each taking 10 percent would mean 288 hogs, 331 sheep and 360 wild game animals could be processed annually in addition to the cattle. It is important to remember at this point that this scenario is only possible if the plant has sufficient livestock being brought to the plant at the appropriate time.

---

Table 20. Slaughter Capacity Assumptions of a Small Meat Plant

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant slaughter capacity (hd/wk), beef basis</td>
<td>30</td>
<td>Assumed average weekly slaughter for a plant with a maximum capacity of 30 hd/wk</td>
</tr>
<tr>
<td>Weeks per year of slaughter</td>
<td>50</td>
<td>Assumed two weeks down time for repairs, maintenance, and adverse weather</td>
</tr>
<tr>
<td>Total annual slaughter capacity (hd/yr, beef carcass basis)</td>
<td>1,500</td>
<td>Combined head slaughtered on-site</td>
</tr>
<tr>
<td>Cattle percentage of annual slaughter</td>
<td>70%</td>
<td>Assumed large majority of slaughter will be cattle</td>
</tr>
<tr>
<td><strong>Cattle head slaughtered per year</strong></td>
<td><strong>1,008</strong></td>
<td></td>
</tr>
<tr>
<td>Hogs percentage of annual slaughter</td>
<td>10%</td>
<td>Assumed small percentage of slaughter hogs</td>
</tr>
<tr>
<td><strong>Hogs head slaughtered per year</strong></td>
<td><strong>288</strong></td>
<td></td>
</tr>
<tr>
<td>Sheep percentage of annual slaughter</td>
<td>10%</td>
<td>Assumed small percentage of sheep</td>
</tr>
<tr>
<td><strong>Sheep head slaughtered per year</strong></td>
<td><strong>331</strong></td>
<td></td>
</tr>
<tr>
<td>Wild Game head slaughtered per year</td>
<td>10%</td>
<td>Assumed small percentage of wild game</td>
</tr>
<tr>
<td><strong>Wild Game head slaughtered per year</strong></td>
<td><strong>360</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Capital Costs**

Table 21 on the following page provides an overview of estimated plant, property, and equipment (PP&E) capital expenditures for a 4,000 ft² plant. This cost estimate includes costs for refrigeration systems and cooler doors, along with estimated costs for permits and licenses required to build the plant. The parking lot and truck dock costs are estimates, but can vary greatly on the nature of the parking lot surface and the space available for trucks (e.g. trucks with livestock trailers, rendering trucks, and pick-up/delivery trucks) entering and leaving the premises. Livestock holding area costs are low-cost estimates using primarily pre-fabricated livestock panels to create a system of holding pens and chutes that would meet human handling requirements of square feet per animal. Equipment costs are highly variable due to the high costs of stainless steel, but can be minimized depending on the availability of used and refurbished equipment. There is equipment for cutting and packaging and additional equipment for further processing of the meat. It is assumed that there is no ready to eat products being produced in this plant.

The processing structure with parking and drive is expected to cost close to $600,000 or $150 per finished square foot. Equipment and facilities together would be around $1,074,702. This includes the holding pens, cooler and freezer space, processing equipment for cattle and hogs, water treatment equipment and utilities installation. $30,000 was allotted for a pickup truck and
$50,000 for the land the facility will sit on. $20,000 was included to cover some startup costs, mainly to deal with the funding of loan fees.

The total investment for the Plant, Property, and Equipment is $1,174,702. The interest on the average investment would be $29,368 and for the total investment $58,735. The annual depreciation on the equipment and structure would be $89,671. Straight line depreciation methods were used for the structure, equipment, truck, and startup costs. When looking at interest expense and depreciation as costs that the business must cover, they total $148,406 annually.
### Table 21. Capital Cost Summary

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
<th>Economic Life</th>
<th>Annual Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building and Grounds</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processing Structure and Install Labor</td>
<td>$545,749</td>
<td>$39</td>
<td>$13,994</td>
</tr>
<tr>
<td>Permits and Hookups</td>
<td>$25,000</td>
<td>$39</td>
<td>$641</td>
</tr>
<tr>
<td>Parking and Drive and Exterior Lighting</td>
<td>$25,000</td>
<td>$39</td>
<td>$641</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Receiving and Holding Pens</td>
<td>$47,294</td>
<td>$10</td>
<td>$4,729</td>
</tr>
<tr>
<td>Pre-chill Cooler Space</td>
<td>$20,250</td>
<td>$7</td>
<td>$2,893</td>
</tr>
<tr>
<td>Holding Cooler Space</td>
<td>$34,493</td>
<td>$7</td>
<td>$4,928</td>
</tr>
<tr>
<td>Freezer Space</td>
<td>$93,100</td>
<td>$7</td>
<td>$13,300</td>
</tr>
<tr>
<td>Slaughter Fixtures and Equipment Cattle</td>
<td>$56,372</td>
<td>$7</td>
<td>$8,053</td>
</tr>
<tr>
<td>Slaughter Fixtures and Equipment Hogs</td>
<td>$42,746</td>
<td>$7</td>
<td>$6,107</td>
</tr>
<tr>
<td>Processing Fixtures and Equipment</td>
<td>$54,689</td>
<td>$7</td>
<td>$7,813</td>
</tr>
<tr>
<td>Wastewater Pretreatment Equipment</td>
<td>$52,086</td>
<td>$7</td>
<td>$7,441</td>
</tr>
<tr>
<td>Sanitation Equipment</td>
<td>$25,767</td>
<td>$7</td>
<td>$3,681</td>
</tr>
<tr>
<td>Facility, Process Utilities</td>
<td>$49,656</td>
<td>$7</td>
<td>$7,094</td>
</tr>
<tr>
<td>Office Furniture</td>
<td>$2,500</td>
<td>$7</td>
<td>$357</td>
</tr>
<tr>
<td><strong>Total Equipment/Facilities</strong></td>
<td>$1,074,702</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pickup Truck</td>
<td>$30,000</td>
<td>$5</td>
<td>$6,000</td>
</tr>
<tr>
<td><strong>Land</strong></td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Startup Costs/Loan Fees</strong></td>
<td>$20,000</td>
<td>$10</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>Total Capital Cost</strong></td>
<td>$1,174,702</td>
<td></td>
<td>$89,671</td>
</tr>
<tr>
<td><strong>Total Investment</strong></td>
<td>$1,174,702</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest</th>
<th>Average Investment</th>
<th>Total Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0%</td>
<td>$29,368</td>
<td>$58,735</td>
</tr>
</tbody>
</table>

**Labor**

This project will require both administrative/management or indirect labor and direct labor. A summary of the labor situation for a small livestock processing facility is shown in Table 22 below. There would be a need for six full-time employees with this size of operation at full capacity. These employees operating in the plant will be the Plant Manager/Butcher,
Butcher/supervisor, Fabrication/cutter/packager. There will also be an office manager to keep records and manage for HACCP and do payroll. It is assumed that these employees work 50 weeks a year and 40 hours a week as far as their cost to the organization is concerned. It is important to note that this is for the plant at full capacity. For a plant at less than full capacity the management would need to eliminate one to two of these positions just to be efficient. Table 22 shows that the wages from these six employees will cost the business $248,480 annually.

Table 22. Labor Expenses Associated Meat Processing Plant at Full Capacity

<table>
<thead>
<tr>
<th>Function</th>
<th>Employees</th>
<th>Rate</th>
<th>Average Hours Per Week</th>
<th>Weekly Gross Earnings</th>
<th>Weeks per Year</th>
<th>Annual Gross Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Manager/ Butcher</td>
<td>1</td>
<td>$39</td>
<td>$40</td>
<td>$1,552</td>
<td>$50</td>
<td>$77,600</td>
</tr>
<tr>
<td>Butcher/Supervisor</td>
<td>1</td>
<td>$28</td>
<td>$40</td>
<td>$1,118</td>
<td>$50</td>
<td>$55,880</td>
</tr>
<tr>
<td>Fabrication Cutter/ Packager</td>
<td>3</td>
<td>$15</td>
<td>$40</td>
<td>$1,800</td>
<td>$50</td>
<td>$90,000</td>
</tr>
<tr>
<td>Office Manager</td>
<td>1</td>
<td>$13</td>
<td>$40</td>
<td>$500</td>
<td>$50</td>
<td>$25,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
<td></td>
<td><strong>$4,970</strong></td>
<td><strong>$248,480</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fringe Benefits Calculations:

<table>
<thead>
<tr>
<th>Fringe Benefits Calculation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover Rate</td>
<td>10%</td>
</tr>
<tr>
<td>FUTA Taxable amount/e'ee</td>
<td>$7,000</td>
</tr>
<tr>
<td>FUTA Rate</td>
<td>0.80%</td>
</tr>
<tr>
<td>SUTA Taxable amount/e'ee</td>
<td>$8,500</td>
</tr>
<tr>
<td>SUTA Rate</td>
<td>2.70%</td>
</tr>
<tr>
<td>FICA Rate</td>
<td>7.65%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hourly and Salary Employees</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workman's Comp/e'ee/month</td>
<td>$75.00</td>
</tr>
<tr>
<td></td>
<td>$5,400.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payroll Taxes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FUTA</td>
<td>$370</td>
</tr>
<tr>
<td>SUTA</td>
<td>$1,515</td>
</tr>
<tr>
<td>FICA</td>
<td>$19,009</td>
</tr>
<tr>
<td><strong>Total Fringe Benefits All E'ees</strong>*</td>
<td><strong>$26,293</strong></td>
</tr>
</tbody>
</table>

| Total Labor Costs           | **$274,773**|
| Fringe Percentage of Wages  | 9.6%    |

***Benefits do not include Health Insurance or Retirement

This would increase cost of labor by an additional 25 percent if the ownership wanted to provide those additional benefits.
Fringe Benefits also need to be included in the cost of these employees. Assuming a turnover rate of 10 percent, and workman’s comp being $75 per employee per month the total fringe benefits totals $26,293 for the employees. This total includes payroll taxes FUTA, SUTA and FICA. This brings the total labor costs to $274,773 for employees. Fringe benefits as a percentage of wages are reasonable at 9.6 percent. This percentage does not include any additional benefits like health insurance.

**Operating Expenses**

Operating expenses are those expenses that in addition to labor are required for the production of output. They can change with the level of output but don’t have to. The expenses considered operating aside from labor for this plant are Propane(gas), Electricity, Water, Sewer, Microbial Testing, Inedible Pickup, Solid Waste, Packaging Materials. The estimated monthly cost of these items at full capacity are outlined in Table 23 below.

### Table 23. General Operating Expenses for a Small Meat Plant

<table>
<thead>
<tr>
<th>Operating Expense</th>
<th>$/Month</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane/month</td>
<td>$733</td>
<td>Based on boiler and equipment needs via plant specifications and $1.65/gal L.P.</td>
</tr>
<tr>
<td>Electricity/month (approx.)</td>
<td>$5,983</td>
<td>Based on plant size, refrigeration needs, equipment, and an assumed $0.1225/kWh</td>
</tr>
<tr>
<td>Water/month</td>
<td>$814</td>
<td>Based on water needs for assumed production capacity</td>
</tr>
<tr>
<td>Sewer/month</td>
<td>$0</td>
<td>Existing septic system will accept all sanitary sewage</td>
</tr>
<tr>
<td>Microbial Testing/month</td>
<td>$150</td>
<td>Based on estimates from other small plants</td>
</tr>
<tr>
<td>Inedible Expense (renderer pick-ups)</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Solid Waste Management/month</td>
<td>$1,208</td>
<td></td>
</tr>
<tr>
<td>Packaging Materials</td>
<td>$5,328</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$14,716</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Economic Feasibility**

To determine the economic feasibility one must include all revenue generated from the sale of products and services as well as all of the expenses associated with the production of facility’s products, whether they are fixed or operational costs. Tables 24, 25, and 26 break down the expected revenue from the projected market mix and prices for services. Tables 24 and 25 show what the most likely outcome for this business at two expected levels of capacity and with the 4,000 square foot facility. Table 26 shows the potential of what could happen at full capacity assuming that the livestock supply was available and could be scheduled to take full advantage of the facility’s size.
So for scenario one, the feasibility analysis was first performed at the minimum level of capacity that was determined from the market analysis. This level had the capacity of the facility at 41%. At this level of capacity the total revenue came in at $294,867. The labor expense was at $241,264 and the total operating expenses including labor came to $377,831. Fixed expenses brought the total expense at this level of capacity to $618,388 and resulted in a loss of $323,531.
**Table 24. Economic Feasibility (Low Capacity)**

| Hours per Day | 8 |
| Days per Week | 5 |
| Weeks per Year | 50 |
| **Total Capacity Percentage** | **41%** |

<table>
<thead>
<tr>
<th>% Capacity</th>
<th>Units</th>
<th>Price</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (Custom Processing)</td>
<td>22.90%</td>
<td>330</td>
<td>$667</td>
</tr>
<tr>
<td>Hogs (Custom Processing)</td>
<td>4.70%</td>
<td>135</td>
<td>$176</td>
</tr>
<tr>
<td>Sheep (Custom Processing)</td>
<td>3.03%</td>
<td>100</td>
<td>$150</td>
</tr>
<tr>
<td>Wild Game (Custom Processing)</td>
<td>10.00%</td>
<td>360</td>
<td>$100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>925</strong></td>
<td><strong>294,867</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Revenue** $294,867

**Operating Expenses:**

- Payroll Expense $241,264
- Employee Benefits (Health Ins., Retirement) $0
- Utilities
  - Propane or Natural Gas $8,792
  - Electricity $71,798
  - Water $9,768
- Microbial Testing $1,800
- Inedible Expense (rendering pick-ups) $6,000
- Solid Waste $14,493
- Production Expense (packaging) $23,917
- **Total Operating Expenses** $377,831

**Fixed Expenses:**

- Insurance $20,000
- Professional Fees $15,000
- Office Expenses $5,000
- Telephone and Internet $1,500
- Office Supplies $5,000
- Property Taxes $12,899
- Repairs and Maintenance $29,153
- Fuel and Oil $3,600
- Interest Expense $58,735
- Depreciation Expense $89,671
- **Total Fixed Expenses** $240,557

**Total Cost** $618,388

**Net Income (Loss)** ($323,521)
Scenario two’s outcome had the high side livestock supply estimate of number of cattle, hogs, sheep and wild game the facility could expect was approximately 58%. The number of cattle processed at that level was 540 units. The number of hogs, sheep and wild game was 205, 100 and 360 respectively. The results of this modeling are shown in Table 25 on the following page. While revenue increases to $447,435 from the increase in livestock being process through the facility, some of the related costs increase as well. The operating expenses increase to $389,883 while the fixed expenses stay the same. The resulting net income from this level of capacity is a loss of $183,005.
### Table 25. Economic Feasibility (Middle Capacity)

<table>
<thead>
<tr>
<th></th>
<th>Hours per Day</th>
<th>Days per Week</th>
<th>Weeks per Year</th>
<th>Total Capacity Percentage</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>5</td>
<td>50</td>
<td>58%</td>
<td>2026</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Original Product Mix</th>
<th>% Capacity</th>
<th>Units</th>
<th>Price</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (Custom Processing)</td>
<td>37.50%</td>
<td>540</td>
<td>$667</td>
<td>$360,180</td>
</tr>
<tr>
<td>Hogs (Custom Processing)</td>
<td>7.13%</td>
<td>205</td>
<td>$176</td>
<td>$36,202</td>
</tr>
<tr>
<td>Sheep (Custom Processing)</td>
<td>3.03%</td>
<td>100</td>
<td>$150</td>
<td>$15,053</td>
</tr>
<tr>
<td>Wild Game (Custom Processing)</td>
<td>10.00%</td>
<td>360</td>
<td>$100</td>
<td>$36,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,206 $447,435</td>
</tr>
</tbody>
</table>

| Total Revenue         |            |       |       | $447,435 |

#### Operating Expenses:

- Payroll Expense: $241,264
- Employee Benefits (Health Ins., Retirement): $0
- Utilities:
  - Propane or Natural Gas: $8,792
  - Electricity: $71,798
  - Water: $9,768
- Microbial Testing: $1,800
- Inedible Expense (rendering pick-ups): $6,000
- Solid Waste: $14,493
- Production Expense (packaging): $35,969
- Total Operating Expenses: $389,883

#### Fixed Expenses:

- Insurance: $20,000
- Professional Fees: $15,000
- Office Expenses: $5,000
- Telephone and Internet: $1,500
- Office Supplies: $5,000
- Property Taxes: $12,899
- Repairs and Maintenance: $29,153
- Fuel and Oil: $3,600
- Interest Expense: $58,735
- Depreciation Expense: $89,671
- Total Fixed Expenses: $240,557

| Total Cost            |            |       |       | $630,440 |
| Net Income (Loss)     |            |       |       | ($183,005) |
The last scenario that was evaluated was one for this size of facility running at full capacity. This had 70 percent of the throughput being beef cattle, while the other three livestock were at 10 percent each for a total of 100 percent. The results are shown in Table 26.

The total revenue from this scenario is $808,790 annually. Payroll expense increases to its maximum at $274,773. The remaining operating expenses combine with payroll for a total of $451,359. With fixed expenses being the same as the first two scenarios at $240,557, the net income is $116,874. This is the only scenario that has the potential to be feasible since it is the only one with a positive net income. However, it is important at this point to remember that based on the market analysis, it is highly unlikely for this business at this time to have the commitment of 1,500 cattle equivalents per year.
### Table 26. Economic Feasibility at 100 Percent Capacity

<table>
<thead>
<tr>
<th>Description</th>
<th>% Capacity</th>
<th>Units</th>
<th>Price</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (Custom Processing)</td>
<td>70.00%</td>
<td>1,008</td>
<td>$667</td>
<td>$672,336</td>
</tr>
<tr>
<td>Hogs (Custom Processing)</td>
<td>10.00%</td>
<td>288</td>
<td>$176</td>
<td>$50,774</td>
</tr>
<tr>
<td>Sheep (Custom Processing)</td>
<td>10.00%</td>
<td>331</td>
<td>$150</td>
<td>$49,680</td>
</tr>
<tr>
<td>Wild Game (Custom Processing)</td>
<td>10.00%</td>
<td>360</td>
<td>$100</td>
<td>$36,000</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>1,987</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td><strong>$808,790</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Operating Expenses:**

- **Payroll Expense** $274,773
- **Employee Benefits (Health Ins., Retirement)** $0
- **Utilities**
  - Propane or Natural Gas $8,792
  - Electricity $71,798
  - Water $9,768
- **Microbial Testing** $1,800
- **Inedible Expense (rendering pick-ups)** $6,000
- **Solid Waste** $14,493
- **Production Expense (packaging materials)** $63,936

**Total Operating Expenses** $451,359

**Fixed Expenses:**

- **Insurance** $20,000
- **Professional Fees** $15,000
- **Office Expenses** $5,000
- **Telephone and Internet** $1,500
- **Office Supplies** $5,000
- **Property Taxes** $12,899
- **Repairs and Maintenance** $29,153
- **Fuel and Oil** $3,600
- **Interest Expense** $58,735
- **Depreciation Expense** $89,671

**Total Fixed Expenses** $240,557

**Total Cost** $691,916

**Net Income (Loss)** $116,874
Overall Feasibility
For planning purposes, it was determined that the 100 percent level of capacity should be evaluated for cash flow and overall feasibility. This can be done by adding five-year proforma income statement as well as a cash flow budget as well. To do this some assumptions must be made about the financing arrangement. For this project and for most projects it is very safe to assume that the entire PP and E would have to be financed. Today’s historically low interest rates can translate into an owner or group of owners getting an interest rate as low as five percent for a 15-year period, however, these terms can change significantly over time and between individuals. In addition, working capital would need to be financed if none is available. However, for this scenario it will be assumed that it will be the owner’s contribution.

Five Year Analysis of Profits/Losses at Full Capacity
Table 27 below presents a summary of the resulting projected profit and loss projections over the five-year period following the marketing expansion. The expenses are increased two percent a year to account for general inflation after the first year.
### Table 27. Summary of Five Year Pro forma Income Statements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle Processing</td>
<td>$219,950</td>
<td>$360,180</td>
<td>$672,336</td>
<td>$685,783</td>
<td>$699,498</td>
</tr>
<tr>
<td>Hog Processing</td>
<td>$23,864</td>
<td>$36,202</td>
<td>$50,774</td>
<td>$51,790</td>
<td>$52,826</td>
</tr>
<tr>
<td>Sheep Processing</td>
<td>$15,053</td>
<td>$15,053</td>
<td>$49,680</td>
<td>$50,674</td>
<td>$51,687</td>
</tr>
<tr>
<td>Wild Game Processing</td>
<td>$36,000</td>
<td>$36,000</td>
<td>$36,000</td>
<td>$36,720</td>
<td>$37,454</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>$294,867</td>
<td>$447,435</td>
<td>$808,790</td>
<td>$824,966</td>
<td>$841,466</td>
</tr>
<tr>
<td><strong>Variable Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll Expense</td>
<td>$241,264</td>
<td>$241,264</td>
<td>$274,773</td>
<td>$280,268</td>
<td>$285,874</td>
</tr>
<tr>
<td>Employee Benefits (Health Ins., Retirement)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propane or Natural Gas</td>
<td>$8,792</td>
<td>$8,967</td>
<td>$9,147</td>
<td>$9,330</td>
<td>$9,516</td>
</tr>
<tr>
<td>Electricity</td>
<td>$71,798</td>
<td>$73,234</td>
<td>$74,698</td>
<td>$76,192</td>
<td>$77,716</td>
</tr>
<tr>
<td>Water</td>
<td>$9,768</td>
<td>$9,964</td>
<td>$10,163</td>
<td>$10,366</td>
<td>$10,574</td>
</tr>
<tr>
<td>Microbial Testing</td>
<td>$1,800</td>
<td>$1,836</td>
<td>$1,873</td>
<td>$1,910</td>
<td>$1,948</td>
</tr>
<tr>
<td>Inedible Expense</td>
<td>$6,000</td>
<td>$6,120</td>
<td>$6,242</td>
<td>$6,367</td>
<td>$6,495</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>$14,493</td>
<td>$14,783</td>
<td>$15,079</td>
<td>$15,380</td>
<td>$15,688</td>
</tr>
<tr>
<td>Production Expense (packaging)</td>
<td>$23,917</td>
<td>$35,969</td>
<td>$63,936</td>
<td>$65,215</td>
<td>$66,519</td>
</tr>
<tr>
<td><strong>Total Variable Expenses</strong></td>
<td>$377,831</td>
<td>$392,137</td>
<td>$455,911</td>
<td>$465,029</td>
<td>$474,329</td>
</tr>
<tr>
<td><strong>Fixed Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>$20,000</td>
<td>$20,400</td>
<td>$20,808</td>
<td>$21,224</td>
<td>$21,649</td>
</tr>
<tr>
<td>Professional Fees</td>
<td>$15,000</td>
<td>$15,300</td>
<td>$15,606</td>
<td>$15,918</td>
<td>$16,236</td>
</tr>
<tr>
<td>Office Expenses</td>
<td>$5,000</td>
<td>$5,100</td>
<td>$5,202</td>
<td>$5,306</td>
<td>$5,412</td>
</tr>
<tr>
<td>Telephone and Internet</td>
<td>$1,500</td>
<td>$1,530</td>
<td>$1,561</td>
<td>$1,592</td>
<td>$1,624</td>
</tr>
<tr>
<td>Office Supplies</td>
<td>$5,000</td>
<td>$5,100</td>
<td>$5,202</td>
<td>$5,306</td>
<td>$5,412</td>
</tr>
<tr>
<td>Property Taxes</td>
<td>$12,899</td>
<td>$13,157</td>
<td>$13,420</td>
<td>$13,688</td>
<td>$13,962</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td>$29,153</td>
<td>$29,736</td>
<td>$30,331</td>
<td>$30,937</td>
<td>$31,556</td>
</tr>
<tr>
<td>Fuel and Oil</td>
<td>$3,600</td>
<td>$3,672</td>
<td>$3,745</td>
<td>$3,820</td>
<td>$3,897</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>$57,510</td>
<td>$54,749</td>
<td>$51,846</td>
<td>$48,796</td>
<td>$45,589</td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>$89,671</td>
<td>$89,671</td>
<td>$89,671</td>
<td>$89,671</td>
<td>$89,671</td>
</tr>
<tr>
<td><strong>Total Fixed Expenses</strong></td>
<td>$239,332</td>
<td>$238,414</td>
<td>$237,391</td>
<td>$236,258</td>
<td>$235,007</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>$617,163</td>
<td>$630,550</td>
<td>$693,302</td>
<td>$701,287</td>
<td>$709,337</td>
</tr>
<tr>
<td><strong>Net Income (Loss)</strong></td>
<td>($322,296)</td>
<td>($183,115)</td>
<td>$115,488</td>
<td>$123,679</td>
<td>$132,129</td>
</tr>
</tbody>
</table>
The revenues are increased two percent after the third year. In the first three years of the model the revenue comes from the low, middle and full capacity models. The variable and fixed expenses increase after year one at two percent a year with the exception of the labor.

The results show that there is a loss in each of the first two years for the business of $322,296 and $183,115. In the third year, assuming the plant is able to reach full capacity, there is an estimated profit of $115,488. This profit increases minimally in years four and five to $123,679 and $132,129 respectively.

**Five Year Analysis of Cash Flows**

A cash flow budget is important in determining the project’s ability to make debt reduction payments over the life of the project. The resulting project’s cash generating capacity over the first five years is summarized in Table 28. Given that the business borrows $1,174,702 for a fifteen-year period at five percent interest, the annual debt service would be $111,474. With that assumption and the net income from the previous proforma income statement there is a negative cash flow in the first two years of business. The cash flow ranges from $-175,116 to $267,388 in the fifth year of operation. What this means is that the business would need to borrow money to get through the first two years of operations in addition to the working capital. The debt service coverage ratio is 2.31 to 2.40 in years three through five which are good ratios for a business of this type.

<table>
<thead>
<tr>
<th>Table 28. Summary of Cash Flow Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projected</strong></td>
</tr>
<tr>
<td><strong>12-month</strong></td>
</tr>
<tr>
<td><strong>Ending</strong></td>
</tr>
<tr>
<td><strong>Cash Flow:</strong></td>
</tr>
<tr>
<td>Net Income</td>
</tr>
<tr>
<td>Depreciation</td>
</tr>
<tr>
<td>Interest Expense</td>
</tr>
<tr>
<td><strong>Total Cash Flow</strong></td>
</tr>
<tr>
<td><strong>Total Proposed Debt Service</strong></td>
</tr>
<tr>
<td><strong>Debt Service Coverage Ratio</strong></td>
</tr>
</tbody>
</table>

**Summary of Financial Feasibility**

The business model presented in this section is not financially feasible based on the cattle and hog numbers that were generated from the earlier survey work. Although there is an infinite number of sizes of facilities and ways cut costs on equipment, the setup that was chosen was one that has been used by many consultants as an appropriate size for a small slaughter plant that can be used for USDA inspected meat.

The main concern that Goldenhorn Consulting has with the results of this analysis is the low interest of livestock farmers in the region wanting to use a facility for this purpose. Normally one
would want to have farmers saying they would be willing to bring 2-3,000 cattle to this new facility if it were to open, and then you back off that number by half and still have the 1,500 you need to make this cash-flow. In this case the facility would be depending on cattle, hogs, sheep and wild game that would need to be at a much higher rate to make it work. The other obvious issue when you have a low number of customers is the timing of the work to be done. The ownership would not be successful if these individuals all want their livestock processed in the same two to three-month period.

Grants are available to help with some of the expenses in working capital and planning from the USDA. Grants like this should be applied for if the group of interested ranchers would like to move forward. There could be an opportunity for a grant from a state agency in Colorado, as we have found in other states like Tennessee.
Economic Impact Analysis

Economic Impact

Economic impact analysis in this report includes a model for Colorado. In economic impact analysis, output is the value of all sales transactions in the economy; employment is the number of part-time and full-time jobs in the economy while average wages and benefits are income for these jobs. Value added is equal to sales less the costs of purchased inputs (Shaffer, Deller, and Marcouiller 2004). Value added for the region is equivalent to the term gross state product.

Principles of Economic Impact Analysis

Economic impacts result from a multiplier effect that begins with input expenditures stimulating business to business spending, personal income, employment, and tax revenue. This analysis uses estimated data from plant operation of proposed processing facility.

Economic impacts can be estimated with input-output models that separate the economy into various industrial sectors such as agriculture, construction, manufacturing, trade, and services. The input-output model then calculates how a change in one industry changes output, income, and employment in other industries. These changes, or impacts, are expressed in terms of direct and indirect effects. Impacts are interpreted as the contribution of the enterprise to the total economy. Direct effects represent the initial impact on the economy of either construction or operations of an enterprise. Indirect effects are changes in other industries caused by direct effects of an enterprise and include changes in household spending due to changes in economic activity generated by direct effects. Thus, the total economic impact is the sum of direct and indirect effects. Input-output analysis can interpret the effects of an enterprise in a number of ways including output (sales), labor income (employee compensation and proprietary income), employment (jobs), and tax revenue (MIG 2004).

Output impacts are a measure of economic activity that results from enterprise expenditures in a specific industrial sector. Output is equivalent to sales or revenue, and the multiplier indicates how initial economic activity in one sector leads to sales in other sectors. Labor income impacts for employees and proprietors measure purchasing power that is created due to the output impacts. This impact provides the best measure of how standards of living are affected for residents in the impact area.

An enterprise involves a specified number of employees that is determined by the technology of the enterprise. Employment multipliers indicate the effect on employment resulting from the enterprise initiating economic activity. Indirect employment includes both full-time and part-time jobs without any distinction. Jobs calculated within an industrial sector are not limited to whole numbers and fractional amounts represent additional hours worked without an additional employee. With no measure of hours involved in employment impacts, summations for industrial sectors which include fractional employment represent both jobs and job equivalents. Since employment may result from some employees working additional hours in existing jobs, instead of terming indirect employment impacts as “creating” jobs, a more accurate term is “involving” jobs or job equivalents.
Economic Impacts – Animal Slaughter, Rendering, and Processing
Operation of the facility creates annual economic impacts within the state of Colorado, including employment, labor income, value-added, and output. Value added meat production Colorado has a positive impact on sales, employment, and tax revenues in the state of Colorado. Economic impacts are displayed for the 100 percent capacity scenario as it was the only scenario deemed financially feasible.

For maximum capacity, the associated direct employment number is 12.7 jobs based on $808,790 in sales. These are the direct effects shown in Table 31. The production of meat products generates a direct impact of $808,790 with the indirect and induced effect bringing the total value of this line of products to $3,318,142. The production of products also has an indirect and induced effect of adding an additional 16.5 jobs to the state of Colorado’s economy, bringing the total employment attributable to producing value added meat products to 29.2.

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect Impact</th>
<th>Total Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($)</td>
<td>$808,790</td>
<td>$2,509,352</td>
<td>$3,318,142</td>
</tr>
<tr>
<td>Labor Income ($)</td>
<td>$378,756</td>
<td>$530,566</td>
<td>$909,323</td>
</tr>
<tr>
<td>Employment</td>
<td>12.7</td>
<td>16.5</td>
<td>29.2</td>
</tr>
</tbody>
</table>

Summary of Economic Impact
Operation of a processing facility in the West End of Colorado would create an annual $3,318,142 total output impact in the state under the full capacity assumption, considering the multiplier effects. Total labor income of $909,323 would annually involve 29.2 jobs in the state.
Conclusion
Results of the financial analysis for this study indicate that out of three capacity scenarios, a facility operating at maximum capacity is the only profitable scenario. While feedback from local business was positive, and market research indicates that there is consumer interest in locally-grown foods, there seems to either be a lack of interest amongst farmers and ranchers, or a lack of supply of livestock in the region to support a new facility.

While the facility would be feasible regarding technical, marketing, and management areas, it is unlikely to be financially feasible considering the given level of supply and interest. Moving forward, it is our recommendation that the construction of a new facility would require an increased interest and commitment from local farmers and ranchers in order to meet the supply needs of a profitable facility.
References


IBISWORLD. “Premium Steak Restaurants in the US.” 2017.


Internet site: http://www.fsis.usda.gov/Fact_Sheets/Meat__Poultry_Labeling_Terms/index.asp


