

GENERAL CONTENTS

PART 1 – BUFF - feasibility study pertaining to actual costs for construction and operation of a fixed facility with a mobile component in the central Virginia area.

PART 2 – BLUE - detailed analysis of meat processing capacity currently available in Virginia.

PART 3 – GREY - surveys of livestock producers in the central Virginia.

PART 4 – GREEN - market analysis, both current and projected, for consumer demand of product.

PART 5 – YELLOW - analysis of county zoning regulations and industrial development parks in multiple central Virginia counties.

PART 6 – SALMON - review of current Virginia state and Federal meat inspection regulations relative to the operation of a mobile meat slaughtering unit (MPU).

Situation Overview

In September of 2003, responding to ongoing interest from livestock producers in the central Virginia region, the Central Virginia Cattlemen Association (CVCA) appointed a working group to identify possible solutions that might address the limited availability of federally inspected meat slaughter and processing facilities in the area. The working group decided that the first step in addressing this issue would be development of a multi-faceted study to look into the feasibility of increasing such capacity in the region.

Livestock producers in central Virginia have identified the lack of local meat slaughtering and processing capacity as the major impediment to entering emerging high value markets for high-end and specialty meat products. They have further identified a potential solution to the problem. This would include:

- Construction of a fixed slaughter facility.
- Centralized processing either through new construction or conversion of an existing building.
- Fabricating a mobile abattoir to address “no-stress” on-farm slaughter and transportation of carcasses to the centralized processing facility.

The CVCA applied for, and was awarded, a Value-Added Agricultural Market Development Grant from USDA to help fund a feasibility study that will provide an in depth analysis of the potential for the development of producer-owned, federally inspected meat slaughtering and processing facilities in the central Virginia region as follows:

- 1) feasibility study pertaining to actual costs for construction and operation of a fixed facility with a mobile component in the central Virginia area, buff colored section;
- 2) detailed analysis of meat processing capacity currently available in Virginia, blue colored section;
- 3) surveys of livestock producers in the central Virginia to ascertain 1) investment interest and 2) individual interest in such a facility from the standpoint of numbers of animals, target markets, and species they might process through such a facility, grey colored section;
- 4) market analysis, both current and projected, for consumer demand of product mix that might be processed through such a facility, green colored section;
- 5) an analysis of county zoning regulations and industrial development parks in multiple central Virginia counties relative to the potential to locate, build and operate any such facility in this area, yellow colored section;

- 6) and, review of current Virginia state and Federal meat inspection regulations relative to the operation of a mobile meat slaughtering unit (MPU) in the state, salmon colored section.

All parts of the study are included in the following report. A consultant, Matson Consulting, was hired to conduct part 1 of the study. Much of the information contained in parts 2-6 has been used by the consultant for basic assumptions in the compilation of part 1.

Virginia Farm Bureau Federation (VFBB), Virginia Department of Agriculture & Consumer Services (VDACS), and Virginia Cooperative Extension (VCE) have donated staff time; producers in the central Virginia area have committed both time and funds to this report. CVCA acknowledges the time and commitment offered by all in the creation of this study.

Study Overview

Because interest in this venture was generally positive, the steering committee decided to proceed with developing the proposed business venture, called for the purposes of this study, the Central Virginia Livestock Cooperative.

The producer survey, part 3, was conducted in May 2004. Results were tabulated and analyzed. The survey's purpose was to determine producer interest in the cooperative, willingness to invest capital in and market through the cooperative, and production information. Survey forms were mailed to 2,200 producers; 324 were returned to the Virginia Farm Bureau Federation. Response was generally positive to the idea of forming a producer owned venture and contributing capital and livestock to do so.

This study examines the feasibility of a producer-owned facility that would process several species of livestock for its members. This report's analysis indicates such an operation could possibly be feasible, however, there would be significant risks involved that may cause the venture to experience negative economic returns.

The analysis in this report is based on survey results, market research, and the best estimates of the venture steering committee. However, there will be differences between the projected and actual results, due to unforeseen events and circumstances. This report is intended to guide the board in deciding how to proceed in developing the proposed cooperative. Because tables in this report were generated on a computer, numbers may not always exactly add or compare due to rounding, but differences are insignificant and don't affect financial results.

Executive Summary

Central Virginia Processing is a producer steering committee that has not yet formed a business structure. It represents livestock producers in a 21 county region in Central Virginia to engage in a new business venture and value added activities for its members' livestock. Specifically, Central Virginia Processing intends to have its members' cattle, sheep, goats, and hogs custom slaughtered and processed at a producer owned facility.

The project objective is to design and build a producer-owned slaughter facility for a 25 head a day capacity. A high percentage of the project costs are the fixed costs associated with the building of the facility. The project has more \$1,400,000 in fixed assets. The baseline scenario has the facility generating a 6% profit margin on slightly more than \$1.25 million of sales in the first year alone.

This preliminary feasibility study has evaluated this concept and determined that it can be both technically and economically viable. Though potentially feasible, the assumptions used to evaluate the project are subject to change. Furthermore, this project is subject to significant risks and uncertainties. The two keys to the project success are producer commitment of animals and the ability to attract custom slaughter. The most significant limitation to the successful establishment of this enterprise will be the availability of committed animals. Sensitivity analyses are provided that show returns from this project are highly sensitive to initial slaughter costs, and the weight of animals slaughtered.

The average cost for each cow is estimated to be \$30 for slaughter and \$228 for processing. This is approximately \$0.018 per pound above the estimated break even sales cost. At full project volume, net project income declines by slightly less than \$97,000 with a change of 10% (\$0.029/ lb.) in the price charged for processing.

The project appears to be profitable at the level of 25 cattle units slaughtered per day. A decline in the average animal slaughter rate of just over 2.5 animals a day or 10% will cause the project to operate at a loss. The primary contingent qualification is if the venture can maintain this level of production consistently throughout the year.

The plant capacity is within the number of animals that producers have indicated that they are willing to commit. Producers will have to pay \$146 for cattle shares and proportionally less for the other species to raise the \$719,000 of equity required.

The estimates in this report are based on survey results, market research, and the best estimates of the committee and industry sources. However, there will be differences between the projected and actual results, due to unforeseen events and circumstances.

This report is intended to guide the Central Virginia Processing steering committee in deciding how to proceed in developing its business venture.

Values may not always exactly add or compare due to rounding, but differences are insignificant and don't affect financial results.

Prepared by Matson Consulting

Preliminary Feasibility Study for a Producer Owned Central Virginia Slaughter and Processing Facility

For

Central Virginia Cattleman's Association

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The logo for Matson Consulting, featuring the company name in a bold, black, sans-serif font centered within a white rectangular box with a thin black border.

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TASK LIST

To complete this feasibility study, the following tasks were undertaken:

- A literature and data base search was completed, the results reviewed and conclusions drawn. The results of this literature search are provided in several appendices and in the conclusion in the text.
- Prices paid for similar facilities were researched.
- The Virginia Farm Bureau Federation provided the data analysis and results of the producer survey conducted May 2004.
- Virginia Department of Agriculture and Consumer Services (VDACS) were asked for assistance providing insight into potential locations for the facility and arranging meetings with officials at the county level.
- Telephone research of industry knowledgeable people within the region was undertaken. Details of the information collected and the conclusions drawn are included.
- Barry Jones of the Office of Meat and Poultry Services (OMPS) within the VDACS provided prototypical designs for buildings and plant layout for an abattoir and processing facility of this scale. Details of a prototypical layout and a meat processing flow chart are included in this study
- Based on the information gathered from all sources, assumptions of throughput and pricing were made and financial models prepared. Details of assumptions and the financial models are attached.
- Chris Cook of the Virginia Farm Bureau Federation provided assistance with the editing and compiling of an early draft of this study.

Feasibility Study for a Central Virginia Processing Facility

Introduction

Members of the Central Virginia Processing Committee have worked for the past two years investigating the market potential for a small-scale producer-owned-and-operated livestock slaughter and marketing facility. The group has been awarded a USDA Rural Development Value Added Grant to perform a feasibility study.

While the primary need is increased slaughtering/processing capacity for beef cattle, there is also strong interest from producers who raise sheep, meat goats, and swine. This project will look at the feasibility of a multi-species operation.

In February 2004, members of the steering committee contacted Matson Consulting and requested assistance in evaluating the feasibility of this endeavor. Matson Consulting agreed to complete a feasibility study. The Virginia Farm Bureau Federation is assisting this endeavor by providing technical insight into the producer survey and a potential mobile slaughter/processing unit (MPU). VDACS is also providing technical and logistical assistance.

GENERAL SETTING AND NEED FOR THE PROJECT

Project Definition and Objectives

The goal of this project is to assess the feasibility of building a producer-owned, federally inspected abattoir and meat processing facility in Central Virginia. Part of this study will evaluate the commercial viability of a Mobile Processing Unit (MPU), which would transport dressed carcasses to a fixed facility for further processing.

This feasibility study will evaluate if this concept and the objectives proposed to obtain the concept are both technically and economically viable.

Evaluation Criteria

The success of this project will be judged on two criteria, 1) achieving market access for livestock of the members of Central Virginia Processing, and 2) the venture will need to become economically self-sufficient and provide an economic return for the producer members of CVP. The investing members and management anticipate that the venture will have operating losses during start-up.

Project Rationale

Structural and institutional changes in the livestock industry threaten to limit opportunities for independent livestock producers to take advantage of growing demand for animal protein products. The entire meat industry has experienced tremendous pressures and changes associated with vertical integration and horizontal concentration.

Small to mid-sized family farmers must manage increasing price volatility and downward price pressure, invest in new production and information technologies, and find ways to participate in the value created beyond the farm gate to remain economically viable. Central Virginia Processing is attempting to manage this risk by creating supply chain access for its members' livestock production by owning a smaller packer/processor and then directly selling their meat production to selected retail, and other outlets.

There has been significant interest in a small-scale livestock slaughter and processing facility in Central Virginia for several years. On April 24, 2003 a group of 17 interested persons gathered to discuss the practicality of increasing slaughter capacity in the region.

In September of 2003, responding to ongoing interest from livestock producers in the Central Virginia region, the Central Virginia Cattlemen's Association (CVCA) appointed a working group to pursue a feasibility study that would identify possible solutions to address the limited availability of federally inspected meat slaughter and processing facilities in the area.

The working group contains both meat animal producers as well as agricultural industry professionals with an understanding of the livestock industry as well as value-added concepts and opportunities. Representatives of the Virginia Department of Agriculture & Consumer Services, Virginia Cooperative Extension, and the Virginia Farm Bureau Federation all serve as members of the working group. This group is made up of the following persons:

- Charles Rosson – Beef cattle producer
- Susan Swales – Beef cattle, sheep and meat goat producer
- Steve Hopkins – Virginia Cooperative Extension
- Robins Buck – Virginia Department of Agriculture & Consumer Services
- Spencer Neale - Virginia Farm Bureau Federation
- Chris Cook - Virginia Farm Bureau Federation
- Tony Banks - Virginia Farm Bureau Federation

The working group identified three specific components of the feasibility study required to address the needs of the diverse livestock production sector of Central Virginia: (i) a fixed slaughter facility; (ii) a centralized processing facility for aging, cutting and wrapping product; and, (iii) a MPU.

- ***Fixed Slaughter Facility*** –Producers feel that the most pressing need faced by Central Virginia livestock producers is a lack of easily accessible, slaughtering facilities that offer federal inspection. A cornerstone of any attempt to resolve a lack of capacity in the region would be the design and construction of an abattoir which would allow for federal inspection.
- ***Mobile Abattoir*** – This approach the committee believes would incorporate a mobile processing unit into the equation. Initial feelings were that this would meet the needs of 1) certain production systems where stress-free, on-farm slaughter of animals is seen as a benefit in the market-place from a standpoint of meat quality (i.e. grass-fed); and 2) small production units who may benefit financially from access to a mobile unit that would actually come to their farms. This unit would need to be federally-inspected. Carcasses would be transported to a centralized location for further processing.

- ***Centralized Processing*** – The third component that needs to be studied is a centralized fixed facility to age and store carcasses in a climate controlled cooling facility. Meats would be cut and wrapped based on client specifications. Most likely, this would be part of the fixed slaughter facility. However, there may be potential benefits for locating them separately, possibly from a standpoint of zoning requirements, logistical advantages, or conversion of existing buildings.

The working group decided that the first step in addressing this issue would be development of a multi-faceted study to look into the feasibility of increasing such capacity in the region. Members of the work group believe that a lack of federally inspected processing capacity in Central Virginia prevents meat producers from entering into higher value markets such as restaurants and retail marketing.

Ultimately, the goal of this project is to develop a producer-controlled facility whose output and product mix will be varied in nature with multiple and varied target markets. This differs from the more traditional concept of single or limited product mixes processed by such operations. The results of this feasibility study will be used to move the project towards this goal.

The Mid-Atlantic and Virginia Consumer Marketplace

The Central Virginia producer is well situated to serve the Mid-Atlantic region. Virginia itself is experiencing strong population growth. The Commonwealth of Virginia possesses an extensive interstate highway system, major deepwater ports, and numerous commercial airports. This provides value-added opportunity for agricultural producers looking to develop high value products and niche market them directly to consumers who are upwardly mobile in terms of income, both culturally and ethnically diverse, and well-educated.

According to the U.S. Census Bureau, Virginia's population grew by 109,219 between April 1, 2000 and July 1, 2002. This placed Virginia eighth in population growth among

all fifty states. Between 1992 and 2002, Virginia’s population grew by 14.3% to 7,293,552 people.

The Mid-Atlantic¹ region is comprised of some of the nation’s most populated areas. The chart below shows the potential consumer base within easy access of Central Virginia.

Major Metropolitan Statistical Area’s Within Close Proximity to Virginia²

Metropolitan Statistical Area	Population	National Rank
Atlanta - GA	3,627,184	11
Charlotte, Gastonia, Rock Hill - NC/SC	1,350,243	32
Greensboro, Winston Salem - High Point, NC	1,152,779	37
New York, No. NJ, Long Island - NY/NJ/CT/PA	19,876,488	1
Norfolk, VA Beach, Newport News - VA/NC	1,544,945	27
Philadelphia, Wilmington, Atlantic City - PA/NJ/DE/MD	5,971,860	6
Pittsburgh - PA	2,361,019	19
Raleigh, Durham, Chapel Hill - NC	1,050,054	43
Richmond, Petersburg – Va	943,264	50
Washington, Baltimore – DC/MD/VA/WV	7,206,517	4

Opportunities for Central VA Producers from Increased Meat Processing Capacity

There are many opportunities for agricultural producers to market directly to consumers. Markets exist not only for superior, traditionally raised meat items but also for organic, “natural”, range, and grass-fed products. Also, there is an ever-increasing demand for specialty meat products from ethnic populations.

Virginia and Washington DC are experiencing significant shifts in ethnic makeup. This has created a multitude of new markets for specialty type food products (many of which are meat) as immigrants and newcomers look for items that they were familiar with in their native countries. According to 2000 census data, about one million Hispanics live in the Federal Reserve Bank’s Fifth District³. At the same time the District’s Asian population grew 68 percent to 646,000 people. Together, these two population groups

¹ The Mid-Atlantic region, is comprised of the District of Columbia and the states of Delaware, Maryland, New Jersey, Pennsylvania, and Virginia.

² U.S. Bureau of the Census, State and Metropolitan Area Data Book 1997-98, table B-1.

³ District of Columbia, Maryland, Virginia, West Virginia, North Carolina, and South Carolina

account for 6.5% of the Fifth's District's inhabitants. The economic and social impacts of these and other immigrants to the US are significant and will continue to grow

The Virginia Department of Agriculture and Consumer Services (VDACS) sponsors the "Virginia Grown" and "Virginia Finest" programs which offer further marketing opportunities for producers to gain market recognition and acceptance by "branding" agricultural products processed in the Commonwealth. These programs offer marketing tools and assistance, not only for products destined for state market outlets, but also for Virginia products sold nationally and internationally. VDACS actively promotes Virginia branded products at numerous trade shows and with advertising campaigns throughout the year.

Finally, when looking at opportunities for agricultural producers hoping to access new consumer markets for their products, infrastructure obviously plays an important role. There are over 70,000 miles of interstate, primary and secondary roads in the Commonwealth, including six major interstate routes: I-95, I-85, I-81, I-77, I-66, and I-64. Virginia also possesses some of the nation's leading export facilities, a well-developed rail system, and is served by fourteen commercial airports.

There are a number of producers from Central Virginia who have been able to access some of these niche or value added markets, though their numbers are very small. There are also others who have contacted market outlets that serve these niche markets that showed strong interest for including locally produced meat in their product mix. These producers believe that a major factor that prevents livestock producers from increasing market share or entering into new markets is the current lack of a consistent and readily available means to slaughter and process their livestock.

BUSINESS ORGANIZATIONAL STRUCTURE of Central Virginia Processing

Member Participation

The Central Virginia Cattlemen's Association, has 200 members, all of whom raise beef-cattle in Central Virginia. This group's commitment recognizes the potential for this project to offer their members value-added opportunities that are now, at best, limited.

On a much larger scale, any such producer owned facilities would allow livestock owners throughout the region to enter into new markets through their participation as investors and users of the facilities, or as customers. According to the 1997 US Census of Agriculture, at least 67% of the 7,907 farms in Central Virginia raised cattle, hogs, sheep, or meat goats at the time. See Appendix C for details on these on a county basis.

Non-Member Participation

It is anticipated that approximately 20% of the business of CVP will come from producers that utilize the facility but are not members of Central Virginia Processing. The survey conducted by the Virginia Farm Bureau Federation showed strong interest from producers who do not wish to invest a facility. If the processing facility utilizes a 25% rate of non-member slaughter and processing, it will need to attract the equivalent of slightly more than 5% of those animals that are being processed in other facilities in Virginia.

MARKETING VENTURE ORGANIZATIONAL STRUCTURE

For this venture, the producer/shareholders of Central Virginia Processing will contribute equity capital. It is anticipated that approximately 50% of the funds for the venture will come from producer members. These member/producers would have first rights for submitting animals to the venture. These rights would come with the membership shares. The members would sign marketing agreements to deliver animals to the facility. The agent/principal

relationship is very important to the success of this business. Once the producer invests, they must be required to deliver, unless they can find others who will deliver the livestock that they have committed. Producers may also be less likely to invest in facilities that they cannot physically see/visit and check on their investments.

If not properly organized these ventures would face higher operating costs. Also, managerial employment contracts should be structured so that their interests coincide with those of the majority of the producers whenever possible.

Supply Arrangements

Initially, agreements between Central Virginia Processing and each individual producer will allocate the available slaughter and processing capacity. Through this agreement, the producer agrees to provide livestock for slaughter, while Central Virginia Processing will provide facilities, labor, and management for slaughtering and processing. The producer, however, will retain title to the meat from each slaughtered animals, similar to a custom slaughter operation. The venture will slaughter animals for a fixed-slaughter fee of \$30 a head for cattle and \$17 sheep and goat and \$20 for swine. The meat will be processed and packaged before being returned. The meat from individual animals will be segregated and returned to the identified producer for their own use or sale by the individual producer. Central Virginia Processing will arrange for the marketing and disposal of pooled by-products (offal) with net proceeds to be applied to operating costs. All fees and costs of processing and storage will be included in the slaughter price.

Though the producer retains *de jura* title to the animals, the facility will have *de facto* title with the possession of the members meat. The animals will constitute a further lien by the facility on the member until payment for the slaughter and processing is received. Central Virginia Processing will also retain a fund for the possibility of future bad debts. Contributions to this fund will be included in the slaughter price; therefore, these potential debts will be spread across all animals and not assumed by any single producer.

The committee investigating Central Virginia Processing recognizes that a long-term agreement is needed to facilitate equity distributions, long-term membership arrangements and penalties for non-compliance, amongst other necessary transactions between the facility and its members. Additional business structures may be formed with similar regional packers to facilitate business opportunities that require larger scale. The lack of any permanent agreement at this time may expose Central Virginia Processing to the risks of project failure from an organizational standpoint.

Additional pooling across time and products may also be desirable or required for the project to be viable. Seasonal variability in capacity utilization, which may result in higher operating costs during various periods, may require cost sharing over time. Seasonal variability in demand for various cuts and utilization of lower value cuts may require some form of pooling for members to profitably dispose of the whole animal. Agreements to facilitate these contingencies should be in place before operations begin. The ability of Central Virginia Processing to obtain a line of credit or other loans may be hampered by the lack of these types of agreements.

LLC Toll Processing Structure

Other value added producer groups have successfully utilized a different approach than that foreseen by Central Virginia Processing that entails partnering with other firms. This was the approach taken by North American Premium Beef Cooperative in its partnership with Farmland Foods, LLC. This type of partnership can greatly reduce the capital cost to construction or can provide much needed marketing expertise or access. However, these joint venture arrangements need to be coordinated to assure that all participants in the venture share in the risks and the organizational structure is transparent.

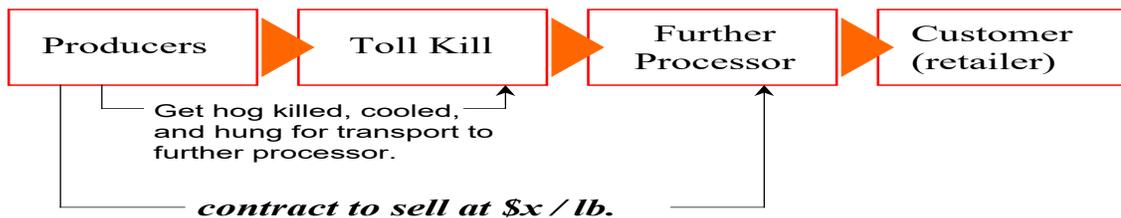
Another benefit of this type of business structure offers is that equity financing for the venture is minimal. There would be a small amount of capital required from members to allow the cooperative to employ persons with the required management, sales, and project design skills. Since no structures would be built, no large scale financing would

be required up-front, but these funds could be built up over time for other uses such as future acquisitions of other businesses or for a more aggressive marketing campaign.

With toll packing arrangements with regional packers/ processors, Central Virginia Processing could avoid these risks and the capital cost of construction. This partnering could allow the cooperative to leverage the investment in production facilities with the market ties of these regional packers/processors. If such an arrangement were found, then it would typically serve packers and processors by assuring them of a fixed supply of animals and the ability to run at a more economically efficient level. If a toll packing approach is utilized by CVP, then the ventures will need to be designed with a clear focus of what the CVP obtain from the partnership, what it will have to provide, and what is the exit strategy for CVP.

Toll Slaughter Arrangement

- provides market access, potential link to further processor, and the possibility to get closer to the ultimate consumer



Though toll-packing arrangements have been highly successful in other areas of the country, the lack of packing and processing infrastructure in Central Virginia may limit the possibilities for CVP to form this type of arrangement.

U.S. MEAT INDUSTRY AND LIVESTOCK SLAUGHTER

Total 2003 cash receipts from marketing red meat animals increased 17 percent to \$56.2 billion. Cattle and calves accounted for 80 percent of this total, hogs and pigs 19 percent,

and sheep and lambs 1 percent. Production increased for hogs and pigs, but declined for both cattle and calves and sheep and lambs. Average prices were up for all three species.

Red meat production for the United States totaled 46.7 billion pounds in 2003, 1.3 percent below last year's record high. Red meat includes beef, veal, pork, and lamb and mutton. Red meat production in commercial plants totaled 46.6 billion pounds. On farm production totaled 136 million pounds.

Table 1: 2003 US Red Meat Production by Class

	Beef	Veal	Pork	Mutton	Red Meat
	1,000,000 lbs.				
2003 US Red Meat production by Animal	26,340	201.3	19,967	203.7	46,712

NASS

Beef production, at 26.3 billion pounds, was 3 percent below the previous record high set in 2002. This trend is continuing and beef production in 2004 is expected to decline nearly 7 percent from 2003. Veal production totaled 201.3 million pounds, down 2 percent from 2002, and set a new record low. Pork production, at 20.0 billion pounds, was 1 percent above 2002, setting a new record high. Lamb and mutton production totaled 203.7 million pounds, falling 8 percent below the previous record low set in 2002⁴.

Commercial cattle slaughter during 2003 totaled 35.5 million head. This figure is a decline of 1 percent from 2002. Federal inspection comprised 98.3 percent of the total.

Commercial calf slaughter totaled 1.0 million head, down 4 percent from a year ago with 97.5 percent under federal inspection. The average live weight was 318 pounds, up 6 pounds from a year earlier.

Commercial hog slaughter totaled 100.9 million head, up 1 percent from 2002 with 98.8 percent of the hogs slaughtered under federal inspection. The average live weight was up

⁴ US sheep production has been declining since the 1940's.

1 pound from last year, at 266 pounds. Barrows and gilts comprised 96.5 percent of the total federally inspected slaughter.

Commercial sheep and lamb slaughter, at 2.98 million head, was down 9 percent from 2002 with 94.2 percent comprised by federal inspection. The average live weight was up 1 pound from 2002 to 134 pounds.

There were just over 850 slaughtering plants under federal inspection on January 1, 2004 compared with 879 in 2003. Of these, 689 plants slaughtered at least one head of cattle during the year with 15 slaughtering over 56 percent of the total cattle killed. Hogs were slaughtered at 662 plants, with 13 accounting for 58 percent of the total. Likewise, 8 of the 290 plants that slaughtered calves accounted for 57 percent of the total and 4 of the 505 plants that slaughtered sheep or lambs in 2003 comprised 69 percent of the total.

Iowa, Kansas, Nebraska, and Texas accounted for over 52 percent of the United States commercial red meat production in 2003, similar to 2002. In the same period, Virginia had 1.6 percent of the commercial red meat production.

Beef Industry

Commercial cattle slaughter during 2003 totaled 35.5 million head, down 1 percent from 2002, with federal inspection comprising 98.3 percent of the total. The average live weight was 1,231 pounds, down 20 pounds from a year ago. Steers comprised 49.2 percent of the total federally inspected slaughter, heifers 31.7 percent, dairy cows 8 percent, and cows 9.1 percent, and bulls 1.8 percent.⁵

There are 689 federally inspected beef slaughter facilities in the U.S in 2003. The 29 largest beef packers in the U.S., on average slaughtered 102,600 head per day and have the capacity to kill 131,955 head per day. The top three meat packers in the U.S. have the capacity to kill 84,700 head per day. The fourth is the largest U.S. meat cooperative. The fifth largest has a growing presence in the beef market and is based in Virginia⁶.

⁵ <http://usda.mannlib.cornell.edu/reports/nassr/livestock/pls-bban/>

⁶ Cattle Buyers Weekly, Yearly Summary

Table 2: Number of Federally Inspected Cattle Plants and Head Slaughtered, by Size Group in the U.S. in 2003

Size Group	Number of Plants	1,000 Head
1 - 999	508	163.7
1,000 - 9,999	89	299
10,000 - 49,999	26	624.4
50,000 - 99,999	11	790.1
100,000 - 199,999	12	1,792.70
200,000 - 299,999	8	2,016.60
300,000 - 499,999	11	4,409.60
500,000 - 999,999	9	5,344.20
1,000,000 - 1,499,999	13	16,492.20
1,500,000 +	2	3,338.70
Total	689	35,271.30

More than three percent of all cattle slaughtered in the U.S. met the USDA grading specifications for prime, 52.4 percent were choice, 30.0 percent select and less than .5 percent was standard and lower grade. Twenty three percent of the cattle slaughtered in the U.S. were not graded⁷.

Table 3: Top US Beef Processors

1. Tyson Foods	Springdale, AR
2. Excel Corporation	Wichita, KS
3. Swift and Company	Greeley, CO
4. Farmland National Beef	Kansas City, MO
5. Smithfield Foods	Smithfield, VA

Pork Industry

U.S. inventory of all hogs and pigs on June 1, 2004 was 60.1 million head. This was 1 percent above both June 1, 2003 and March 1, 2004. Breeding inventory, at 5.91 million head, was down 2 percent from June 1, 2003. Market hog inventory, at 54.2 million head, was 1 percent above 2003⁸. Just over 100 million hogs were slaughtered during

⁷ Meat and Poultry 2002 Facts

⁸ <http://usda.mannlib.cornell.edu/reports/nassr/livestock/php-bb/2004/hgpg0604.txt>

2003 as shown in table 5. The four largest pork processing firms represent almost 60 percent of the total U.S. slaughter. The top four firms and estimated capacities are:

Table 4: Top US Pork Firms

Firm	Estimated Daily Slaughter Capacity
1. Smithfield Foods	79,600
2. Tyson Foods	67,600
3. Con Agra (Swift)	39,500
4. Excel Corp	29,500

(Sterling Marketing, Inc, Meat and Poultry Facts)

In 2003, there were 692 federal hog slaughter facilities in the U.S. More than 62 percent of the federally inspected plants slaughter less than 1,000 hogs per year. Twenty-three plants, or 3.5% of the total, kill more than 2,000,000 hogs per year. These largest plants account for more than 80% of the total annual commercial slaughter.⁹

Table 5: Number of Federally Inspected Hog Plants and Head Slaughtered, by Size Group, U.S. in 2003

Size Group	Number of Plants 1,000 Head	
1 - 999	411	138.7
1,000 - 9,999	127	332.8
10,000 - 99,999	72	2,773.00
100,000 - 249,999	12	1,931.50
250,000 - 499,999	7	2,154.00
500,000 - 999,999	5	3,574.00
1,000,000 - 1,999,999	5	8,678.80
2,000,000 - 2,999,999	10	22,719.90
3,000,000 - 3,999,999	4	14,308.00
4,000,000 +	9	44,481.30
Total 2/	662	101,092.10

Sheep Industry

As of 2002, the U.S. had 6.013 million sheep and lambs¹⁰. The top five sheep and lamb producing states are Texas, California, Wyoming, South Dakota and Colorado.

⁹ <http://usda.mannlib.cornell.edu/reports/nassr/livestock/pls-bban/lsan0304.txt>

¹⁰ NASS, 2002 Census of Agriculture

In 2003 there were 2.98 million sheep slaughtered commercially. 94 percent were killed in federally inspected U.S. sheep slaughter facilities. However, there is heavy concentration in the sheep kill facilities and more than 84 percent of the sheep were killed in plants that slaughter more than 100,000 head per year¹¹.

Table 6: Number of Federally Inspected Plants Slaughtering Sheep and Lambs and Head Slaughtered, by Size Group, U.S. in 2003

Size Group	Number of Plants	1,000 Head
1 – 999	430	47.2
1,000 - 9,999	57	183.9
10,000 - 24,999	8	133.7
25,000 - 99,999	4	193.9
100,000 - 249,999	2	318
250,000+	4	1,960.00
Total	505	2,836.80

There are several lamb slaughter facilities in the U.S. The larger ones are Iowa Lamb Corp. in Hawarden, Iowa, and Rancher’s Lamb in San Angelo, TX. Iowa Lamb Corporation is owned in part by the lamb producers that supply it¹². The plant slaughters 45,000 head per year and is one of the largest lamb processing plants in the U.S.

Goats

The majority of U.S. meat goats are raised in Texas and other southwestern states and then transported live to slaughterhouses near where they are to be consumed.¹³ In 2003 it is estimated that 647,000 goats were slaughtered in 352 federally inspected facilities. Roughly 30% of all federally inspected goat slaughter takes place in New Jersey. Pennsylvania and New York are the next most important markets¹⁴. The 2002 Agricultural Census estimates that meat goats were produced on 74,000 farms in 2002. The total US inventory is almost 2 million goats.

¹¹ AgMRC Web site

¹² As is Rancher’s Lamb

¹³ Iowa agopportunity.org web site

¹⁴ <http://usda.mannlib.cornell.edu/reports/nassr/livestock/pls-bban/lsan0304.txt>

Meat Industry

The meat industry in the U.S. has most of its capacity in the hands of a few concentrated firms. These large firms have multiple plants in many locations. Table 7 puts forward the largest ten U.S meat companies.

Table 7: Top 10 Meat Companies (Ranked by 2004 Sales)

Rank	Company and Location	2004 Sales (MIL\$)	2003 Sales (MIL\$)	Number of Plants
1	Tyson Foods, Inc – Springdale, AR	\$24,500	23,400	113
2	Excel Corp/Cargill Inc - Wichita, KS	\$12,600	12,500	18
3	ConAgra Foods, Inc – Omaha, NE	\$9,800	13,894	40
4	Smithfield Foods, Inc - Smithfield, VA	\$9,267	7,900	40
5	Swift & Co. - Greeley, CO	\$9,000	8,400	10
6	OSI Group – Aurora, IL	\$5,000	2,100	40
7	Pilgrims Pride Corp – Pittsburgh, TX	\$5000	2,534	32
8	Hormel Foods Corp. – Austin, MN	\$4,200	15,600	29
9	Sara Lee Meats Group – Cordova, TN	\$3,746	3,704	N.A.
10	National Beef Packing- Kansas City, MO	\$3,200	N.A.	2

Source: Meat & Poultry Magazine July 2004

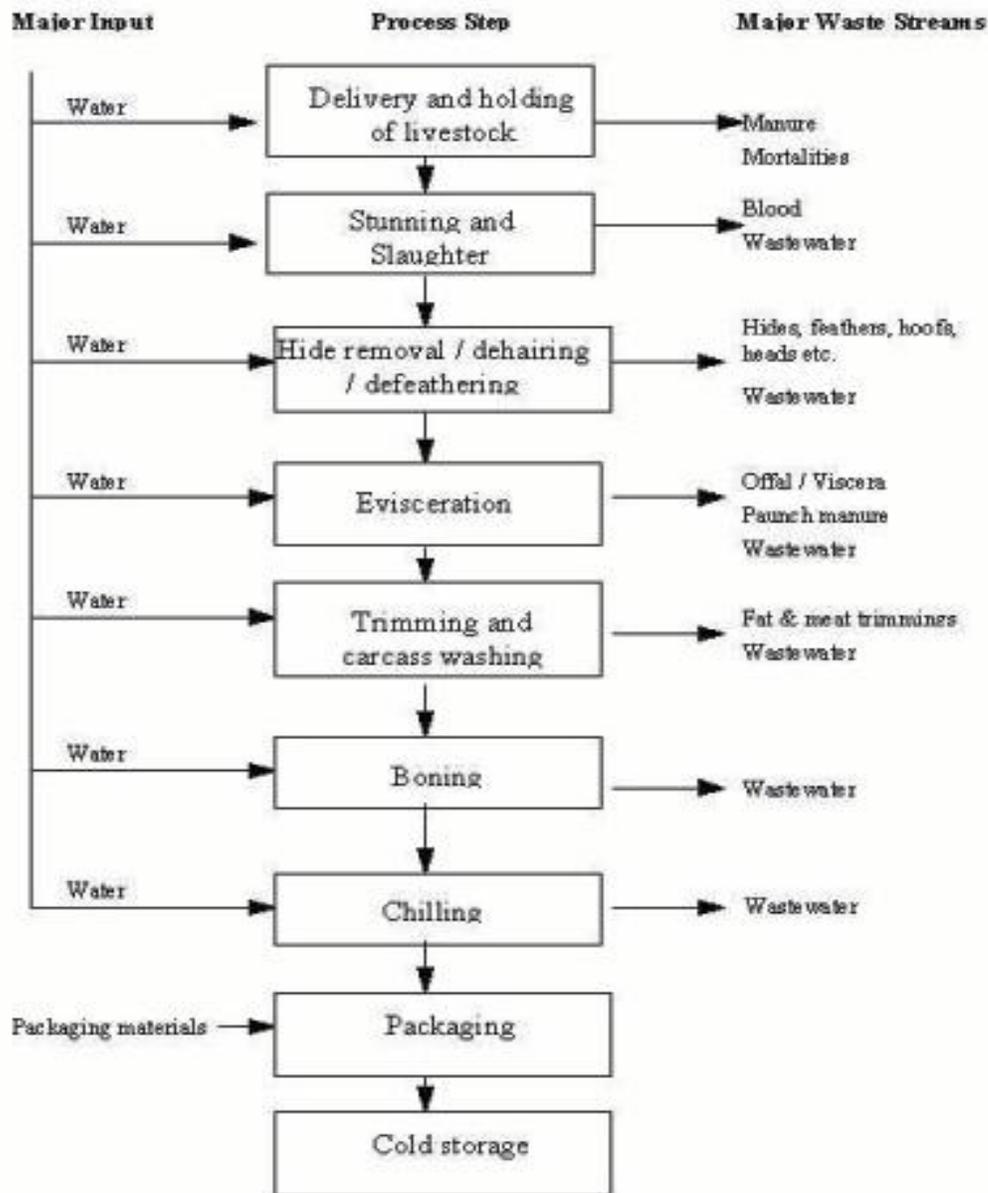
Slaughter Procedure Overview

The conventional approach to slaughter is a single species per plant. This is largely done for cost efficiency reasons. In addition, some customers feel more comfortable with food safety from a single species plant.

The small, single plant packer can't make money in the same manner as the huge one. The small packer cannot match the manufacturing costs of the large packer because the volume cannot be consistently optimized. This packer might have difficulty accessing good outlets for his products. For this size of slaughter business, customer turnover would have a higher impact and certainly there could be a more complex logistics problem to manage on the product side. So, this type of facility would try to focus on relationships and special service to access markets, minimize customer turnover and optimize logistics. They would try to build margin on the sell side with extra service features the mega packer will not or can not provide.

Meat slaughtering incorporates a range of activities, from simple slaughtering and butchering of various species, through to complex cooked, and preserved production. These processes add value to the product by dividing it into smaller units or transforming them into more complex products. Table 8 was developed by Iowa State University and presents a basic flow through procedure for generic meat processing. Though similar, these steps can vary depending on the species slaughtered.

Table 8: Livestock Slaughter Flow Chart



Source: Co-Location of Industries With Livestock Slaughter Facilities

Animal By-Products

The product attributes, which command premiums on meat products, generally do not apply to the by-products. Attributes such as organic, natural, farmer grown, grass fed, niche genetics, identity preservation all have a premium value to certain customers. But, these aspects tend not to bring any value to the by-product side.

The economics of the world's competitive meat industry is such that value must be extracted from the marketing of animal co-products. In fact, to offset the added and increasing cost of disposal of some of these products (spinal cord, brains, skull, vertebrae, etc.), it is vital that as much value is extracted from those that have a ready market. Over the last several years the value of animal by-product relative to the value of the live animal has declined¹⁵. This is due to the technological progress in producing competitive products from non-animal sources such as synthetic materials to replace leather, synthetic fibers to replace wool, vegetable oils to replace animal fat, and synthetic detergents to replace soap made from animal fat, etc. Drop values have been further eroded as export markets, which are a primary source of demand for off-cuts and offal, have been closed due to bovine spongiform encephalopathy.

“When it comes to multi-species plants, beef and pork, in combination, are the most acceptable. All of the potential customers to whom we talked [in Iowa], because of sheep scrapies, expressed concern about slaughtering sheep at the same facility as cattle and/or pigs. When animals eat feed containing infected sheep by-product, they sometimes contract the devastating disease, sheep scrapies. Should beef or pork by-product become contaminated with sheep by-product, it would be impossible to sell them. Small packers were cautioned against including sheep in a multi-species slaughter facility.”¹⁶

PROCESSING ARRANGEMENTS

This study is conducted for the specifics of the proposed processing facility for Central Virginia Processing. However these facilities are not appreciably different than other

¹⁵ Hedrick, etc al., 1994

¹⁶ Source: Co-Location Of Industries With Livestock Slaughter Facilities

small packers and processors. The initial price per pound may be based on live weight or carcass weight. In either case, the price includes some waste like bones and fat, which are removed during butchering or will be trimmed during processing. Processing costs will be added to the initial price for slaughtering in most cases. The processor will charge for butchering, cutting, wrapping and freezing. Prices for these services are figured on a per pound basis and will typically be 25 to 50 cents.

Some basic packing operations engaged in toll processing will provide examples of this fact:

Central Meat, Inc. – Is located in Suffolk Virginia. They have been in operation for many years as a multi-species facility. They do custom slaughtering. Their standard package cost is \$0.40 per pound for boxed and frozen product. They also have a higher differentiated custom processing that costs \$0.50 per pound.

Sioux Preme Packing Company: Located in Sioux Center, Iowa, this facility focuses on pork kill operations only. At this point, carcasses are moved to their boning lines in Sioux City, Iowa. Sioux Preme's kill fee is \$14 per head and \$21 per head for cutting. (roughly \$35/head for kill/cut). Sioux Preme has a daily kill capacity of 2,650 head. The most recent information available indicates that Sioux Preme is killing around 2,200 daily, with about 30% to 40% of this being boned. The remainder is sold in carcass form. Sioux Preme is a skin-on operation. In the boning facility of Sioux Preme, cryovac packaging of whole primal cuts is the focus.

In 2000 the *University of Kentucky* produced a survey of custom processors as part of their direct meat marketing handbook. This survey found a wide range of prices that small scale multi-species federally inspected facilities were charging for beef slaughter and processing. These charges ranged from \$14 a head to \$25 a head for slaughter. Processing was reported to be ranging from \$.16 per lb. to \$0.35 per lb. Details of specific processors are presented in Appendix F.

Location and Site Specifications

Identification of the site for the proposed meat processing facility is considered beyond the scope of this study. The location will be subject to commercial considerations and the town planning process associated with the required development application. However it is envisioned that, the proposed prototypical slaughter and processing facility is approximately 2 acres in size, located on a 15-acre parcel of land. The acreage is sufficient to meet future expansion needs. This land may be included in a business and industrial park with no residential areas nearby.

Although this study is not selecting a specific site, Buckingham County appears to be the most realistic location for constructing a new facility. This is the conclusion of research conducted by T “Robins” Buck of VDACS.

T “Robins” Buck of VDACS worked with the producer committee to identify likely counties in which to site the potential facility. From the 21 counties in Central Virginia he identified six with the best potential for being the location for a newly built slaughter and processing facility. These six counties stretch across Central Virginia from the southwest to the northeast.

In May 2004, Robins Buck sent a letter the administrations of each of the six counties, Fluvanna, Orange, Green, Buckingham, Louisa, and Madison for them to express their interest in the possibility of the facility locating in their counties. He also followed up this letter with phone calls to the counties. Of the six, three responded with some interest in having the facility in their county. These were Buckingham, Louisa, and Madison Counties.

A number of suitable sites have been identified in Buckingham, Louisa, and Madison Counties. Appendix M presents detailed economic statistics of the counties. All three of these counties are largely rural with a strong agricultural tradition. Louisa appears to have higher wages. Madison has a higher education rate. Buckingham had a low unemployment rate in 2002.

In July 2004 members of the steering committee had meetings with representatives from all three counties to gauge their degree of interest. The results of these meetings were:

Madison: Currently houses the Buffalo Hills facility. The county would be interested in a facility that offers employment and tax revenue. The county is limiting the extension of water and sewage to very few towns in the county as a way to limit residential growth. This restricts the areas that are acceptable for a facility. The towns are not located on major highways. Land prices in the few areas would range from \$12,000 to \$15,000 an acre. Also, the Health Department has some restrictions of the uses of a facility.

Louisa: Of the three counties Louisa seemed to be the least interested. The facility would likely face some local concerns about placement as the county is becoming more suburbanized. Water and sewage are available. Interstate 64 and several highways provide good transportation access. The county offered one potential location near a business and industrial park, but the location does not seem to be optimal for the project. Land prices appear to be in the \$10,000-\$12,000 an acre range.

Buckingham: Buckingham County was quite interested in the facility. Both the county administrator as well as the business development staff agreed to work to help locate a specific site. There is an existing business park locale in the county. There is highway access with four-lane divided roads. The county already has ownership of a 20,000 square foot building that it offered to lease or to sell for the project. Information on this building is provided in Appendix N. It could serve as a possible alternative to a total new construction for a facility.

Part of Buckingham County has existing water and sewer line, with plans to expand these areas in the near future. Land purchasing rates were quoted at \$2,000-\$5,000 and acre. This has been confirmed with the prices offered for land currently for sale in the county.

For purposes of this study, it is assumed that the facility will be located in Buckingham County. The county has a population of just over 15,000 and an average wage of approximately \$25,000. With only 8.5% of the population in the county having obtained a bachelor degree or higher the county is in the bottom 10% of counties in the country for higher education. Only 7% of the county is involved in manufacturing. Appendix M provides more details on the county statistics. Cost structures from the county will be used for the financial models. These include:

- Water rates – These run \$6.75 for each 1000 gallons up to the first 4000 gallons and \$9.0 per 1000 gallons above that. This includes delivery and discharge The

water usage will be estimated based on average usage of 440 gallons /1000 lbs live weight slaughtered. Another 100 gallons per head slaughtered will be used for other plant functions.

- Property taxes- Estimated at \$0.58 per \$100 valuation.
- Tool and Machinery taxes are estimated at \$2.90 per \$100 valuation of the original capital cost.

Availability of infrastructure is also a critical location factor if a new facility is to be developed. A slaughter plant generates wastes that are often difficult to deal with using subsurface means. Moreover, the cost of a package treatment facility relative to the size of the slaughter plant that would be involved makes that option unrealistic. A reliable supply of potable water is also essential. Finally, the availability of public infrastructure provides a significant cost saving on the capital side, a minimum of \$20,000 and as much as \$70,000.

Zoning is still another critical factor A new slaughterhouse is likely to prompt "Not in MY Backyard" reactions. Location within an industrial or agricultural district, where slaughter and processing operations are permitted uses, will put the burden of proof on municipal officials and opponents to halt a project. The key to securing local approvals is a combination of sound site planning, presentation and persistence. A properly zoned site makes it easier, however, and provides continuing protection from incompatible uses.

Location away from residences that can pose conflicts, and downwind from other businesses that can generate odors, smoke, or dust is also a practical necessity. The latter is, in fact, a USDA requirement. A lot of sufficient size to buffer all the on-site activities (including pens and unloading areas) from adjoining uses, is therefore, needed.

These factors are not exclusive but they do suggest a certain type of site - a planned industrial development. These tend to be largely undeveloped but served with the proper infrastructure, unlimited by inappropriate zoning and located in area away from potentially conflicting uses. In whichever location the plant will be located it will need to address a number of issues including, but not limited to, the following:

- a. visual impact including the need for buffering, screening and landscaping of the facility;

- b. flora and fauna considerations and affects on the local eco-system. (It is not anticipated that any clearing will be required.);
- c. control of odor from the plant;
- d. the impact of noise from the plant;
- e. traffic study addressing the intersection design with bitumen sealed access roads, turn around areas and car parking;
- f. Waste Management Plan addressing the disposal of by-products to rendering and the treatment of waste water on-site and the method of effluent disposal;
- g. the requirements for water and three phase power to the site; and
- h. soil suitability in regards to building foundation, erosion control and absorption.

Local Requirements

Once a site had been located that addresses all of these factors. The proposed facility will have to receive zoning and use approval from the county. In order to obtain this approval a plan must be submitted to the county. This plan is presented to the county planning commission. The commission reviews the plan. They forward the proposal for the site and the activity to the County Board of Supervisors for approval. Most counties have an opportunity for public comments to the proposal built into the planning commission approval process. Typically this county process takes around three months.

GENERAL OPERATING PROCEDURES

This project will have to create procedures to be a successful commercial enterprise. These will begin with the needs for the development of the initial construction phase and will continue through the daily operations of the facility once it is operational.

Table 9 presents the requirement for site development of a typical processing facility. Local requirements and the exact type of facility to be constructed will determine the exact site requirements.

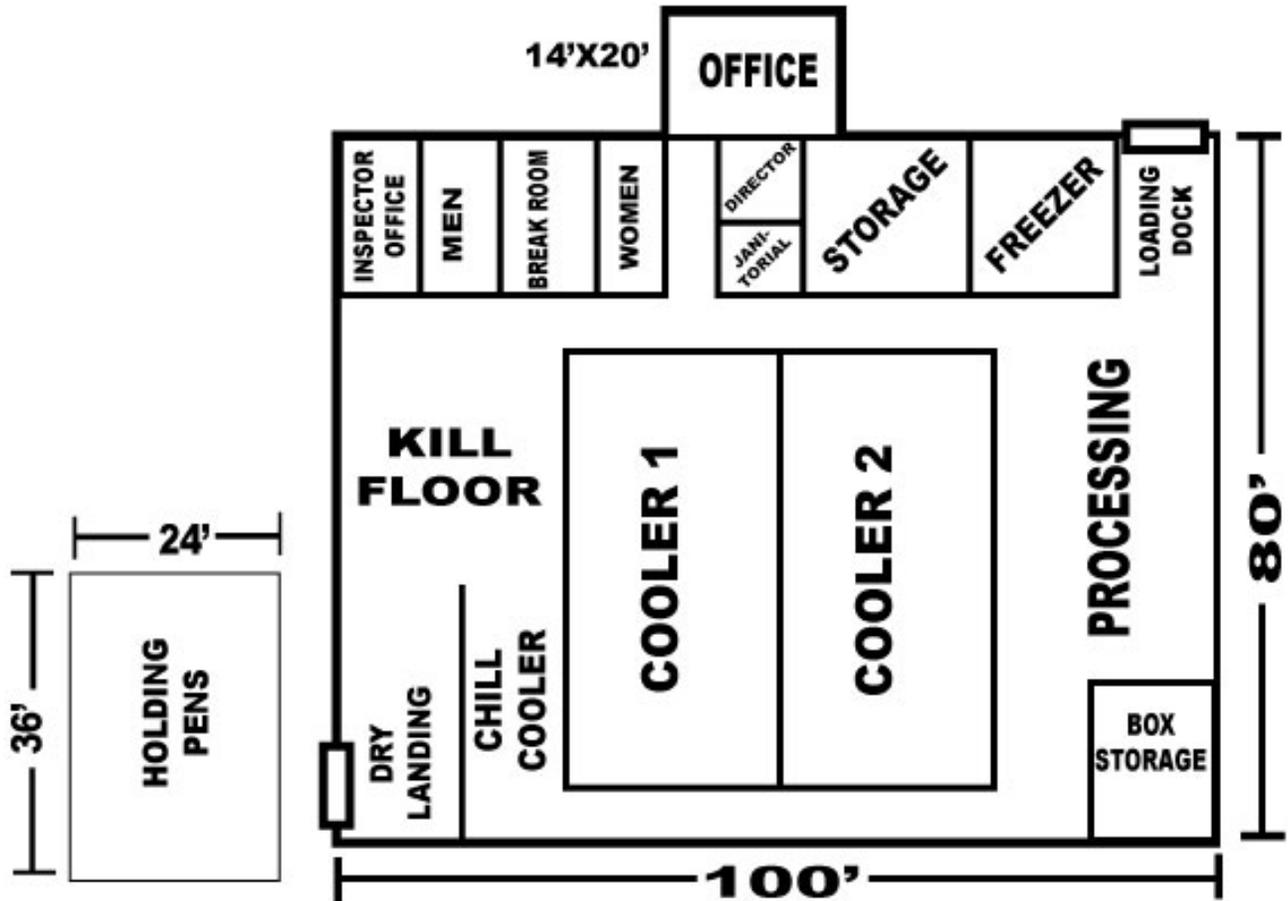
Table 9: Standard Requirements for Site Development

Steps recommended for site development:
(1) grade the site to a 2 to 4 percent slope
(2) slope the site toward a collection pond
(3) add minimal paving under the facility
(4) build berms around the perimeter to control run-off and run-on if required
(5) plan areas for raw materials storage, slaughter processing, curing, storage, and freezing of end product
(6) set up equipment in locations convenient to the process
(7) construct retainer walls and footings
(8) develop a screen around the site (fencing/plants/shrubs/trees)
(9) build a fence and gate to control access to the site
(10) install appropriate utilities depending on the method and process (2-inch minimum water main, storage and tool building, office and lab, maintenance shed)
(11) obtain proper permits (this is mandatory)
—local: zoning, building, land use
—state: water discharge, composting, transporting, air, health department

This preliminary feasibility study includes the basic layout of a prototypical small scale meat slaughter and processing facility. The basic design elements were determined

through discussions to determine the potential needs of produces in the Central Virginia region. Table 10 presents a drawing of what this type of facility could resemble.

Table 10: Slaughter and Processing Plant Layout



Based on the discussions with the Central Virginia Processors Committee the costs to construct the prototypical slaughter and processing were estimated. Table 11 provides a list of the major categories of these estimates. These estimates have been developed based on costs for similar types of facilities with updated construction material costs. Given the initial phase of this venture no attempts were made to obtain actual cost bids for these elements.

The prices of steel and concrete have risen dramatically over the last few months due to strong international demand. Predictions are that this trend will continue for the

foreseeable future. Estimated costs are based on July 2004 prices. As steel and concrete are major factors in the cost of the construction of a new facility, future increases in the price of these elements could cause substantial impact on the construction price for the facility.

Table 11: Estimated Constructions Costs for a Slaughter and Processing Facility

15 acre lot size	Approximately 806 X 806 ft	
Facility size 80 X 100 with a 14 X 20 office		
Approximately 8250 sq ft of floor space		
ITEM	Cost	Note
Design	\$25,000	To a certified engineering firm
Concrete, parking lot, entry road, settling pond	\$350,000	\$80/ yard for Concrete
Holding pens	\$15,000	28 X 36 with 10 smaller pens
Building costs	\$250,000	30/sq ft for metal sided
Coolers +freezers	\$120,000	Chiller, 2 Coolers, Blast Freezer, and Holding Freezer
Build out cost	\$175,000	Includes HVAC
2 acre gravel lot	\$55,000	
Fencing	\$35,000	6 foot high metal fencing
Permitting	\$50,000	Includes the cost of a HACCP Plan
Filtration/waste	\$30,000	Remove fats and other items from waste stream
Cost Over-Run	\$75,000	7% of estimated project capital costs
	\$1,180,000	

The facility would be built on a fifteen-acre lot. The size of the actual building is estimated to be 80 feet by 100 feet with a 14 by 20 bump out for an office and reception area. This building would occupy approximately 8,250 square feet of floor space.

The building would need to be above the ground water table for environmental reasons. The metal shell building would be of standard industrial construction with 20 ft height to a flat roof. The walls would consist on non-porous surfaces to comply with slaughter regulations.

Due to the needs of the slaughter and odor considerations, the building would include ventilation systems. The ventilation systems would maintain the processing part of the facility at 50 degrees to assist in meat preservation and quality.

The building would be on a reinforced 6 inches concrete pad over an 8-inch gravel base. There is some discussion that the entire 8-inch gravel base may not be required for this facility. This will depend on the specific soil compaction and drainage characteristics of the plant site.

Surrounding the building would be a fire access road with 3 fire access mains. The facility would be connected to the city or county utilities for sewage and water.

The facility would need facilities for runoff retention. There would be a separate pond for this purpose. The parking lot and entrance to the plant would be gravel. The facility would be surrounded by a 6-foot chain link fence and would have gated access. The area surrounding the facility would serve as a screen and in all likelihood would be wooded.

Animals will be delivered to the plant via truck, usually early in the morning of the day they are to be slaughtered. At this time they will be placed in holding pens. Animals from different producers will be segregated as an initiation of the efforts of the facility to maintain identity preservation of animals throughout the entire process. The facility will not provide feed for the animals in the holding pens.

The holding pens would be 24 ft X 36 ft, built over a 4-inch concrete base. The pens would consist of 12 ft steel panels. The pens would be adjustable to permit segregation of animals from different producers. To meet inspection requirements, there would be a separate pen for any suspect animals; all pens will be under cover, but open sided for ventilation.

Water and wastewater are major inputs and outputs of slaughter and processing. Almost every step of the in the facility will involve water. It is estimated that the facility will

utilize over 500 gallons of water for each animal slaughtered and processed. The facility will utilize water and sewage provided by a connection to public utilities. The water will be treated for removal of fats and monitored for other waste loads. The facility will have shower and toilet facilities for employees and the inspector. These will have a separate connection to the public utility.

Equipment Specifications

The facility would employ 9 persons, with a maximum line speed of 25-30 beef animals a day. The facility will have the capability to process beef, sheep, goats, and market hogs (although scalding tanks for hogs are not included in the design).

The facility will house an electrical stunner, chain hoist, knives, hooks and gambles, hide skinner, breaking saws, breaking tables, conveyor tables, scales, freezers, strapping machines, and a vacuum pack machine. The entire facility, including pen area, kill/cut rooms, carcass chill room, processing floor, staging coolers and related equipment, will be purchased in start-up condition and for meeting initial plans to reach a 25 to 50 head daily processing capacity.

For this project it is assumed that the equipment will include a mixture of new and used purchases. Used equipment is readily available in good condition for many of the facility's needs. Appendix L presents a listing of equipment taken from two similar facilities that are currently in operation in the Southeastern U.S. The total estimated cost of this equipment is expected to be in the range of \$125,000.

Though the facility would be designed as a multi-species facility, it would process approximately 90 percent cattle, 7 percent sheep and lambs, 2 percent goats, and 1 percent hogs. These percentages were determined from the producer survey conducted by the Virginia Farm Bureau Federation in May 2004. Of those animals slaughtered, 80 percent will be livestock provided by members of the venture and 20 percent will be custom slaughter and processing.

Table 12 shows that this will translate into on a yearly basis of 90 head of cattle per week from owners and over 22 head a week of custom. Based on 682 lb per carcass for cow, 45 lbs. for sheep, 50lbs. for goats and 155 lbs. for each hog; this yields 3.86 million pounds of meat per year operating as a single shift 5 day a week plant.

Table 12: Estimated Animals Slaughter and Processing on a Yearly Basis

	Year 1	Year 2	Year 3
Owner Cattle Processed	4005	4410	4410
Owner Sheep Processed	933	1030	1030
Owner Goats Processed	264	295	295
Owner Hogs Processed	88	98	98
Custom Cattle Processed	1006	1104	1104
Custom Sheep Processed	234	257	257
Custom Goats Processed	65	74	74
Custom Hogs Processed	22	24	24
Total Lbs. Meat	3,503,517	3,855,823	3,855,823

Most facilities close two weeks a year. Often this happens with one-week closure each during July and in December. This is a holiday for workers and permits for retooling and machine repair. In addition smaller facilities also take some of the national holidays throughout the year. It is assumed that the CVP facility will follow this norm. In total it is estimated that the facility will operate 145 days a year.

Storage Facilities

As seen in table 10, the cooling facilities would include a quick chill area utilizing a water spray to prevent meat shrinkage. There would be two coolers with capacity of

around 2,500 square feet combined. This would allow sufficient space for two weeks hang time for all animals. The facility would maintain storage for long-term chilling. All animals would be aged 14 days, with one third of the production aged for 21 days to meet the added requirements of aged beef. One of these coolers would include a separate area for suspect meat. Coolers would include monitoring equipment to record humidity and temperature.

The facility design would include a chest unit blast freezer as well as a walk in freezer that would have capacity for 3 days processing. Animals that are not sold as fresh after the hanging period (14-21 days) will be frozen onsite. It is anticipated that 75% of the meat will leave the facility frozen. It is assumed that the facility will not engage in long-term storage of meats and that patrons will remove their product within 3 days of notification.

This facility would also contain two rooms for dry storage. This will be used for packing and shipping goods. The storage will maintain the items needed for plant operations

QUALITY CONTROL PROCEDURES

The plant intends to have a few months of smaller operations to test the facility and train the operational staff. The phased-in approach would assist in establishing employee capabilities, and credibility, critical to quality processes as well as allowing adequate time to assure quality control procedures are in place through all aspects of plant operations, from kill floor to processing of end-products. Technical support provided by suppliers and management will be the primary participants to accomplish this task. Overall the producer leadership of the venture will provide supervision to this project.

The facility will have to develop an approved Hazard Analysis and Critical Control Points Plan (HACCP). Development of this plan could cost between \$5,000 and \$10,000 and is included in the project development costs. This plan will have to be approved by

regulators prior to the facility's opening. The 7 points to any HACCP plan are included below.

Table 13: HACCP Plan Points

1. Conduct a hazard analysis. Prepare a list of steps in the process where significant hazards occur and describe the preventive measures.
Three types of hazards:
<ul style="list-style-type: none"> • Biological (B)— primarily concerned with pathogenic bacteria, such as <i>Salmonella</i>, <i>Staphylococcus aureus</i>, <i>Campylobacter jejuni</i>, <i>Clostridium perfringens</i>, <i>Clostridium botulinum</i>, <i>Listeria monocytogenes</i>, and <i>Escherichia coli</i> O157:H7; also should consider <i>Trichinella spiralis</i>, and other parasites, as well as potential pathological concerns. • Chemical (C)— toxic substances or compounds that may be unsafe for consumption; i.e., cleaners, sanitizers, pesticides, insecticides, rodenticides, paint, lubricants, etc. • Physical (P)— foreign objects which may injure the consumer; i.e., rocks, stones, wood, metal, glass, nuts, bolts, screws, plastic, knife blades, etc.
2. Identify the critical control points (CCPs) in the process. A critical control point is defined as a point, step or procedure at which control can be applied and a food safety hazard can be prevented, eliminated or reduced to an acceptable level.
3. Establish critical limits for preventive measures associated with each identified CCP. A critical limit is defined as a criterion that must be met for each preventive measure associated with a CCP. Each CCP will have one or more preventive measures that must be properly controlled to assure prevention, elimination, or reduction of hazards to acceptable levels. Each preventive measure has associated with it critical limits that serve as boundaries of safety for each CCP.
4. Establish CCP monitoring requirements. Establish procedures for using the results of monitoring to adjust the process and maintain control.
5. Establish corrective action(s) to be taken when monitoring indicates that there is a deviation from an established critical limit.
6. Establish effective record-keeping procedures that document the HACCP system.
7. Establish procedures for verification that the HACCP system is working correctly.

Some examples of what would be in the HACCP plan and the Standard Operating Procedures Plan (SOP) plan include carcass rinses, properly planned layout for efficiencies and state of the art insulation/refrigeration technology including temperature tracking abilities. These will be accomplished under advice from OMPS/VDACS in its

design and construction, with experienced packing plant personnel overseeing every process and step. The plant will be designed and constructed for efficiency of operation and food safety.

BSE (*bovine spongiform encephalopathy*) has become a major issue for meat slaughter facilities. After the discovery of BSE in a cow in late 2003, USDA's Federal State Inspection Service (FSIS) placed new regulations in the Federal Register on Jan. 12, 2004. These regulations state that FSIS "is requiring that federally inspected establishments that process the carcasses or parts of cattle develop, implement and maintain written procedures for the removal, segregation and disposition of specified risk materials." These procedures must be part of the facilities HACCP and SOP plans. In addition to these, any cow over 30 months of age must be tested for BSE and have the brain and spinal cord material removed and segregated and stored until it is determined that they do not have the disease. The plant will recover its costs of these extra measures for BSE testing for older animals with additional fees. As this will be operated on a break-even basis and there will be no financial impact on the facility, this cost has not been included in the preliminary feasibility model.

Animal Supply

The survey conducted by the Virginia Farm Bureau Federation showed that currently members of Central Virginia Processing ship their production up to 200 miles for processing. However, the average shipping distance is 50 miles. For purposes of the packing arrangement, Central Virginia Processing will secure its initial supply of animals from local members and producers who have their production within 150 miles of the processing plant.

Members will be required to sign a marketing agreement with the cooperative, stating the volume of livestock to be delivered for slaughter and processing, as well as other rights and obligations of both the members and the cooperative. Typically, the agreement will provide that if members are unable to fulfill their commitments, i.e. can't supply

livestock from their own production, they would have to make up the difference by purchasing animals from another source.

In the initial project design, it is anticipated that approximately 20% of the animals slaughtered by the facility will come from outside of the membership pool. These animals will come from producers in the region that are seeking high quality slaughter and custom slaughter opportunities. The surveys conducted by VFBF shows that there appears to be more than sufficient demand for this segment of the animal supply.

This non-member supply will be more volatile than that supplied under marketing agreements by Central Virginia Processing's members. It should experience seasonality similar to that of the animals slaughtered in all of Virginia.

Quality Assurance of Supply

Quality, rather than quantity, will remain the priority as CVP intends to set the stage for linking the meat customer to the producer; it is vital to producer profitability and sustainability in the changing meat market. Specific member/ producers who participate in this facility will have to demonstrate their ability to deliver animals according to production and delivery protocols defined by Central Virginia Processing. Continuity and quality of supply will be critical to the success of this operation.

Odor Control

Odor control has become the trial-by-jury for many facilities in urban and suburban communities. Facilities are experiencing an increase in the demand for proactive odor control systems. In many cases, the local acceptance of a facility may ride almost entirely on the odor issue. Volatile organic compound (VOC) control is achievable on a variety of gas streams. Control of xylene, toluene, styrene, and similar volatiles is possible. Typically, pilot testing is advised for specific VOC emissions to verify applicability and biofilter sizing.

FACILITY OPERATIONS

It is recognized that training will be an important part of developing local personnel for employment at this facility.

Personnel that will be required include:

- Site Manager: Preferably a person with experience in managing a meat processing facility. This is a key position for the day-to-day decisions to operate the facility
- Processing Staff: Slaughtermen, kill floor, boning room personnel. This is an area where training will be required, as the necessary knife skills are not likely to be readily available. Other processing personnel include animal handlers (experience in handling several species of livestock) cleaner, chill room coordinator and packaging personnel.
- Office Staff: Experience in general office functions will be required. Including dispatch duties where experience in coordinating goods and transport is desirable.
- Maintenance Coordinator: Will need the appropriate certification for the heating and ventilation systems and be able to provide general maintenance functions. Will need to coordinate external contractors *i.e.* electricians, plumbers and general engineers. Will need to be able to sharpen and maintain knives, saws and other equipment used in the processing. (In a small facility this person will also have other duties, such as processing)

The general manager of the CVP will be responsible for coordinating deliveries, production schedules, and shipments. He/she will be responsible for planning the marketing of animal products, and the volume of animals needed, according to projected demand. The general manager will supervise line workers in the plant. In addition, the general manager, and the bookkeeper, will be responsible for keeping records of animals delivered to the plant, quality of products produced by the plant, and volume of products leaving the plant, among other things. The sales manager will also be responsible for

making sales contacts both in person and by phone, setting up sample shipments to buyers, and scheduling sales shipments of the drop and hides, among other tasks. The general manager may also serve as the sales manager for the facility.

Current and Potential Size of Market

The market for producer labeled and identity-preserved meat is relatively new. Because of this, it's difficult to project demand for this type of product at the producer level. Contacts with buyers in the eastern U.S. confirm that there is an established and growing market for this type of product. The emergence of companies that sell this type of branded product is also an indication that the new market is growing. Businesses, such as Nieman Ranch and Whole Foods, are entering into this marketing arena. Thus, there conceivably are opportunities for Central Virginian Producers to either make inroads into the current market or create new markets.

The Livestock Industry in Virginia

The livestock industry in the Commonwealth of Virginia has a long tradition and is an important source of revenue for Virginian producers. The following Virginia market information was taken in large part from reports on the USDA NASS website.

In 2002, meat animals in Virginia accounted for \$369,840,000 in cash receipts for farmers, or 17% of all agricultural farm-gate cash receipts in the state¹⁷. This was a decline of \$31,271,000 from 2001. Cattle and calves led the way with receipts totaling \$322,331,000, or 14% of receipts. Of lesser sales value were hogs with \$44,328,000 (2% of cash receipts) and sheep and lambs at \$3,181,000. Additionally, the 2002 Census of Agriculture records sales of 19,147 meat goats in 2002.

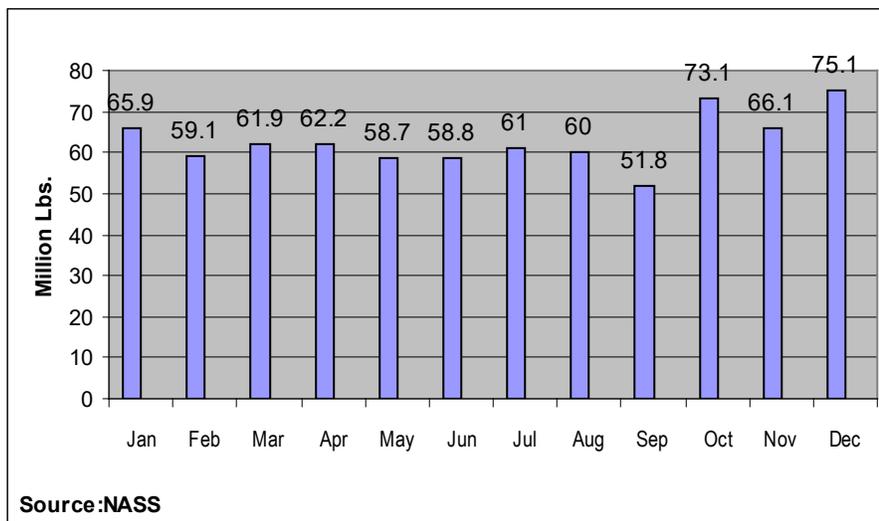
According to the 2002 Census of Agriculture there were 680,610 beef cows and 1,622,767 total head of cattle and calves in Virginia, 409,204 hogs, and 71,819 sheep and

¹⁷ Virginia Agricultural Statistics- <http://www.nass.usda.gov/va/pg74-7503.txt>

lamb. National rankings for Virginia in comparison with other states for each of these specie groups were 20th, 18th, and 26th respectively for 2003.

In 2003, Virginia produced 754 million pounds of meat during the year. The largest percentage of this was hogs that accounted for 3,866,000 head in the year. Most of these animals were contract grown. Beef was also significant with 11,400 head slaughtered in the course of the year.

Table 14: 2003 Virginia Commercial Red Meat Production



- ***The Virginia Beef Cattle Industry***

There is limited finishing and fattening of cattle in Virginia. In fact, the large majority of calves leave the state at weaning and travel for the most part to the mid-west or Pennsylvania for finishing. Of the 710,000 head calf crop in 2000¹⁸, data indicates that only 30,000 of these were on feed in Virginia in 2001.

The Virginia beef cow industry is diverse in the types of cattle it produces by breed as well as the size of individual operations. Of the 23,000 farms in the Commonwealth with beef cows in 2002, almost 20,000 had less than 50 head, 2,113 with 50 to 99 head, and only 1,125 with over 100 head. Many of these operations would also include other crops

¹⁸ Live births from 651,000 beef cows and 119,000 dairy cows.

or livestock as part of the farm's production mix and many of the farm operators would have off-farm income.

Table 15: Virginia Beef Cow Industry

Virginia Beef Industry	2002		1997	
	Number of Farms	Number of Head	Number of Farms	Number of Head
Number Head per Farm				
1 to 9	6,301	33,117	7,922	41,108
10 to 19	6,124	82,800	6,918	93,303
20 to 49	7,367	217,431	7,012	207,835
50 to 99	2,113	139,956	2,287	149,316
100 to 199	811	105,070	828	105,579
200 to 499	285	79,743	271	72,791
500 to 999	22	13,664	30	18,700
1,000 to 2,499	7	8,829	5	7,142
Total for all size Farms	23,030	680,610	25,273	695,774

Source: 2002 Census of Agriculture

• ***The Virginia Swine Industry***

The majority of hog production in the state is in the southeastern region and for the most part is vertically integrated. However, some independent hog production still occurs although marketing opportunities for these producers are limited. Most hog production is under confinement although a limited amount of outdoor hog production still takes place. In 2002, 855 farms in Virginia had hogs as part of their production mix. This is a significant decline from the 1100 farms raising hogs in 2001 and the 1533 farms in 1997.

• ***The Virginia Sheep and Lamb Industry***

The Virginia sheep industry mirrors the state's cattle industry by taking advantage of ample forage and grazing opportunities. Most of Virginia's sheep production occurs west of the Blue Ridge Mountains in the Shenandoah Valley. In 2002, Virginia had 71,619 sheep on 1,697 farm operations.

- ***The Virginia Meat Goat Industry***

Although there are few statewide or county statistics for the meat goat industry in Virginia, this sector has seen significant growth over the last few years, with continued growth likely in the future. According to the 2002 Census of Agriculture, there were 35,710 non-dairy or wool goats in Virginia on more than 2000 farms, this is a significant increase from the 21,010 head recorded in the 1997 Census.

The Livestock Industry and Agricultural Production Sector in Central Virginia

From the foothills of the Blue Ridge Mountains to the start of the coastal plains, which lie to the east of I-95, is an area known as the Central Piedmont region. The twenty-two counties that make up Central Virginia are generally characterized by good soils, rolling pasture land, abundant forage, and hardwood forests. The agricultural production sector is diverse and varied. Traditional crops and livestock, long the mainstay of farm operations in the region, continue as the major components of production agriculture throughout the area. Dairy farms, poultry production, apples and peach orchards, vegetable operations and horse farms also contribute significantly to farm receipts in certain counties within the region.

Non-traditional livestock operations, such as organic, grass-fed, or “natural” are becoming more commonplace, as is the introduction of new species such as buffalo, ratites, and meat goats. Cattle production remains the cornerstone of agriculture in Central Virginia. Most of the crops grown and harvested here are used to feed the cattle and calves that populate the many farms in the region.

Of the seven state agricultural regions used by the Virginia Agricultural Statistics Service, close to 25% of the Commonwealth’s beef cows reside in Central Virginia. Cattle production occurs on 5,311¹⁹, or 67%, of the 7,907 farms in Central Virginia. The details of this breakdown on a per county basis are provided in appended in Appendix C

¹⁹ Includes dairy cattle, however in 2002 there were 16,000 milk cows in the region vs. 158,000 beef cows.

The Meat Processing Industry in Central Virginia

The Federal Meat Inspection Act (FMIA) mandates inspection of cattle, sheep, swine, goats, horses, mules, or other equine slaughtered for use as human food. The slaughter and processing of other meat animals are not subject to the inspection requirements of the FMIA. Meat inspection activities in Virginia fall under the auspices of the Office of Meat and Poultry Services (OMPS) within the Virginia Department of Agriculture and Consumer Services (VDACS). It is a state-run meat/poultry inspection program, and USDA certifies its employees. OMPS/VDACS administers the Virginia Meat and Poultry Products Inspection Act and has also adopted federal meat inspection regulations by reference. As such, Virginia's program maintains an "equal to" status with the federal program. The "equal to" status allows Virginia plants to ship meat products intrastate, interstate, and internationally²⁰.

According to OMPS in March 2004, there were sixty meat slaughter and processing establishments under state of Virginia inspection. Of these, twenty offered inspection under the Federal-State Cooperative Inspection Program auspices of OMPS with another eleven classified as TA²¹ plants allowing for interstate sales of meat from these plants. By and large, the majority of these plants are fairly small, family owned and operated establishments, and most have been in operation for many years.

The following table 16 indicates that commercial slaughter of cattle and sheep is declining over the years.

²⁰ <http://www.vdacs.state.va.us/meat&poultry/>

²¹ Talmadge-Aiken act of 1962

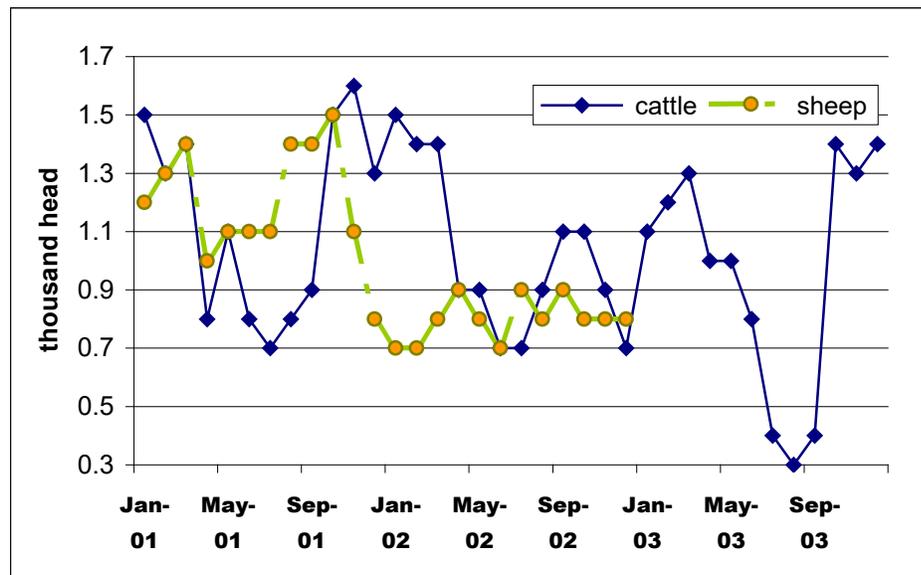
Table 16: Commercial Cattle & Sheep Slaughter for Virginia, 2000-2003

Cattle-Thousand head-					Sheep -Thousand head-			
1999	2000	2001	2002	2003	1999	2000	2001	2002
22.9	18.9	13.8	12.3	11.8	13.0	13.8	14.5	9.6

Source: <http://usda.mannlib.cornell.edu/reports/nassr/livestock/pls-bban/>

While much of the downward spiral in cattle slaughter can be attributed to reduced output by Virginia’s largest meat processors, slaughter capacity elsewhere is restricted by the ongoing situation of limited, and mostly small, processors operating in Virginia. A few more of the smaller facilities have ceased operations in 2004; reducing capacity further. This has had a particular impact on the sheep and lamb slaughter.

Table 17: VA Commercial Slaughter by Month 2001-2003



Source: <http://usda.mannlib.cornell.edu/reports/nassr/livestock/pls-bban/>

Marketing Plan for Central Virginia Processing

Small slaughter and processing facilities are at a cost disadvantage to large processors in terms of returns to scale. This disadvantage is exacerbated by the small operation’s

inability to effectively market animal by-products such as offal and hides. For example, if a plant cannot maintain hide quality until load lots can be accumulated, the hide value can become negative.

In the case of this venture, it is assumed that the value received for the hides and other parts of the drop will cover the cost of the parts that the venture will have to pay to dispose of. In other words, the hides and offal will have a net cash impact of 0 on the venture except for a small fee for delivery of non-saleable products for disposal.

COMPETITION

The competitive reaction to the possibility of a producer owned competitor has been rapid and focused as demonstrated in a June 18, 2000 Des Moines Register interview with Smithfield Foods chief executive Joseph Luter III. Smithfield Foods is the largest meat processor in the world and is an investor-owned firm. Luter predicted that farmer-owned marketing organizations would fail. Luter declared, "They'll have their head handed to them... **The idea that a bunch of farmers are going to get together and build a plant and make money is laughable.**"

Additionally, the proposed type of operation may allow competitors to use a "divide and conquer strategy" to defeat the local group. That is, the larger competitors could exercise their market power and accept temporarily lower profits in the area of the cooperative until it ceases operations. Though predatory pricing and other unfair competitive practices are illegal, they are often difficult to prove.

Identified Sources of Competition

Market research shows that three plants are in a position to offer small scale (or boutique) processing in the central Virginia area inspected for interstate sale- the Harrisonburg Wholesale Meat Company, Inc. facility in Harrisonburg, VA, The Dinner Bell Meat Processing, Inc. Lynchburg , and Buffalo Hills Meats in Madison County. All of these facilities are inspected by VDACS.

Harrisonburg Wholesale Meat Company, Inc. is owned by David May. He is in his mid 70's and it is rumored that he might be looking to sell or close the facility. It provides custom slaughter of beef, and pork primarily. The facility has a one day a week kill day and processes less than 20 animals in that time. The facility has limited cooler space for hanging time, but will permit producers to leave animals there 10-14 days. The building is quite old and the facility has been functioning for several decades.

Much of the business of this operation is cutting and repackaging of boxed beef brought in from the Midwest. It has a retail and wholesale brand name. It also produces sausage and other processed products under its brand.

Dinner Bell is an older three-story facility with basement that was designed to process 100 animals a day and is located within the city of Lynchburg. It has been in operation for more than 50 years. It was owned by Armor/Star Corporation in the past and is presently owned by G.D Gillam. It is for sale for \$750,000. It has been reported that the facility needs some retrofitting and repairs of electrical, flooring, and walls. The facility utilizes city water and waste disposal. The city supports the facility continuing to operate in Lynchburg.

Dinner Bell is primarily a beef and pork facility. It has established product lines and clients for secondary cuts. The plant has 4 smokers. They have sold smoked hams as well as bologna in the past. The plant may be currently engaging in some small scale leasing of its cold storage space.

Buffalo Hills is the newest of the facilities in the region. It was built 7 years ago as a state-of-the-art facility. It is located just off Highway 29 in Madison County. It was designed to slaughter/process 25 bison per day, but has seldom achieved this capacity. The plant has mainly processed large animals, but has capacity for smaller animals as well. It also has a retail location within the facility. Although currently closed, it has

sold meats under the Georgetown Meats brand name. This brand has limited public exposure.

Buffalo Hills ceased operations in the spring of 2004 and is offered for sale. There has been an offer made for the facility and the surrounding land though the status of this offer is not known. The land is under a request to be rezoned for commercial use. Madison County will require the new owner to obtain a new conditional use permit; the old permit does not transfer. The facility utilizes a septic system for the disposal of water and waste; change of ownership may require EPA involvement and compliance with local regulations.

There is a new small-scale facility that is in the process of obtaining permits and licenses near Bedford. This facility plans to slaughter and process organic and natural meats once it is opened.

There are several plants that are not permitted for the interstate selling of meat in the region. These plants do custom slaughter for producers on a fee for service basis. The meat from these plants is typically consumed by the owner of the animal or it can be sold within the Commonwealth. Included in this list are: Gores Processing, Inc. of Edinburg; Crabill's Retail & Wholesale Meats, LLC; and Adams & Son, Inc of Amisville.

It has also been reported that some producers are carrying animals to West Virginia and to Maryland for slaughter and processing

Similar Operations

Upper Mississippi Family Meats Cooperative (UMFM), located in Northeast Iowa, was organized in March 2001. The group started as several separate livestock groups that came together in their collective desire to investigate a meat processing facility to process their livestock. The cooperative's guiding principals and values are: sustainable and humane production; local ownership structure; appropriate scale facility; sustainable

processing facility; humane and hygienic practices; and a community and worker friendly facility.

UMFM commissioned a study on the possibilities of the feasibility of a processing facility. The study focused on a multi-species plant with the annual capacity to process 14,000 beef cattle, 17,500 market hogs and 7,500 market lambs in a single shift. The plant was estimated to cost \$7.1 million for the property, plant and equipment. There was no discussion of offal, hides, or rendering in the study. A further processing addition to the plant was estimated to cost \$2.74 million for the plant and equipment. The addition would allow for manufacture of ground meats, sausage, and case-ready fresh meats. Organic and naturally raised animals would be the marketing focus of the products coming from the plant²². To date, this facility has not been constructed.

The Hudson Valley Livestock Marketing Taskforce in New York conducted a Processing Facility Feasibility Study in 1999. This study estimated that a new slaughter and processing plant of 5,000 square feet would cost \$375,000 for the slaughter facility alone, and \$675,000 for the slaughter and processing facility, not including land and site work. The proposed plant would include a 1,000 – 1,200 square foot slaughter department capable of handling 2,000 beef, 2,200 hogs and a comparable number of other species per year. The above facility cost includes space and equipment for coolers, employee areas, fabricating operations, offices and utilities. Following a start-up period, estimated numbers of animals processed per year were 1,500 beef, 1,250 hogs, 1,000 sheep and 250 other animals²³. The full study is included as Appendix Z and provides a good insight in how a similar scale project progressed.

A 10,000 sq. ft. slaughter facility in Connecticut has been looked at for revitalization. The start-up stage proposed 6 employees processing 50 beef and 400 other livestock per week. It would expand to 24 employees processing 300 beef and 700 other animals per week.

²² Source: <http://www.agmrc.org/beef/info/colocationlivestocksla.pdf>

²³ Source Hudson Valley Meat Processing Feasibility study. Included in its entirety in the Appendix

The State University of New York, College of Agriculture and Technology at Cobleskill has looked at a Small Producer Meat Processing Initiative. This project would include an educational component, using students to assist in processing. The small facility (2,800 sq. ft.) would process poultry, rabbits and fish in addition to amenable livestock. Annual projections for the first year are: beef, 126; hogs, Another small facility (3,000 sq. ft.) proposed in New York would have 5 employees processing 30 cows, 42 calves, 12 pigs and 42 sheep and goats per week. The facility would also handle non-amenable livestock and poultry.

Mobile Processing

The meat processing industry has become more consolidated in recent years, resulting in fewer locations where animals can be processed under USDA inspection. This has created a limiting factor for producers that can't afford to transport small numbers of animals long distances to be processed. The costs and organizational structure of current market arrangements can make it difficult to sell inspected meats in the communities where they are produced. One proposed solution to these issues has been Mobile Processing Units (MPU).

MPU's are currently used for animal slaughter primarily for poultry. One unit based in New Hampshire services several surrounding states. Kentucky has a unit that is being used for exempt slaughter for poultry and fish. There appears to be much interest in



larger units designed and used for livestock such as sheep, hogs, cattle and bison. In addition to local and smaller-scale meat sellers, there is interest in mobile slaughter from proponents that feel that the lower stress on the animals will result in a lower *pH* in the meat and more tender cuts for consumers.

MPU's are not a new concept. More than a decade ago there was a mobile slaughter facility for deer and other exotic species in Kerrville, Texas. These species did not require federal inspection and could be processed and sold both in and out of state.

In December of 2002, a mobile trailer unit was approved for use in Washington state. This is reported to be the first federally inspected unit of its type in the nation. This project was led by a nonprofit organization, The Lopez Community Land Trust, with



assistance provided by retailers, and Washington State University Extension Faculty. The unit is owned by the Lopez

Community Land Trust and is operated by the Islands' Grown Farmers Cooperative, a producers cooperative in San Juan County, WA.

Cost for the unit was approximately \$150,000 that included project coordination and testing. Developers of this livestock processing project worked with FSIS/USDA to assure the unit's in compliance with regulations. The regulatory approval of this facility took approximately 6 years and thousands of hours. Initially this group charged \$75 an animal for kill and \$0.45 per pound for processing²⁴. In late 2003 the group operating this facility had to undergo reorganization for financial considerations²⁵.

The Washington State MPU consists of goose-neck type trailer 33 feet in length overall, 8.5 feet. wide, 13 feet tall from the ground, 11 feet from floor to ceiling, and was custom built by Featherlite Manufacturing in Iowa. Pulled by an F450 diesel flatbed, this trailer

²⁴ (Source: Agweb.com Dec. 15, 2002)

²⁵ This included cost overruns for some housing ventures as well as the mobile slaughter venture.

contains three sections: processing, refrigeration, and HVAC/storage. Pickup and trailer together are 49 ft. long and have a combined GVW of 32,000 lbs. Cooler capacity is designed to hold 10 steers, or equivalent amounts of other types (e.g. 40 lambs, or 20 hogs). The unit has a 10 KW diesel generator and holds 300 gallons of water. Processing rate for lambs is about 20 animals per 8-hour day (6 hrs processing, 2 hours set-up and clean-up).²⁶

The Monterey County Agricultural and Historic District Land Trust have constructed another MPU for slaughter in California. This facility was built with grant funds from several USDA programs. Featherlite also built this unit. Currently the unit has not began operations and is awaiting a certificate of inspection from the State of California. It is undergoing feasibility studies for operational costs²⁷.

South Dakota has another MPU for use with bison. The Cheyenne River Sioux tribe operates it. The facility is based in Eagle Butte, South Dakota. The unit was based on designs used for reindeer and cost \$1.5 million to construct and import from Sweden²⁸.



After receiving its U.S. Department of Agriculture seal of approval on Dec. 16, the plant began operations with one full-time and two part-time workers carving up three animals a week. Now, the plant employs nine times its original workforce and grosses \$180,000 a month. Currently, Pte Hca Ka turns out 50 processed cattle and 12

buffalo a week²⁹.

Health, safety and environmental regulations are a big concern for any slaughter operation. However, due to the innovative and mobile nature of MPUs, determining the

²⁶ Source <http://www.sheepgoatmarketing.org/sgm/education/mobile.htm>

²⁷ Source: WWW.capitalpress.com August 20, 2004

²⁸ Source: www.aalivestock.com "Meals on Wheels"

²⁹ Source: www.rapidcityjournal.com June 16, 2004

specific regulations and regulating agencies is difficult. Since MPU's are considered on-farm slaughter, they are exempt from many environmental regulations. In order for the meat to be sold to the public, though, it must be inspected and approved under USDA regulations. This has been a challenge for many potential MPU's.

Though there is much interest and some initial trials in mobile slaughter these steps have been tentative to date. Chris Cook of The Virginia Farm Bureau in a recent look at mobile slaughter facilities viability for Virginia stated: "Such a facility creates challenges in many areas including manufacture, compliance with health and safety regulations, both at state and federal level, as well as commercial viability from a capital and overhead cost perspective."³⁰

Larger Operation Renovations³¹

Many constraints are present for large-scale processing and slaughter facilities. There exist many varied explanations for this. Environmental issues make large-scale projects more difficult; other reasons include the challenge of staffing the mega-plants, and the difficulty of maintaining a food-safety traceability program when thousands of animals are slaughtered per day.

The meat processing industry is an evolving and highly competitive industry. As part of this competitive process, these larger firms are reinvesting in their slaughter and processing facilities to stay competitive. Meat and Poultry magazine has described several expansions of meat slaughter facilities that took place in 2002. These include:

- An Excel case-ready plant in Hazleton, Pa., which is 240,000 square feet and employs 700 people, required a year or less to build, but as much as an additional 18 months to be approved by municipalities;
- Lundy Packing Co.'s plant in North Carolina was recently expanded by 114,000 square feet along with the renovation of 40,000 square feet of existing plant space. The project, undertaken by The Stellar Group, included updating the plant's

³⁰ This is included with companion research to this project.

³¹ Source for this Section <http://www.Meatpoultry.com>

- ammonia refrigeration system by replacing the compressors, condensers and evaporating equipment;
- a 50,000-square-foot expansion for Smithfield Packing Co. in Plant City, including new cooling equipment and storage areas, as well as upgraded, ammonia refrigeration systems;.
 - American Heritage Farms pork processing plant in Pontiac Ill.(\$5 million);
 - American Premium Foods. 100,000-square-foot pork processing plant (\$25 million) in Rantoul, Ill.;
 - Boar's Head Provisions Co., Inc. 35,000-square-foot headquarters in Sarasota, Fla.,
 - C&F Packing invested in a new \$16-million, 114,000-square-foot facility in Lake Villa, Ill.;
 - Excel Beef. A new case-ready plant, which spans 220,000 square feet with a price tag of about \$20 million;
 - Farmland National Beef spent nearly \$20 million this past year on warehousing and meat-processing facilities in Hummels Wharf, Pa.and Moultrie, Ga.;
 - H&L Poultry Processing built a new plant in Warren, Ark., which began operating this past year; and
 - Meadowbrook Farms, Inc. 100,000-square foot pork processing plant in Rantoul, Ill., owned by American Premium Foods, Inc., a co-operative made up of hog farmers.

Though the capital cost of the investment in these facilities is substantial, it appears, however, that these facilities are producing returns for the corporations that own and operate them. As long as this is the case, larger slaughter enterprises will build and maintain the slaughter and processing plants, while still endeavoring to make them as cost effective as possible. It is predicted that larger firms will continue their domination of the meat processing industry in the U.S.

RISK CONSIDERATIONS

The Central Virginia Processing Cooperative faces many potential risks as it faces its decision to continue to develop the slaughter facility in Central Virginia. Though it may be difficult to quantify a specific dollar value of these risks, it is useful to present them and permit the Cooperative and its members to determine their own level of risk tolerance.

The significant risks include:

Capital Risks

This is a large project that requires much equity from members. Insufficient equity is a major reason for initial businesses to fail. The assumptions in this study do not include much leeway for unexpected cost overruns that could endanger the venture.

Cash Flow Risks

The Cooperative is projected to lose more than \$75,000 in the initial 3 months of operation. Small changes in price or payment could significantly add to this amount. Care should be taken to secure adequate lines of credit for the venture.

Management Experience Risks

The board has no experience operating this type of facility. Also they have many obligations on their farm and other business ventures. The selection and oversight of management are critical for the operation and success of the venture.

Legal liabilities and risks

The venture faces significant legal liabilities and potential risks due to the nature of the product, transport of the product, worker safety and environmental risks. These issues should be addressed. Risk should be reduced with insurance where possible.

Regulatory Risks

There are a large number of regulatory risks and hurdles that the venture must address before it begins operations. There is a potential that these factors could substantially constrict the ability of the venture to operate profitably. Additionally these regulations are in constant flux. Regulations that may not affect the facility today could have a dramatic impact on it in the future.

- BSE rules and guidelines
- The Packers and Stockyards Act <http://www.usda.gov/gipsa/pubs/psact.htm>

- US EPA. 2003c. Concentrated Animal Feeding Operations (CAFO) - Final Rule. Federal Register Vol. 68. No. 29. February 12, 2003. <http://cfpub.epa.gov/npdes/>
- Waste Management Rules <http://www.wastenotnc.org/SWHOME/14RUL.htm>

Operational Risks

Due to the newness of the venture there could be several operational issues that do not proceed along the lines of the assumptions of this study. The cooperative should endeavor to gain more concrete knowledge on the operations of a commercial meat processing operation; the labor issues involved labeling procedures; freezing and other storage facilities; and other specific operational costs of the facility.

Market Development Risks

The Cooperative has no experience selling services as a meat processor. The cooperative will need to establish itself as a provider of these services in a competitive industry with previously established players. There is no guarantee that the cooperative will succeed in encountering sufficient buyers to purchase its products.

Price Risks

Identity preserved meat is still an evolving product. It is still developing its customer base for higher value uses. For this type of product it is not unusual for prices to go through wide swings and periods of significant price depression.

Partner Risks

This venture is highly dependent on livestock producers providing it with animals. If alternative uses are found or if animal production declines in central Virginia sufficient animals may not be available for the venture.

NIMBY “Not In My Backyard” Risks

The project is seeking to locate in an area that is currently rural in nature. Some counties in the region are already developing a suburban population. This factor can potentially

cause serious impacts on the venture. Numerous livestock operations throughout the country have had to relocate due to pressures from the community or community activists. This factor can be further exasperated by the involvement of animal activists. In some communities these activists have placed many roadblocks on similar business ventures ability's to operate.

The committee and the venture board of directors, once it is formally organized, should determine if these risk or other potential risks could pose a significant impact on the operations of the meat slaughter and processing facility.

Model Financial Projections and Methods

This report has developed business scenarios models for the first 3 years of operations for Central Virginia Processing. The data was modeled in Excel spreadsheets. Several of the tables utilized for this model are presented in Appendix O through Appendix Y at the end of the report. These are presented monthly for the first year of operations and quarterly thereafter in the appendices. Annual operations statements are provided as well.

This model attempts to be as realistic as possible while still permitting ease in interpretation. Though attempts have been made to make the tables as transparent as possible several key project descriptions will be presented here.

Cash flow assumptions

Cash received:

Sales It's assumed that sales in one month would be collected by the end of the following month.

Slaughter Charge \$30 per head for cattle, \$17 per head for sheep and goats, and \$20 for hogs- to kill and chill will be assessed on each animal. Payment for toll packing is typically due when the animals are processed.

Processing and Charges A further charge of \$0.29 / lb. will be charged to cut into primal cuts and boxed is included. This charge is calculated on a hot carcass weight. This charge is similar to the rates other processors charge for these activities. This charge could decrease as more volume is attained and the fixed cost of the processor declines.

Chilling Time The venture will provide chilling facilities that will permit all animals to chill for 14 days for 70% of production and 21 days for the remaining 30%.

Freezing Time The venture will charge \$0 for freezing the animals once cut and processed. This freezing service is included as part of the processing charge. Animals will remain in the freezer for 3 days.

Animal By-Products For these forecasts the value of the blood, ears, and other specific parts are not considered. The value of hides, and offal assumed to be able to be disposed of at no net costs to the venture. This assumes that some parts will be sold into rendering or other commodity markets to cover the disposal costs of other offal and waste products. A small fee for transportation of the items is included in the model. Higher values for these secondary products are not considered. Current plant processing volumes may not make these parts worth retaining separately.

Bad Debt It is anticipated that 3% of sales will result in bad debts. This is due to a large amount of marketing to producers that are members owners of the venture and limiting the credit risks. There is a contingency fee of 3% of all sales for bad debt. It is assumed that this fund will remain with Central Virginia Processing to protect the cooperative for this eventuality.

Membership Capital Producers would provide 50 percent of the total capital needs of the proposed cooperative, which amounts to \$714,740. This would also require delivery of animals to the cooperative. This percentage is based on USDA Business and Industry loan requirements and actual loans obtained for similar operations.

Other capital It is assumed that the cooperative will be partnering with local county entities to build this facility. The main scenario includes no direct investment from local entities.

Loans The cooperative would seek loans from outside lenders in the amount of \$717,738 in FY1, to help finance equipment, building, and land. The payback period is assumed to be 7 years for machinery and equipment at an annual interest rate of 6.75 percent per year, 20 years for real estate at 7.50 percent per year, and 7 years for working capital at 8 percent per year. Payments for equipment and working capital would be monthly. Payments for facilities and land would be twice a year.

Operating loan An outside lender would be sought to obtain a line of credit to cover operating capital shortfalls after startup. The interest rate would be 8 percent per year, and the minimum cash balance would be \$50,000. The borrowing would be \$85,000 on that note

Cash Disbursed:

Bills Will be paid in the same month they are incurred.

Advertising and promotion This is assumed to be a fairly minimal cost. Assumed to be fairly constant from \$12,900 in FY 1 to \$12,569 in FY 3. These figures are based on figures from a similar feasibility study. If long term commitments are achieved from buyers of both retail and wholesale product this number could be reduced.

Wages and benefits No fee for staff searches has been included. The staff will be paid on the last day of the month. Staff fringe and overhead is directly calculated as 30%. The actual rate of fringe is closer to 35% due to no reduction in pay for the two weeks that the plant is not operational. It is assumed that these will be vacation weeks for staff. All staff will be considered permanent employees with the exception of professional service providers (lawyers, accountants, etc.).

General Manager Would work on a full-time basis at a salary, including benefits, of \$78,000 per year with 3 percent increases in FY's 2005-2007, based on a similar operation in the rural Midwest and other management positions in Virginia. An overall rate of 30 percent would cover employee benefits and taxes paid by the cooperative, including Federal and State taxes, Workman's Compensation insurance, and Social Security insurance.

Sales Labor A sales role will initially be incorporated in the duties of the manager.

Production Labor Four line workers are employed. These workers are anteceded to be paid a rate of \$10/hr. Details of which are shown in Appendix R. four process workers are employed. These workers are anteceded to be paid an average rate of \$16. 5/hr. Details of which are shown in Appendix R. There is an overhead rate of 30% added to this base salary.

Secretarial Labor A full time secretary will assist with operations. Appendix R has the work details.

Legal Fees These fees include corporate documents and filings for the cooperative and the fees for the permanent organizational structure. The ongoing fees are for a retainer for legal counsel and small legal needs.

Audit Fee In the monthly accounting fee is a *pro rata* allocation for a yearly audit this service should run \$3,000 annually.

Office and Miscellaneous Expenses

Insurance Assumed to increase from \$15,575 in FY 1 to \$17,000 in FY 3, based on a similar feasibility study. This figure is based on an approximately 1% of land and machinery value. The cooperative will have product and non-performance insurance and Board of Director insurance. These are valued at just over \$10,000 a year. Each individual producer will be encouraged to obtain product liability insurance. The impact of this new insurance cost on the member is not included in the study.

Repair & Maintenance Based on equipment manufacturer estimates and other feasibility studies, for moderately heavy use. This figure includes the replacement of equipment which wears out in the course of normal use.

Electricity Based on local rates of \$102 per month fixed and \$0.072 per kWh. These rates are estimated from Dominion Virginia Power.

Water Usage It is assumed that the facility will discharge into a local municipal water system. Based on local rates of and \$9 per 1000 gallon of discharge. These rates are estimated from Buckingham County rates. The water will be estimated based on average usage of 540 gallons /1000 lbs live weight slaughtered.

Office Supplies & Telephone These are based on moderate to average monthly usage, billings, and periodic member mailings. It is assumed that the plant manager will utilize a cellular telephone that will be charged to the facility.

Laundry Estimated to be \$7 per worker per week.

Miscellaneous Miscellaneous expenses are assumed to be a percentage of other operating costs, for unforeseen expenses. These are charged at the rate of 10% of sales. This rate is utilized do to the newness of the operation for Central Virginia Processors.

TAXES

Property taxes Estimated at \$0.58 per \$100 valuation for the County of Buckingham tax estimates.

Tool and Machinery taxes Estimated at \$2.9 per \$100 valuation of the original capital cost for the County of Buckingham tax estimates.

Business License taxes No separate business tax is estimated.

Income Taxes The tax or other implications of the venture have not been considered. All returns over Central Virginia Processing fees will accrue to each member as part of their individual operations. All gains (savings) to Central Virginia Processing will be held as member equity.

FINANCIAL

Depreciation Annual depreciation would be \$53,100 for plant, buildings, and land. Equipment depreciation is estimated at \$23,146 per year. See Appendix Q for details. This depreciation is calculated on a straight line basis.

Loan Payment Payments on loans will total \$88,508 for machinery and equipment; \$1,273,240 for real estate and buildings; and \$114,282 for working capital. These will be paid as \$12,644 for machinery and equipment; \$63,662 for real estate and buildings; and \$16,326 for working capital on yearly basis. The payback period is assumed to be 7 years, 20 years, and 7 years, respectively. (USDA Business and Industry loan program permits longer loan terms; however, less restrictive terms can be difficult to obtain and USDA charges a 2% origination fee on all guarantees.)

The working capital and equipment notes will have payments on a monthly basis. The loan for the real estate and buildings will have payments on a semi-annual basis.

Interest See “Loan Payment” above. Loan rates utilized for the study are slightly higher than those available in July 2004. These were utilized due to the fact that current rates are at 45 year lows for commercial loans. Current projections have interest rates increasing for the next 15 months. Also, the newness of the operation will probably signify that it will not qualify for the lowest rates from lenders.

Patronage refund Cash patronage refunds will not be paid in FY 1-3 to build producer equity in the facility.

Operating line of credit Received and paid in amounts that result in a monthly \$50,000 cash balance. Assumed to be repaid as part of the 7 year working capital loan

MEMBER EQUITY

Start-up Member startup capital is shown prior to the first month of Year 1, but it was accumulated prior to start-up; interest and other considerations of member equity are not investigated. The expenses and income incurred at start-up are assumed to have taken place from January 1 of the star-up year.

SLAUGHTER AND YIELDS

Table 18: Slaughter Quantities and Carcass Yield Estimations

Species	Slaughter % by Species	Slaughter Cost (\$)	Average Live weight (lbs)	Average Carcass Yield (lbs)	Process Charge per lb.	Charge per head for Owner	Charge per head for Custom	Slaughter Ratio
Cattle	0.9	\$30	1100	682	\$0.29	\$227.78	\$273.34	1
Sheep	0.07	\$17	90	45	\$0.29	\$30.05	\$36.06	3
Goats	0.02	\$17	100	50	\$0.29	\$31.50	\$37.80	3
Hogs	0.01	\$20	250	155	\$0.29	\$64.95	\$77.94	2

Slaughter costs will be varied by species. This variation is to reflect the differing amounts of labor required to harvest each species.

Carcass yield rates are estimated based on information from Cornell University. Appendix H provides more details on this.

It is estimated that the facility will charge a 20% surcharge on non-member slaughter and processing. This custom slaughter is anticipated to be 20% of the total capacity of the facility.

RESULTS

The model of operations as presented demonstrates that the project can be feasible. As anticipated, the volume of the animals processed is an important value for economic success; however, the results are extremely sensitive to the assumptions of the utilization percentage of the facility, labor rates, and the cost estimated for processing.

The average cost for each cow is estimated to be \$30 for slaughter and \$227 for both slaughter and processing for owners. The rate charge is just over \$273 for custom slaughter. This is approximately \$0.018 per pound above the estimated break-even sales cost for the first year of operations. Sheep and lamb processing will be \$30 a head for owners and \$36 for custom animals. Likewise goats will have a similar rate of \$31.5 and \$37.8 respectively for owners and custom. Though it is not anticipated that the facility will slaughter many hogs it will charge almost \$65 for owners and just below \$78 for custom animals.

Table 19: Number of Animals Slaughtered per Year

	Year 1	Year 2	Year 3
Owner Cattle Processed	4,005	4,410	4,410
Owner Sheep Processed	933	1,030	1,030
Owner Goats Processed	264	295	295
Owner Hogs Processed	88	98	98
Custom Cattle Processed	1,006	1,104	1,104
Custom Sheep Processed	234	257	257
Custom Goats Processed	65	74	74
Custom Hogs Processed	22	24	24
Total Lbs Meat	3,503,517	3,855,823	3,855,823

As seen in Table 19, these estimates will result in the facility processing approximately 3.86 million pounds of meat in a year's operation. Most of this will come from the cattle that come through the facility; as cattle account for 97.5% of the pounds of meat provided to the project. This is a significantly larger percentage of the total meat than the 90% total animals slaughtered, due to cows being much heavier than the other species.

In the same one-year operational period, the facility will generate nearly \$1.39 million dollars of business. Table 20 presents the details on income to the facility by the source of their generation. Slaughter fees account for just below 15% of this income. Processing represents the largest majority of income at 84%. Extra hanging fees represent only slightly more than 1% of income; however, these fees pay for the extra operational costs of the larger cooler facilities needed for the extra week of hanging time.

Table 20: Income by Source

	Year 1		Year 2		Year 3	
	Total Income	% of Income	Total Income	% of Income	Total Income	% of Income
Owner Slaughter Fees	142,259	11.30%	156,785	11.32%	156,785	11.32%
Custom Slaughter Fees	42,844	3.40%	47,072	3.40%	47,072	3.40%
Owner Processing Fees	812,068	64.50%	894,334	64.55%	894,334	64.55%
Custom Processing Fees	247,920	19.69%	272,069	19.64%	272,069	19.64%
Extra Hang-time Fees	13,896	1.10%	15,313	1.11%	15,313	1.11%
Total Sales All Sources	1,258,987	100.00%	1,385,573	100.00%	1,385,573	100.00%

On the expense side the variable cost is slightly more than 50% of sales (at full production). The most important factor is indirect labor. This accounts for 22.4% of the sales value. The highly specialized skills required for the meat butchers makes these positions costly to operate. The next most important cost is packaging and materials. This represents 18% of the sales value. Electricity is another important cost factor, which is not surprising given that the facility is operating several coolers and freezers.

The most important factor for fixed cost is indirect labor that utilizes more than 7.5% of the sales dollars. Also the payment on loans and notes is another important fixed cost representing almost 7% of the sales value. The non-cash charge for depreciation is important for the profits of the facility. It accounts for over 5% of sales each year.

At full project volume, net project income declines by more than \$109,000 with a change of 10% (\$0.029/ lb.) in the price charged for processing.

Table 21: PRO FORMA OPERATING STATEMENTS

25 head a day capacity	Start-up	FY1	FY2	FY3
Revenues [Sales]	7,290	1,258,987	1,385,573	1,385,573
Total Processing Costs	(14,371)	(391,511)	(424,615)	(428,022)
Total Marketing Costs	(1,572)	(276,107)	(304,164)	(304,164)
Variable Margin (Loss)	(8,653)	591,369	656,795	653,388
Total Equipment and Facilities Costs	(9,328)	(145,806)	(153,822)	(157,288)
Total Indirect Labor Cost	(6,500)	(78,000)	(81,900)	(85,995)
Total Selling and Marketing Costs	(1,500)	(12,900)	(11,970)	(12,569)
General and Administrative Expenses	(22,194)	(46,806)	(49,046)	(50,243)
Unforeseen and Contingency Expenses	(10,948)	(163,668)	(180,125)	(180,125)
Central Virginia Processors Earnings EBITDA (Loss)	(59,123)	144,188	179,932	167,169
Interest Expense	(42)	(7,330)	(8,067)	(8,067)
Depreciation Expense		(76,846)	(76,846)	(76,846)
Net Central Virginia Processors Venture Income (Loss)	(59,165)	60,013	95,019	82,256

The producers begin to make a profit (given the assumptions in the model) when processing exceeds the \$215 per head for the owners and \$258 for custom slaughter range during the year Appendix S Year 1 at a full yearly output. If the owners charge less than this then the venture will operate at a loss.

The producers do not experience a yearly net loss in the model. As can be seen in Table 21, Central Virginia Processing has a net profit of approximately \$60,000 for the first year. This is after a \$59,000 start-up cost. This results in a minimal net profit to the project of less than \$1,000. After three months of ramp-up, the facility is profitable on a cash flow basis except in the months when the facility note is paid. The remaining cash on hand never falls below \$50,000 in this year.

If markets can be found for the bone and waste products, these will dramatically improve the profit of CVP. Almost 10% of the carcass is not being sold to the commodity market. The size and scale of this operation may permit the development of ethnic or specialized markets for these lesser value products.

The importance of cash on hand is a critical factor for project success. In the model, the operating cash flow as supplied by the producers permits the project to survive initial operating losses for profitable operations in the second year of the project. However the project must retain these profits for the venture to maintain business viability.

The labor cost is another critical factor in the model results. Production labor is running over 22% of sales at full capacity. If the labor is not fully utilized this percentage can quickly increase. This can cause the facility to operate with deficits.

Also the income from custom slaughter is an important source of income for the facility. These fees account for more than 23% of income. As the facility has a profit percentage of less than 6% with the custom slaughter in the baseline scenario, this is reduced to less than 3% without the custom fees or \$50,000 a year. This is shown in Appendix W. If the facility did not have the surcharge on custom slaughter, it may need to raise its charges to members to have sufficient cash reserves for future operations.

Scenario Analysis

If the facility does not operate at or near capacity, then the venture changes rapidly from operational profits to losses. A decline of 10% in the average animals sent through the facility, that is to say just 2.5 animals a day, causes the facility to not achieve a profit. This is clear in Table 22, which demonstrates the impacts that change in animal slaughter numbers has on the net income of facility. On the other hand a 10% increase in animal slaughter causes profits to double. For example in the second year of operations the net returns to the project increase from \$100,000 to almost \$200,000. Much of this is change due to more efficient usage of labor in the model.

Table 22: Stability Analysis for Variations in Animal Slaughter Numbers

Impact of lower animals slaughtered on operations

20% Custom Slaughter (baseline)

	Year 1					Year 2				
	Animals Slaughtered Per Day					Animals Slaughtered Per Day				
	20	23	25	28	30	20	23	25	28	30
Total Revenue	1,061,427	1,179,524	1,258,987	1,376,590	1,455,582	1,108,136	1,274,234	1,385,573	1,551,363	1,662,178
Variable Slaughter	(387,622)	(389,951)	(391,511)	(393,823)	(395,377)	(419,142)	(422,407)	(424,596)	(427,855)	(430,034)
Variable Marketing	(233,487)	(259,001)	(276,107)	(301,448)	(318,488)	(244,272)	(280,133)	(304,164)	(339,962)	(363,890)
Fixed Costs	(283,512)	(283,512)	(283,512)	(283,512)	(283,512)	(296,738)	(296,738)	(296,738)	(296,738)	(296,738)
Unforeseen and Interest	(144,165)	(160,205)	(170,998)	(186,971)	(197,700)	(150,509)	(173,068)	(188,192)	(210,709)	(225,760)
Depreciation	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)
Net Income Central Virginia Processors	(64,205)	10,009	60,013	133,990	183,659	(79,371)	25,042	95,037	199,253	268,910

	Year 3				
	Animals Slaughtered Per Day				
	20	23	25	28	30
Total Revenue	1,108,136	1,274,234	1,385,573	1,551,363	1,662,178
Variable Slaughter	(422,549)	(425,814)	(428,002)	(431,262)	(433,441)
Variable Marketing	(244,272)	(280,133)	(304,164)	(339,962)	(363,890)
Fixed Costs	(306,095)	(306,095)	(306,095)	(306,095)	(306,095)
Unforeseen and Interest	(150,509)	(173,068)	(188,192)	(210,709)	(225,760)
Depreciation	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)
Net Income Central Virginia Processors	(92,135)	12,278	82,274	186,489	256,146

This trend is similar but even stronger in scenarios where the facility does not operate with custom slaughter and processing³². In Appendix W, the stability analysis for this scenario is presented. In this case the decline in 8% of animals slaughtered the model has the facility losing money in all years of operations. The increase in 10%, under this scenario will cause net income to triple.

Another factor that is highly influential on the facility is the average weight of animals that are processed. If beef live weight drops by an average of 4.5% the facility will experience losses. This is a difference in only 50 lbs. per beef unit processed.

If the producer owners are able to secure financing at a 50% equity level, it is estimated that they will have to raise slightly more than \$700,000 of cash equity. Based on a share distribution on that mirrors the number of animals slaughtered, it is estimated that the producers will have to charge almost \$146 a head for the cattle shares and \$48 for sheep and goat shares. Table 23 demonstrates how this is reduced for each of the species slaughtered and processed in the facility. If the producers chose to have all animals in the facility be from member's shares, then the equity required per head would decline to \$117.

³² or charges the same rate for custom as for the owners, which results in the same impact.

Table 23 Investment Share Price Estimates by Species

Share Cost on a per head basis	20% of Operations as Custom	No Custom Operations
Cattle Share	\$145.87	\$116.66
Sheep Share	\$48.57	\$38.87
Goat Share	\$48.46	\$38.74
Hog Share	\$72.93	\$58.59

RECOMMENDATIONS

Producers can finance a marketing venture with their own funds to a rate that is sufficient in the model to cover the initial losses during the first year of operations. Special care should be paid to the critical factors of the number of animals slaughtered, the break-even sales, price of offal sales, bad debt, and the potential for value added processing.

The proposed business venture would coordinate the custom slaughter and further processing of several species of livestock. Since the market for tracked producer identified meat is an emerging one, and although an advisor to the steering committee has supplied figures, it is difficult to independently determine how expensive the marketing effort should be, or whether it would work to achieve a price premium. Producers would be risking capital that may or may not result in a profitable cooperative.

Estimates of the total size of this market are difficult to make. But, one indication that a new business could successfully market producer-identified meat is a feasibility study of a multi-species marketing cooperative in North Dakota and similar ventures in Kentucky and New Hampshire

The producers and the management of Central Virginia Processing have a lack of experience in the slaughter and processing business. The estimations of time of entry and the details that could make the difference between profits and lose will need to be learned. This may involve larger losses than anticipated during start-up and early operations.

The cooperative could still have substantial financial exposure in the form of unpaid slaughter and processing fees and uncollectible current accounts if this occurs.

A serious problem could result if marketing efforts fall short of projections. Unplanned operational expenses, including chilling and freezing costs for meat over long time periods, could result in failure for the proposed cooperative. These should be closely monitored.

Another issue, which may arise, is that of liability. For example, if a consumer becomes sick and dies, through no fault of the retail establishment, or the processing plant manager, who bears the cost? One idea used by many businesses is to distribute the cost of such catastrophic insurance among all producers. Central Virginia Processing and the members should thoroughly review available insurance policies.

There are other alternatives to building an entirely new facility. The option of refurbishing an existing facility has served many similar groups around the country. A further option could be modifying an existing building for slaughter and processing. There is a potential site for such a facility in Buckingham County. Other locations may also be available. This option could reduce the capital cost of a facility. Utilizing such an existing facility or building could also reduce the time required to complete a new facility.

An initial operational agreement will need to be formulated at the earliest moment. This will need to include some form of equity accounts. This will permit the early risk takers in the cooperative to benefit from their decisions. The agreement will also need to

specify a pattern and plan for revolving equity. It is recommended that a percentage of sales be retained to allow the business to survive the slower periods of operation.

Matson Consulting recommends that the producers and its advisors focus on the following points:

After the board evaluates feasibility results, decide whether to proceed with developing the proposed business venture. It should present the feasibility study results for the scenario that most closely resembles actual operations to producers for their reaction. If there appears to be sufficient commitment of animals and operating capital on their part, address the following issues:

- *Continue the work of the committee to develop the project.*
- *Develop initial operational agreements.*
- *Complete a production schedule for supplying animals to the facility*
- *Complete a business plan.*
- *Reach agreements with member for operating structures and equity sharing practices. (pool arrangements)*
- *Hire an attorney to create the permanent operating agreement.*
- *Receive operating permits and zoning from appropriate agencies.*
- *Incorporate as an LLC or a cooperative.*
- *Secure binding agreements for livestock and operating equity.*
- *Complete job descriptions and personnel policies, and plan to obtain experts for these positions.*
- *Hire the required personnel.*
- *See that an accounting system is in place.*
- *Create agreements for transparency within the new business venture.*
- *Obtain written contracts, with terms of the business arrangement clearly specified, from all businesses with which the business plans to works.*
- *Ensure that members, directors, and management receive ongoing education in all aspects of the venture.*

APPENDICES

Appendix A: SELECTED REFERENCES

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Appendix B: PROJECT LEADERSHIP

- Steve Hopkins:** Unit Coordinator, Extension Agent, Agriculture and Natural Resources, Animal Science, Orange County Cooperative Extension, Virginia Cooperative Extension
- Charles Rosson:** Co-owner and Genetics manager, Quaker Hill Farm, Louisa
- Susan Swales:** Owner/operator, Wild Oats Farm, Inc., Scottsville
- Robins Buck:** Project Manager, Agribusiness Development Services, Virginia Department of Agriculture and Consumer Services, Richmond
- Spencer Neale:** Senior Assistant Director, Commodity/Marketing Department, Virginia Farm Bureau Federation, Richmond
- Chris Cook:** Agricultural Enterprise Development Coordinator, Commodity/Marketing Department, Virginia Farm Bureau Federation, Richmond
- Tony Banks:** Assistant Director, Commodity/Marketing Department, Virginia Farm Bureau Federation, Richmond

APPENDIX C: 1997 CENTRAL VIRGINIA AGRICULTURE STATISTICS

County	Total Farms	Farms with Cattle	% of Farms w/ Cattle	Farms with Hogs	Farms with Sheep	Total acres of Farmland	Beef Cows Jan. 1, 2002 *	Avg. Herd Size #
Albemarle	747	440	59	6	30	172,251	15,000	34
Amelia	336	196	58	7	7	78,483	4,000	20
Amherst	406	323	80	6	14	92,720	9,000	28
Appamottox	353	262	74	9	11	76,643	9,000	34
Bedford	1,198	954	80	21	19	194,946	25,000	26
Buckingham	370	282	76	12	7	75,854	11,000	39
Campbell	621	423	68	8	9	140,671	13,000	31
Caroline	179	82	46	5	8	55,403	2,500	30
Chesterfield	159	59	37	7	7	20,151	1,000	17
Cumberland	248	174	70	13	5	61,048	7,100	41
Fluvanna	256	176	69	12	6	58,911	4,600	26
Goochland	229	159	69	1	6	46,789	4,100	26
Greene	198	157	79	5	13	33,679	3,700	23
Hanover	501	233	47	8	12	98,201	5,800	25
Henrico	154	51	33	3	6	26,403	800	15
Louisa	385	281	73	14	11	79,019	8,000	28
Nelson	357	268	75	9	11	73,200	7,000	26
Orange	437	317	73	17	14	101,455	12,000	38
Powhatan	208	128	62	7	7	43,088	2,400	19
Pr. Edward	312	188	60	8	3	72,927	9,000	48
Spotsylvania	253	158	62	9	6	47,947	4,000	25
Totals	7,907	5,311	67	187	212	1,649,789	158,000	30

* county statistics for numbers of hogs and sheep is very limited

estimates only, based on using '97 census data for number of farms with cattle and 2002 numbers of beef cows

From: data tables provided by the Virginia Farm Bureau Federation.

APPENDIX D: CENTRAL VIRGINIA PROCESSING INTEREST SURVEY

CENTRAL VIRGINIA MEAT PROCESSING SURVEY

Please check the appropriate answers or fill in appropriate blanks.

Please return by mail to: VFBF Commodity/Marketing Dept., P.O. Box 27552, Richmond, VA, 23261 or fax to 804-290-1081 no later than 00/00/04

1. **Would increased USDA inspected meat processing capacity in Central Virginia be advantageous to your farming operation?**
 - Yes
 - No
2. **If a facility were located in Central Virginia, would you use it?**
 - Yes
 - No
 - Maybe
3. **What county are you located in?** _____
4. **Do you currently direct market meat products?**
 - Yes
 - No
 - Have in the past
5. **If currently direct marketing meat products, what numbers do you process on an annual basis:**

	Under 5	5 to 10	11 to 20	Over 20
Head				
Cattle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sheep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Swine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. **If currently direct marketing meat products, through which of the following outlets do you sell product (mark any that apply)?**
 - Restaurants
 - Farm Markets
 - Retail
 - Mail Order
 - Direct to individuals
 - Wholesale
 - Quarters or Halves
 - _____
7. **If you currently direct market meat products, do you have product processed:**
 - Weekly
 - Monthly
 - Quarterly
 - Four times or less annually
8. **If currently direct marketing meat products, how far do you travel one way on average for slaughter/processing services? _____ miles**

9. If you are not direct marketing meat products and slaughter/processing facility were located in Central Va. would you consider a move into direct marketing?

- Yes
- No
- Maybe

10. What species might you process through such a facility?

- Beef cattle
- Sheep
- Meat Goats
- Swine

_____ Other

Which of the following production practices best reflects your operation (mark any that apply)?

- Conventional
- Organic
- Grass-fed
- Natural

11. How many total animals do market a year?

	Under 25 Head	25 to 50	51 to 99	Over 100
Cattle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sheep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Swine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Would you be interested in working with other producers with similar production practices to cooperatively market product?

- Yes
- No

13. Would a mobile slaughter facility enhance your ability to direct market product?

- Yes
- No

14. Due to the size of a mobile facility, farm access may be an issue for some. Would you use a mobile facility if it operated at central locations.

- Yes
- No

15. Would you be willing to pay a premium for mobile processing vs. fixed facility slaughter?

- Yes
- No

16. Would you be interested in investing in a producer owned stationary and /or mobile facility?

- Yes
- No

APPENDIX E: VALUE CHAIN ROE

ROE and Net Margins by Industry

Industry / Sector	Net Profit Margins	Long Term ROE
Farms	0-2%	4%*
Meat Products	2.5%	13%
Processed and Packaged Foods	2-5%	9%
Wholesalers to Grocers	0.25%	4%
Grocery Stores	1.9%	20%

Source: Hoovers comparison data, industry producers are achieving 12-17%

APPENDIX F: 2000 KENTUCKY CUSTOM SLAUGHTER CHARGES

Name of Processor	Species other than Beef	Charges for Typical Beef Services
A. J. Sutton & Sons Processing 2385 W. Hwy. 204 Williamsburg, KY 40769 (606) 549-0928	Hogs	\$12 Slaughter \$.20 lb Carcass wt
Boone's Abattoir, Inc. 100 Old Bloomfield Pike Bardstown, KY 40004 (502) 348-3668	Hogs, sheep, goat, emu, ostrich, and deer	\$22 slaughter \$.22-.25 lb Carcass wt
Brooksville Meat Fab. Center Rt. Box 37 Brooksville, KY 41001 (606) 735-2250	Hogs, Sheep Goat, and Deer	\$.32 lb. Carcass wt. \$.35 live on hogs \$75/hd lambs
Elmore & Payne Packing 100 Lenna Dr. Glasgow, KY 42141 (270) 651-8011	Hogs and deer	\$12 Slaughter \$.25 lb Carcass wt
Fairplay Meat Processing 275 Jack Smith Rd. Fairplay, KY 42735 (270) 384-4024	Hogs, main business	\$16 Slaughter \$.16 lb Carcass wt. no patties
Fairs Custom Meat Processing 270 Stewartsville Rd. Williamstown, KY 41097 (859) 824-4160	Hogs, goats, sheep and ostrich	\$15 Slaughter \$.30 Carcass wt.
Farmer's Custom Processing 5919 Sunfish Rd. Sunfish, KY 42210 (270) 286-8612	Hogs, lamb, and ostrich	\$15 Slaughter \$.28 Carcass wt.
Elmore & Payne Packing 100 Lenna Dr. Glasgow, KY 42141 (270) 651-8011	Hogs and deer	\$12 Slaughter \$.25 lb Carcass wt
Fairplay Meat Processing 275 Jack Smith Rd. Fairplay, KY 42735 (270) 384-4024	Hogs, main business	\$16 Slaughter \$.16 lb Carcass wt. no patties
Farmer's Custom Processing 5919 Sunfish Rd. Sunfish, KY 42210 (270) 286-8612	Hogs, lamb, and ostrich	\$15 Slaughter \$.28 Carcass wt.
Bill Opell's Meat Processing 22515 Bear Creek Rd. Cattlettsburg, KY 41129 (606) 928-5094	Hogs, Lamb, Goat, and deer	\$15 Slaughter \$.29 lb. Carcass wt
P & H Packing Co. 1293 Salyers Branch Rd. Hueysville, KY 41640 (606) 358-9801	Sheep, Goat, and Hogs	\$16 Slaughter \$.20 lb. Carcass wt
Pulaski Packing Co. Box 214 Bronston, KY 42518 (606) 561-4456	Hogs, sheep, and deer	\$20 Slaughter \$.23 lb Carcass wt
Rebel Acres 692 White Terley Rd. Mt. Sterling, KY 40535 (859) 744-6966	all species	\$25 Slaughter \$.25 lb Carcass wt

Kentucky Meat Handbook: <http://www.uky.edu/Ag/KyMeat/pubs.html>

APPENDIX G: TOP US PACKERS 2002

The top beef packers in the U.S. are:

1. Tyson Foods, Springdale, AR
2. Excel Corp, Wichita, KS
3. Swift and Company, Greeley, CO
4. Farmland National Beef, Kansas City, MO
5. Smithfield Foods, Smithfield, VA
6. Rosen Meat Group, Fairmont, MN
7. Greater Omaha Packing Company, Omaha, NE
8. Nebraska Beef Ltd, Omaha, NE
9. Beef Packers, Inc., Fresno, CA
10. American Foods Group, Green Bay, WI
11. Brawley Beef LLC, Brawley, CA
12. Shapiro Packing Co, Augusta, GA
13. Sam Kane Beef Processors, Corpus Christi, TX
14. L and H Packing Companies, San Antonio, TX
15. Washington Beef, Inc, Toppenish, WA
16. Harris Ranch Beef Co, Selma, CA
17. PM Beef Holdings, LLC, Richmond, VA
18. Lone Star Beef Processors, San Angelo, TX
19. Caviness Valley Meat Co., Hereford, TX
20. Central Valley Meat Co, Hanford, CA
21. Martin's Wholesale Meats, Godwin, NC
22. San Angelo Packing Co., San Angelo, TX
23. Aurora Packing Co., North Aurora, IL
24. Booker Packing Co, Booker, TX
25. Brown Packing Co., Gaffney, SC
26. Agriprocessors, Inc., Brooklyn, NY
27. Simplot Meat Products, Nampa, ID
28. Hallmark Meat Packing, Chino, CA
29. Minnesota Beef Industries, Buffalo Lake, MN

(Cattle Buyers Weekly, Rankings 2002)

APPENDIX H: MEAT CUTOUT CHARTS

Steer Cutout Rates

Typical live steer weight	1100 pounds.
Carcass weight	682 pounds (62% of live weight)
Usable cuts	512 pounds (75% of carcass weight)
Fat and bones	170 pounds (25% of carcass weight)

http://outreach.missouri.edu/stcharles/qfk.nl/oct03/buying_meat.html

Lamb and Goat Marketing – Dressing Percentages of Slaughtered Carcass

Goats – Hide Off /Head On (60 to 120 lbs. live)	46% to 52%
Kid Goats – Hide On /Head On	65% to 72%
Kid Goats – Hide Off /Head On	55% to 58%
Market Lambs – Hide Off /Head Off (90 to 120 lbs. live)	50% Avg.
Hot House Lambs – Hide On /Head On	65% to 70%
Hot House Lambs – Hide Off /Head On	55% to 58%
Cull Sheep – Hide Off /Head On (Depending on Condition)	37% to 52%

Source: Cornell University

<http://www.sheepgoatmarketing.org/sgm/education/dressingpercentages.htm>

Typical Market Pig Carcass Breakdown

Live weight (pounds)	250
Carcass weight (pounds)	184
Backfat 10th rib (inches)	0.9
Loin-eye area (square inches)	5.2
Fat-free lean index (percentage)	8.0
Pounds of lean meat	88.6

APPENDIX I: ANIMAL BY-PRODUCTS

Animal By- Products : Average Pounds by Species

	Cattle	Hog	Lamb
Blood	2.4-6	2-6	4-9
Blood, dried	0.7		
Brain	0.08-0.12	0.08-0.1	0.26
Breast fat	0.07		
Cheeks	0.03-0.32		
Chitlings	0.06		
Cracklings	3.0	2.2	
Ears	0.02		
Edible kill fat	1-7	1.3-3.5	12
Feet	1.9-2.1	1.5-2.2	2.0
Gizzard			1.9-2.3
Gullet	0.03	0.1	
Hanging tender	0.19		
Head		5.2	6.7
Head and cheek meat	0.32-0.4	0.54-0.6	
Head trimmings	0.03		
Heart	0.3-0.5	0.15-0.35	0.3-1.1
Hide	5.1-8.5	3.0-8.0	11.0-11.7
Intestines		1.8	3.3
Jowl		2.7	
Kidney	0.07-0.24	0.2-0.4	0.3-0.6
Lips	0.1-0.24		
Liver	1.0-4.5	1.1-2.4	0.9-2.2
Lungs	0.4-0.8	0.4-0.85	0.7-2.2
Omasum	0.38		
Maw (Abomasum)	0.48		
Pancreas	0.06	0.1	0.2
Pizzle	0.18		
Rennet	0.23		
Skirt	0.15-0.3	0.4-0.5	0.5
Spinal cord	0.3		
Spleen	0.1-0.27	0.1-0.16	0.1-0.4
Stick trimmings	0.48	0.21	
Stomach		0.7	
Total Percentage Range of Live Weight	19.6%-40.5%	23.8%-38.1%	44.2%-54.5%

Source: Animal By-Product Processing & Utilization, Ockerman, H. W., (2000) Animal By-Product Processing & Utilization, CRC Press LLC.

Appendix J: USDA BY-PRODUCT DROP VALUE (STEER)

USDA BY-PRODUCT DROP VALUE (STEER)

The hide and offal value from a typical slaughter steer(1) for today was estimated at 8.56 per cwt live, FOB CENTRAL U.S.

TODAY'S CALCULATIONS FOR BY-PRODUCT VALUE (STEER) -

	Lbs	Price	Change	Value
Steer hide, butt brand/Pc	4.92	67	1	5.25
Tallow, edible	1.2	19.25	-1	0.23
Tallow, packer bleachable	4.5	16.75	-1	0.75
Tongues, Swiss #1 Wht 0-3%	0.26	72	-	0.19
Cheek meat, trmd	0.32	98.25	-	0.31
Head meat	0.13	74	-	0.1
Oxtail, selected	0.16	155	-	0.25
Hearts, reg, bone out	0.38	35	-	0.13
Lips, unscalded	0.11	80	-	0.09
Livers, slcted, gall off	0.96	22	-	0.21
Tripe, scalded edible	0.65	44	-	0.29
Tripe, honeycomb bleached	0.15	152	-	0.23
Lungs, inedible	0.47	2.32	-	0.01
Melts	0.14	2	-	0
Meat bone ml, 50% blk/ton	3.7	199.5	-18.5	0.37
Blood meal, 85% blk/ton	0.6	490	-	0.15
Totals:	18.65			8.56
Dressed equivalent bas is (63% dress):				13.59

(1) Typical slaughter steer weighs 1,275 pounds.

Source: USDA Market News, Des Moines, IA
Des Moines, IA Thu Jul 29, 2004 USDA Market News
Phone: 515-284-4460 email: desm.lgmn@usda.gov
www.ams.usda.gov/mnreports/nw_ls441.txt

**APPENDIX K: RECOMMENDED STORAGE TIME FOR MEAT ITEMS AT
VARIOUS TEMPERATURES ¹**

Item	-12° C +10° F	-18° C 0° F	-24° C -11° F	-30° C -22° F	
	Months				
Beef	4	6	12	12	
Lamb	3	6	12	12	
Veal	3	4	8	10	
Pork	(fresh)	2	4	6	8
	(cured, unsliced) ²	0.5	1.5	2	2
Variety meats	(liver, heart, tongue) ³	2	3	4	4
Ground beef and lamb		3	6	8	10
Seasoned sausage ⁴	(pork, bulk)	0.5	2	3	4

¹Forrest, J.C.; Aberle, E.D.; Hedrick, H.B.; Judge, M.D.; and Merkel, R.A.; *Principles of Meat Science*. Kendall/Hunt Publishing Company, Dubuque, Iowa. 1989.

²It is not recommended that sliced bacon and sliced luncheon meat products be frozen because the air incorporated during slicing, together with the salt effect, leads to the development of rancid flavors in a matter of weeks.

³It is not recommended that brains and sweetbreads be frozen because texture is adversely affected.

⁴It is not recommended that pork sausage links and patties, and other sausages (such as bologna, franks, and braunschweiger) be frozen because salt enhances the development of rancidity during frozen storage.

<http://www.extension.umn.edu/distribution/nutrition/DJ1944.html>

APPENDIX L: DETAILED EQUIPMENT LIST FOR CVP

Detailed Equipment for Animals Operations

ITEM	Quantity	UNIT VALUE \$'S	TOTAL VALUE \$'S	ANNUAL DEPRECIATION AMOUNT	USEFUL LIFE IN YEARS
COMPUTER AND COMMUNICATION					
Computers and Scanners	1	700	700	233	3
Phone System (basic)	1	1,000	1,000	333	3
Desks	2	500	1,000	333	3
Files Cabinets	2	175	350	117	3
Chairs	7	150	1,050	350	3
Misc. Office	1	300	300	100	3
Cabinet	4	200	800	267	3
Printer/ Fax	1	500	500	167	3
FABRICATION FLOOR					
Computers and UPC Scanners	5	1250	6,250	5000	3
Tracking Software	1	16000	16,000	15000	3
Monitors	4	225	900	15000	
Live Animal Scale	1	1,500	1,500	300	5
Stunning Boxes	2	500	1,000	200	5
Stun Wands	2	200	400	80	5
Cut Off Saw	1	500	500	100	5
Meat Saw	1	1,400	1,400	280	5
Boning Tables	1	5,000	5,000	1,000	5
Poly Tables	3	750	2,250	450	5
Belt Conveyor	1	2,700	2,700	540	5
Electric Sterilizer	15	275	4,125	825	5
Knife Sharpener	3	400	1,200	240	5
Wrapping Table	1	500	500	100	5
Offal Tubs	4	50	200	40	5
Plastic Tubs	20	10	200	40	5
Wizard Knife Sharpener	1	650	650	130	5
Box Printer	1	3,000	3,000	600	5
Shrink Tunnel	1	4,250	4,250	850	5
Box Scales	2	275	550	110	5
Platform Scale	1	4,000	4,000	800	5
Pallet Jack	1	100	100	20	5
Sinks	3	425	1,275	255	5
Heavy Duty Hand truck	2	75	150	30	5
Fork Lift	1	10,000	10,000	2,000	5
Band Saw	1	900	900	180	5
Aprons	19	12	228	46	5
Temperature Recorder	1	650	650	130	5
Carcass Scales	2	1,000	2,000	400	5

Hooks	900	33	29,700	5,940	5
Chain Hoist	3	1,000	3,000	600	5
SHIPPING FLOOR					
Platform Scale	1	5,000	5,000	1,667	5
Dollies	3	60	180	36	5
Pallet Jacks	1	450	450	90	5
Hand tools	1	150	150	30	5
OTHER					
Air Compressors hoses	1	200	200	40	5
Power Washer	1	300	300	60	5
Hoses	3	50	150	30	3
Shelving and Storage Racks	3	150	450	90	5
Lawn Mower	1	1,000	1,000	200	3
Microwave, break room	1	400	400	133	3
Refrigerator	1	600	600	200	3
Signs for Safety	10	7	70	23	3
Security System	1	600	600	200	3
Workers Clothes Cabinets	3	500	1,500	500	3
brooms, solvents, cleaning supplies	1	2,000	2,000	667	3
First Aid and fire equipment	1	500	500	167	3
Vacuum Cleaner	1	150	150	50	
Miscellaneous Equipment	1	1,000	1,000	333	5

Equipment TOTAL			124,978	57,702	
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Appendix M: COUNTY OVERVIEWS

Overview for Buckingham County, VA



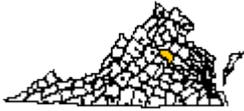
Buckingham County is one of about 3,141 counties and county equivalents in the United States. It has 580.9 sq. miles in land area and a population density of 27.1 per square mile. In the last three decades of the 1900s its population grew by 47.4%. On the 2000 census form, 98.9% of the population reported only one race, with 39.1% of these reporting African-American. The population of this county is 0.8% Hispanic (of any race). The average household size is 2.52 persons compared to an average family size of 2.99 persons.

In 2002 retail trade was the largest of 20 major sectors. It had an average wage per job of \$15,592. Per capita income grew by 9.6% between 1991 and 2001 (adjusted for inflation).

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2002) (By Place of Work)	Value	Rank in U.S.
Population (2002)	15,767	2045	Covered Employment	2,910	2407
Growth (%) since 1990	22.5%	668	Avg wage per job	\$25,381	1613
Households (2000)	5,324	2164	Manufacturing - % all jobs in County	7.6%	2082
Labor Force (persons) (2002)	6,327	2159	Avg wage per job	\$24,013	2385
Unemployment Rate (2002)	3.0	2827	Transportation & Warehousing - % all jobs in County	3.5%	796
Per Capita Personal Income (2001)	\$17,877	2722	Avg wage per job	\$25,948	2767
Median Household Income (2000)	\$29,882	2316	Health Care, Social Assist. - % all jobs in County	D	N/A
Poverty Rate (2000)	20.0	492	Avg wage per job	D	N/A
H.S. Diploma or More - % of Adults 25+ (2000)	62.8%	2,944	Finance and Insurance - % all jobs in County	1.8%	2232
Bachelor's Deg. or More - % of Adults 25+ (2000)	8.5%	2,942	Avg wage per job	\$20,947	2689

Covered Employment and Wage data for 2002 are preliminary.

Overview for Louisa County, VA
 Part of: Richmond VA, Metropolitan Area



Louisa County is one of about 3,141 counties and county equivalents in the United States. It has 497.1 sq. miles in land area and a population density of 54.3 per square mile. In the last three decades of the 1900s its population grew by 83.0%. On the 2000 census form, 99.0% of the population reported only one race, with 21.6% of these reporting African-American. The population of this county is 0.7% Hispanic (of any race). The average household size is 2.56 persons compared to an average family size of 2.97 persons.

In 2002 manufacturing was the largest of 20 major sectors. It had an average wage per job of \$36,991. Per capita income grew by 29.3% between 1991 and 2001 (adjusted for inflation).

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2002) (By Place of Work)	Value	Rank in U.S.
Population (2002)	27,007	1498	Covered Employment	6,226	1787
Growth (%) since 1990	32.9%	353	Avg wage per job	\$34,157	284
Households (2000)	9,945	1519	Manufacturing - % all jobs in County	21.9%	723
Labor Force (persons) (2002)	10,580	1662	Avg wage per job	\$36,991	813
Unemployment Rate (2002)	5.3	1640	Transportation & Warehousing - % all jobs in County	0.7%	2534
Per Capita Personal Income (2001)	\$25,788	759	Avg wage per job	\$36,889	649
Median Household Income (2000)	\$39,402	784	Health Care, Social Assist. - % all jobs in County	0.7%	2092
Poverty Rate (2000)	10.2	2181	Avg wage per job	\$26,663	1043
H.S. Diploma or More - % of Adults 25+ (2000)	71.7%	2,315	Finance and Insurance - % all jobs in County	1.5%	2450
Bachelor's Deg. or More - % of Adults 25+ (2000)	14.0%	1,672	Avg wage per job	\$33,592	889

Covered Employment and Wage data for 2002 are preliminary.

Overview for Madison County, VA



Madison County is one of about 3,141 counties and county equivalents in the United States. It has 321.4 sq. miles in land area and a population density of 40.3 per square mile. In the last three decades of the 1900s its population grew by 44.9%. On the 2000 census form, 99.1% of the population reported only one race, with 11.4% of these reporting African-American. The population of this county is 0.8% Hispanic (of any race). The average household size is 2.60 persons compared to an average family size of 3.03 persons.

In 2002 retail trade was the largest of 20 major sectors. It had an average wage per job of \$20,465. Per capita income grew by 31.0% between 1991 and 2001 (adjusted for inflation).

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2002) (By Place of Work)	Value	Rank in U.S.
Population (2002)	12,947	2239	Covered Employment	3,428	2281
Growth (%) since 1990	8.4%	1627	Avg wage per job	\$23,164	2242
Households (2000)	4,739	2262	Manufacturing - % all jobs in County	10.5%	1740
Labor Force (persons) (2002)	10,063	1712	Avg wage per job	\$28,883	1790
Unemployment Rate (2002)	3.3	2719	Transportation & Warehousing - % all jobs in County	0.8%	2416
Per Capita Personal Income (2001)	\$23,099	1361	Avg wage per job	\$25,789	2795
Median Household Income (2000)	\$39,856	743	Health Care, Social Assist. - % all jobs in County	0.6%	2105
Poverty Rate (2000)	9.6	2328	Avg wage per job	\$28,781	822
H.S. Diploma or More - % of Adults 25+ (2000)	75.0%	2,001	Finance and Insurance - % all jobs in County	0.6%	2713
Bachelor's Deg. or More - % of Adults 25+ (2000)	19.4%	772	Avg wage per job	\$27,012	2081

Covered Employment and Wage data for 2002 are preliminary.

Source: www.stats.indiana.edu/usps

Appendix N: Available Buckingham County Shell Building



Buckingham County Shell Building	
Square Feet	Total: 20,000 sq. ft. Manufacturing: 16,000 sq. ft. Office: 960 sq. ft. Warehousing: 2,248 sq. ft. (Total park acreage is 197 acres of which 30 acres is cleared and ready to develop) Building can be easily divided into two facilities or expanded
Lot Size	7.82 acres with additional acreage available
Bay Spacing	80' x 200'
Basic Dimensions	100' x 200'
Paved Parking	Available for 150 lighted—may be expanded
Condition	Excellent
Date of Construction	October 1998
Construction	Floors: 5" Concrete Exterior Walls: Metal Roof: Metal Roof w/ Sky Lights Ceiling Height: Minimum of 12' clearance at lowest eave, 20'-16' at center
Power	Dominion Virginia Power; Three phase 277 and 480 volts with transformer for 230 volts and 110-220 volt 1 phase
Sprinkler	Available for F1 occupancy
Heat	Trane heating system
Water	Provided by the County Capacity: 310,000 gpd Current storage: 250,000 gallons
Sewer	Provided by the County Total treatment capacity: 50,000 gpd Available treatment capacity: 50,000 gpd

Air Conditioning	Trane air-conditioning system
Ventilation	50 tons heating and cooling in bay and 10 tons heating and cooling in office and cafeteria.
Lighting	Fluorescent 277
Building Access	Asphalt approved for heavy traffic
Truck Loading	Two 8' x 10' loading dock at north end One wall-opening frame for 114' x 13' loading dock door at south end
Zoning	General Industrial
Incentives	Various state level local depends on job creation
Air Transportation	Lynchburg Regional Richmond International Charlottesville-Albemarle Airport
Rail Access	By spur to existing railroad
Contact	Rebecca Carter 804-969-4242
Contact Email	bcty@moonstar.com

<http://www.virginiasheartland.org/shell.php?id=1>

Appendix O: Central Virginia Processing Project Start-up Financing

Owner's Equity (CASH AT START-UP)

Equity Needed For Initial Cash Reserve	\$125,000
Equity For Building and Land Purchase	\$533,500
Equity For Equipment Purchase	\$56,240
Total owner's equity	\$714,740
Contribution -- Third Party Equity as Cash	
Contribution -- Owner's Equity as Cash	\$714,740

Total capital cost of Facility	
Percent financed with term loan	100.0%
Percent financed with lease	0.0%

Initial Facility Financing

Initial Purchase Cost	\$1,180,000
Building Repairs and Refitting (Pre Start-Up)	0
Total capital cost	\$1,180,000
Percent financed	55%
Total amount financed	\$649,000
Interest rate, annual	7.5%
Term, in years	20
Annual payment	\$63,662
Owner's contribution	\$531,000

Equipment Financing

Total capital cost of equipment	\$124,978
Percent financed with term loan	100.0%
Equipment Financing (Loan)	
Total purchase amount	\$124,978
Percent financed	55%
Total amount financed with term loan	\$68,738
Interest rate, annual	6.75%
Term, in years	7
Annual payment	\$12,644
Owner's contribution-	\$56,240

Total Initial Financing

Total amount financed through loans	\$717,738
Total amount financed through leases	\$0
Total owner's equity / third party equity	\$714,740
TOTAL INITIAL CAPITAL BUDGET	\$1,432,478
Percent of project financed	50%

APPENDIX P: LOAN FINANCIAL REPAYMENT SCHEDULE

Loan — Real Estate /Construction

Amount	\$621,500										
Interest Rate, annual	7.5%										
Term (years)	20										
Annual Payment	\$60,964										
	1	2	3	4	5	6	7	8	9		
Interest Payment	\$46,613	\$45,536	\$44,379	\$43,135	\$41,798	\$40,360	\$38,815	\$37,154	\$35,368		
Cumulative Interest Paid	\$46,613	\$92,149	\$136,528	\$179,663	\$221,461	\$261,821	\$300,636	\$337,790	\$373,158		
Principal Payment	\$14,352	\$15,428	\$16,585	\$17,829	\$19,166	\$20,604	\$22,149	\$23,810	\$25,596		
Balance	\$607,148	\$591,720	\$575,135	\$557,306	\$538,139	\$517,535	\$495,386	\$471,576	\$445,980		
	10	11	12	13	14	15	16	17	18	19	20
	\$33,448	\$31,385	\$29,166	\$26,781	\$24,218	\$21,462	\$18,499	\$15,314	\$11,890	\$8,210	\$4,253
	\$406,607	\$437,992	\$467,158	\$493,939	\$518,157	\$539,619	\$558,118	\$573,432	\$585,323	\$593,533	\$597,786
	\$27,516	\$29,580	\$31,798	\$34,183	\$36,747	\$39,503	\$42,465	\$45,650	\$49,074	\$52,754	\$56,711
	\$418,464	\$388,884	\$357,086	\$322,904	\$286,157	\$246,655	\$204,189	\$158,539	\$109,465	\$56,711	(\$0)

Loan — Purchase Equipment

Amount	\$68,738						
Interest Rate, annual	7%						
Term (years)	7						
Annual Payment	\$12,644						
	1	2	3	4	5	6	7
Interest Payment	\$4,640	\$4,100	\$3,523	\$2,907	\$2,250	\$1,548	\$799
Cumulative Interest Paid	\$4,640	\$8,739	\$12,262	\$15,169	\$17,419	\$18,968	\$19,767
Principal Payment	\$8,004	\$8,544	\$9,121	\$9,736	\$10,394	\$11,095	\$11,844
Balance	\$60,734	\$52,190	\$43,069	\$33,333	\$22,939	\$11,844	(\$0)

APPENDIX Q: DEPRECIATION ASSUMPTIONS

Equipment

Cost of Equipment	\$124,978	Equipment, monthly depreciation	\$1,979
Equipment, useful life in years	5	Equipment, annual depreciation	\$23,746
Equipment, salvage value %	5%		
Equipment, salvage value	\$6,249		
Construction And Real Estate			
Costs of Real Estate and		Real Estate AND Construction,	
Construction	\$1,180,000	monthly depreciation	\$4,425
Useful Life of Real Estate and		Real Estate AND Construction, annual	
Construction	20	depreciation	\$53,100
Real Estate AND Construction,			
salvage value %	10%		
Real Estate AND Construction,			
salvage value	\$118,000		
Total Monthly Depreciation For Central Virginia Processors			\$6,404
Total Annual Depreciation For Central Virginia Processors			\$76,846

Appendix R: Revenue and Labor Expense Details

Assumptions	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Avg Year 1	Annual Total
Processing Capacity Per Day	6	11	17	20	25	25	25	25	25	25	25	25	25	22.8	273.25
Processing Days*	5	21	21	21	21	21	21	17	21	22	21	21	17	20.4	245
Owner Cattle Processed Monthly	23	170	257	302	378	378	378	306	378	396	378	378	306	333.8	4,005
Owner Sheep Processed Monthly	5	40	60	71	88	88	88	71	88	92	88	88	71	77.8	933
Owner Goats Processed Monthly	2	11	17	20	25	25	25	20	25	26	25	25	20	22.0	264
Owner Hogs Processed Monthly	1	4	6	7	8	8	8	7	8	9	8	8	7	7.3	88
Custom Cattle Processed Monthly	6	43	64	76	95	95	95	77	95	99	95	95	77	83.8	1,006
Custom Sheep Processed Monthly	1	10	15	18	22	22	22	18	22	23	22	22	18	19.5	234
Custom Goats Processed Monthly	-	3	4	5	6	6	6	5	6	7	6	6	5	5.4	65
Custom Hogs Processed Monthly	-	1	1	2	2	2	2	2	2	2	2	2	2	1.8	22
Total Lbs Meat	20,303	148,991	224,432	264,446	330,636	330,636	330,636	267,856	330,636	346,120	330,636	330,636	267,856	291,959.8	3,503,517
Owner Slaughter Fees	829	6,047	9,139	10,747	13,421	13,421	13,421	10,867	13,421	14,066	13,421	13,421	10,867	11,855	\$142,259.00
Custom Slaughter Fees	236	1,837	2,716	3,253	4,039	4,039	4,039	3,289	4,039	4,224	4,039	4,039	3,289	3,570	\$42,843.60
Owner Processing Fees	4,688	34,484	52,129	61,261	76,631	76,631	76,631	62,052	76,631	80,303	76,631	76,631	62,052	67,672	\$812,068.15
Custom Processing Fees	1,457	10,601	15,750	18,762	23,404	23,404	23,404	18,999	23,404	24,386	23,404	23,404	18,999	20,660	\$247,920.07
Extra Hang-time Fees	80	592	890	1,052	1,310	1,310	1,310	1,063	1,310	1,373	1,310	1,310	1,063	1,158	\$13,895.70
Total Income	7,290	53,561	80,624	95,075	118,806	118,806	118,806	96,270	118,806	124,353	118,806	118,806	96,270	104,916	\$1,258,986.52

Sales Based on 52 weeks/year @ 52 weeks- 3 weeks of holidays = 49 weeks

Years 2&3

Year 2*

Year 3*

Assumptions	Winter- Jan-	Spring- Apr-	Summer- Jul-Sep	Fall - Oct-	Winter- Jan-Mar	Spring- Apr-Jun	Summer- Jul-Sep	Fall - Oct-Dec	Monthly	Annual Total	Annual Total
	Mar Year 2	Jun Year 2	Year 2	Dec Year 2	Year 3	Year 3	Year 3	Year 3	Avg. Year 2&3	Year 2	Year 3
Processing Capacity Per Day	25	25	25	25	25	25	25	25	25.0	300	300
Processing Days*	63	63	60	59	63	63	60	59	61.3	245	245
Owner Cattle Processed Quarterly	1134	1134	1080	1062	1134	1134	1080	1062	1102.5	4410	4410
Owner Sheep Processed Quarterly	265	265	252	248	265	265	252	248	257.5	1030	1030
Owner Goats Processed Quarterly	76	76	72	71	76	76	72	71	73.8	295	295
Owner Hogs Processed Quarterly	25	25	24	24	25	25	24	24	24.5	98	98
Custom Cattle Processed Quarterly	284	284	270	266	284	284	270	266	276.0	1104	1104
Custom Sheep Processed Quarterly	66	66	63	62	66	66	63	62	64.3	257	257
Custom Goats Processed Quarterly	19	19	18	18	19	19	18	18	18.5	74	74
Custom Hogs Processed Quarterly	6	6	6	6	6	6	6	6	6.0	24	24
Total Lbs Meat	991526	991526	944025	928746	991526	991526	944025	928746	963956	3855823	3855823
Owner Slaughter Fees	40,317	40,317	38,388	37,763	40,317	40,317	38,388	37,763	39,196	156,785	156,785
Custom Slaughter Fees	12,102	12,102	11,516	11,352	12,102	12,102	11,516	11,352	11,768	47,072	47,072
Owner Processing Fees	229,967	229,967	219,014	215,387	229,967	229,967	219,014	215,387	223,583	894,334	894,334
Custom Processing Fees	69,974	69,974	66,552	65,569	69,974	69,974	66,552	65,569	68,017	272,069	272,069
Extra Hang-time Fees	3,938	3,938	3,749	3,690	3,938	3,938	3,749	3,690	3,828	15,313	15,313
Total Income	356,297	356,297	339,219	333,761	356,297	356,297	339,219	333,761	346,393	1,385,573	1,385,573

APPENDIX S: REVENUE AND EXPENSE STATEMENTS

Year 1 Revenue and Expenses																
Central Virginia Processors	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Avg Year 1	Annual Total	
Animals processed in period	38	282	424	501	624	624	624	506	624	654	624	624	506	551	6,617	
Pounds of Meat available	20,303	148,991	224,432	264,446	330,636	330,636	330,636	267,856	330,636	346,120	330,636	330,636	267,856	291,960	3,503,517	
Income from Meat Operations																0
Owner Slaughter Fees	829	6,047	9,139	10,747	13,421	13,421	13,421	10,867	13,421	14,066	13,421	13,421	10,867	11,855	142,259	
Custom Slaughter Fees	236	1,837	2,716	3,253	4,039	4,039	4,039	3,289	4,039	4,224	4,039	4,039	3,289	3,570	42,844	
Owner Processing Fees	4,688	34,484	52,129	61,261	76,631	76,631	76,631	62,052	76,631	80,303	76,631	76,631	62,052	67,672	812,068	
Custom Processing Fees	1,457	10,601	15,750	18,762	23,404	23,404	23,404	18,999	23,404	24,386	23,404	23,404	18,999	20,660	247,920	
Extra Hang-time Fees	80	592	890	1,052	1,310	1,310	1,310	1,063	1,310	1,373	1,310	1,310	1,063	1,158	13,896	
Total sales (all types)	7,290	53,561	80,624	95,075	118,806	118,806	118,806	96,270	118,806	124,353	118,806	118,806	96,270	104,916	1,258,987	
Variable Costs																
Variable Processing Costs																
Direct Labor	(11,378)	(17,363)	(21,731)	(25,334)	(25,334)	(25,334)	(25,334)	(20,509)	(25,334)	(26,541)	(25,334)	(25,334)	(20,509)	(23,666)	(283,993)	
Electric	(500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(4,500)	(54,000)	
Water/Sewer	(143)	(1,052)	(1,585)	(1,868)	(2,336)	(2,336)	(2,336)	(1,892)	(2,336)	(2,445)	(2,336)	(2,336)	(1,892)	(2,062)	(24,749)	
Cleaning/ Materials	(2,000)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(18,000)	
Trash Service		(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(1,800)	
Gas	(350)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(6,000)	
Laundry (\$7per worker/ wk)		(176)	(235)	(265)	(265)	(265)	(265)	(214)	(265)	(277)	(265)	(265)	(214)	(247)	(2,969)	
Total Variable Processing	(14,371)	(25,242)	(30,201)	(34,117)	(34,585)	(34,585)	(34,585)	(29,265)	(34,585)	(35,913)	(34,585)	(34,585)	(29,265)	(32,626)	(391,511)	
Variable Marketing Costs																
Transportation Costs (\$1.25/mi)		(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(4,800)	
Product Shrink (3.5%)	(252)	(1,854)	(2,791)	(3,291)	(4,112)	(4,112)	(4,112)	(3,332)	(4,112)	(4,304)	(4,112)	(4,112)	(3,332)	(3,632)	(43,578)	
Packaging/Shipping Materials (\$0.065/lb)	(1,320)	(9,684)	(14,588)	(17,189)	(21,491)	(21,491)	(21,491)	(17,411)	(21,491)	(22,498)	(21,491)	(21,491)	(17,411)	(18,977)	(227,729)	
Total Variable Marketing	(1,572)	(11,938)	(17,779)	(20,880)	(26,004)	(26,004)	(26,004)	(21,143)	(26,004)	(27,202)	(26,004)	(26,004)	(21,143)	(23,009)	(276,107)	
Total Variable Costs	(15,943)	(37,180)	(47,980)	(54,997)	(60,588)	(60,588)	(60,588)	(50,408)	(60,588)	(63,115)	(60,588)	(60,588)	(50,408)	(55,635)	(667,618)	
Variable Margin	(8,653)	16,381	32,644	40,078	58,217	58,217	58,217	45,862	58,217	61,237	58,217	58,217	45,862	49,281	591,369	

Year 1 Revenue and Expenses															
Central Virginia Processors	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Avg Year 1	Annual Total
Fixed Costs															
Processing Machinery (inc mat. hdg)															
Equipment Lease & Loan Payments	0	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(1,054)	(12,644)
Tools, Dies, Fixtures	(1,500)	(500)	0	0	0	0	0	(500)	0	0	0	0	(500)	(125)	(1,500)
Maintenance/Repairs	(1,000)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(6,000)
Maintenance Contracts	(400)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(6,000)
Total Equipment Costs	(2,900)	(2,554)	(2,054)	(2,054)	(2,054)	(2,054)	(2,054)	(2,554)	(2,054)	(2,054)	(2,054)	(2,054)	(2,554)	(2,179)	(26,144)
Facilities															
Working Capital Loan		(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(1,361)	(16,326)
Facilities Note Loan Payments		0	0	0	0	0	(31,831)	0	0	0	0	0	(31,831)	(5,305)	(63,662)
Pest Control	(250)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(1,800)
Computer service		(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(95)	(1,140)
Property/Casualty Insurance	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(1,298)	(15,575)
Liability, Director, Etc Insurance		(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(11,400)
Property Taxes/Assessments	(4,880)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(813)	(9,760)
Facility Improvements & Expansions	0		0	0	0		0	0	0	0	0	0	0	0	0
Total Facility Costs	(6,428)	(4,667)	(4,667)	(4,667)	(4,667)	(4,667)	(36,498)	(4,667)	(4,667)	(4,667)	(4,667)	(4,667)	(36,498)	(9,972)	(119,663)
Indirect Labor															
Indirect Labor (plant manager \$60,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(60,000)
Fringe and Overhead (0.3)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(18,000)
Total Indirect Labor Costs	(6,500)	(6,500)	(6,500)	(6,500)	(6,500)	(6,500)	(6,500)	(6,500)	(78,000)						
Fixed Sales and Marketing															
Sales Promotions	(500)	(500)	(500)	(500)	(500)	(500)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(4,250)
Printed Materials	0	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(2,400)
Travel and transport	(1,000)	(750)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(521)	(6,250)
Total Selling and Marketing	(1,500)	(1,450)	(1,200)	(1,200)	(1,200)	(1,200)	(950)	(950)	(950)	(950)	(950)	(950)	(950)	(1,075)	(12,900)

Year 1 Revenue and Expenses															
Central Virginia Processors	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Avg Year 1	Annual Total
General/Administrative															
Salaries (Mgmt./Admin. Support)	(380)	(1,596)	(1,596)	(1,596)	(1,596)	(1,596)	(1,596)	(1,292)	(1,596)	(1,672)	(1,596)	(1,596)	(1,292)	(1,552)	(18,620)
Fringe and Overhead (0.3)	(114)	(479)	(479)	(479)	(479)	(479)	(479)	(388)	(479)	(502)	(479)	(479)	(388)	(466)	(5,586)
Legal and Accounting	(15,500)	(3,000)	(100)	(100)	(1,000)	(100)	(100)	(100)	(1,000)	(100)	(100)	(100)	(3,000)	(733)	(8,800)
Office Equip. Lease	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(1,200)
Telecommunications	(600)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(3,000)
Travel	(4,000)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(3,600)
Office Supplies & Misc.	(1,500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(6,000)
Total General/Administrative Costs	(22,194)	(6,225)	(3,325)	(3,325)	(4,225)	(3,325)	(3,325)	(2,930)	(4,225)	(3,424)	(3,325)	(3,325)	(5,830)	(3,901)	(46,806)
Unforeseen/Contingency															
Unforeseen	(10,729)	(5,356)	(8,062)	(9,508)	(11,881)	(11,881)	(11,881)	(9,627)	(11,881)	(12,435)	(11,881)	(11,881)	(9,627)	(10,492)	(125,899)
Bad Debt Cash Reserve (0.03 of sales)	(219)	(1,607)	(2,419)	(2,852)	(3,564)	(3,564)	(3,564)	(2,888)	(3,564)	(3,731)	(3,564)	(3,564)	(2,888)	(3,147)	(37,770)
Total Fixed Costs	(50,470)	(28,358)	(28,226)	(30,105)	(34,090)	(33,190)	(64,771)	(30,115)	(33,840)	(33,760)	(32,940)	(32,940)	(64,846)	(37,265)	(447,181)
Central Virginia Processors EBITDA	(59,123)	(11,977)	4,417	9,973	24,127	25,027	(6,553)	15,747	24,377	27,478	25,277	25,277	(18,984)	12,016	144,188
Depreciation															
Equipment Depreciation	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(1,979)	(23,746)
Building Depreciation	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(4,425)	(53,100)
Receivables Interest (25 days @ 8.5%)	(42)	(312)	(469)	(554)	(692)	(692)	(692)	(560)	(692)	(724)	(692)	(692)	(560)	(611)	(7,330)
Cooperative Fees \$20/head															
Net Central Virginia Processors Income	(65,569)	(18,693)	(2,456)	3,016	17,032	17,932	(13,649)	8,783	17,282	20,350	18,182	18,182	(25,948)	5,001	60,013

Years 2&3, Revenue and Expenses

	Winter- Jan-Mar Year 2	Spring- Apr- Jun Year 2	Summer- Jul-Sep Year 2	Fall - Oct- Dec Year 2	Winter- Jan-Mar Year 3	Spring- Apr- Jun Year 3	Summer- Jul-Sep Year 3	Fall - Oct-Dec Year 3	quarterly averages Year 2&3
Central Virginia Processors									
Animals processed in period	1,875	1,875	1,785	1,757	1,875	1,875	1,785	1,757	1,823
Pounds of Meat available	991,526	991,526	944,025	928,746	991,526	991,526	944,025	928,746	223,583
Income from Meat Operations									
Owner Slaughter Fees	40,317	40,317	38,388	37,763	40,317	40,317	38,388	37,763	68,017
Custom Slaughter Fees	12,102	12,102	11,516	11,352	12,102	12,102	11,516	11,352	3,828
Owner Processing Fees	229,967	229,967	219,014	215,387	229,967	229,967	219,014	215,387	346,393
Custom Processing Fees	69,974	69,974	66,552	65,569	69,974	69,974	66,552	65,569	68,017
Extra Hang-time Fees	3,938	3,938	3,749	3,690	3,938	3,938	3,749	3,690	3,828
Total Sales All Sources	356,297	356,297	339,219	333,761	356,297	356,297	339,219	333,761	346,393
Variable Costs									
Variable Processing Costs									
Direct Labor	(79,798)	(79,798)	(75,998)	(74,732)	(79,798)	(79,798)	(75,998)	(74,732)	(77,582)
Electric	(14,175)	(14,175)	(14,175)	(14,175)	(14,884)	(14,884)	(14,884)	(14,884)	(14,529)
Water/Sewer	(7,004)	(7,004)	(6,669)	(6,561)	(7,004)	(7,004)	(6,669)	(6,561)	(6,809)
Cleaning Materials	(4,725)	(4,725)	(4,725)	(4,725)	(4,725)	(4,725)	(4,725)	(4,725)	(4,725)
Trash Service	(473)	(473)	(473)	(473)	(496)	(496)	(496)	(496)	(484)
Gas	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Laundry (\$7per worker/ wk)	(833)	(833)	(794)	(781)	(875)	(875)	(833)	(820)	(831)
Total Variable Processing	(108,583)	(108,583)	(104,408)	(103,020)	(109,436)	(109,436)	(105,259)	(103,871)	(106,575)
Variable Marketing Costs									
Transportation Costs (\$1.25/mi)	(1,260)	(1,260)	(1,260)	(1,260)	(1,260)	(1,260)	(1,260)	(1,260)	(1,260)
Product Shrink 3.5%	(12,470)	(12,470)	(11,873)	(11,682)	(12,470)	(12,470)	(11,873)	(11,682)	(12,124)
Packaging/Shipping Materials (0.065/Lb)	(64,449)	(64,449)	(61,362)	(60,368)	(64,449)	(64,449)	(61,362)	(60,368)	(62,657)
Total Variable Marketing	(78,180)	(78,180)	(74,494)	(73,310)	(78,180)	(78,180)	(74,494)	(73,310)	(76,041)
Total Variable Costs	(186,763)	(186,763)	(178,903)	(176,331)	(187,616)	(187,616)	(179,753)	(177,181)	(182,616)
Variable Margin	169,534	169,534	160,316	157,431	168,681	168,681	159,465	156,580	163,778

Years 2&3, Revenue and Expenses

	Winter- Jan-Mar Year 2	Spring- Apr- Jun Year 2	Summer- Jul-Sep Year 2	Fall - Oct- Dec Year 2	Winter- Jan-Mar Year 3	Spring- Apr- Jun Year 3	Summer- Jul-Sep Year 3	Fall - Oct-Dec Year 3	quarterly averages Year 2&3
Central Virginia Processors									
Fixed Costs									
Processing Machinery (inc mat. hdlg)									
Equipment Lease Payments	(3,319)	(3,319)	(3,319)	(3,319)	(3,485)	(3,485)	(3,485)	(3,485)	(3,402)
Tools, Dies, Fixtures, Fuel	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Maintenance/Repairs	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Maintenance Contracts	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Total Equipment Costs	(8,044)	(8,044)	(8,044)	(8,044)	(8,446)	(8,446)	(8,446)	(8,446)	(8,245)
Facilities									
Working Capital Payments	(4,082)	(4,082)	(4,082)	(4,082)	(4,082)	(4,082)	(4,082)	(4,082)	(4,082)
Facilities Note Loan Payments		(31,831)		(31,831)		(31,831)		(31,831)	(31,831)
Pest Control	(473)	(473)	(473)	(473)	(496)	(450)	(450)	(450)	(467)
Computer Service	(299)	(299)	(299)	(299)	(314)	(285)	(285)	(285)	(296)
Property/Casualty Insurance	(4,088)	(4,088)	(4,088)	(4,088)	(4,293)	(4,293)	(4,293)	(4,293)	(4,191)
Liability, Director, Etc. Insurance	(2,993)	(2,993)	(2,993)	(2,993)	(3,142)	(3,142)	(3,142)	(3,142)	(3,067)
Property Taxes/Assessments	(2,562)	(2,562)	(2,562)	(2,562)	(2,690)	(2,690)	(2,690)	(2,690)	(2,626)
Facility Improvements & Expansions									
Total Facility Costs	(14,496)	(46,327)	(14,496)	(46,327)	(15,017)	(46,773)	(14,942)	(46,773)	(30,644)
Indirect labor									
Indirect Labor (plant manager)	(15,750)	(15,750)	(15,750)	(15,750)	(16,538)	(16,538)	(16,538)	(16,538)	(16,144)
Fringe and Overhead (0.3)	(4,725)	(4,725)	(4,725)	(4,725)	(4,961)	(4,961)	(4,961)	(4,961)	(4,843)
Total Indirect Labor Costs	(20,475)	(20,475)	(20,475)	(20,475)	(21,499)	(21,499)	(21,499)	(21,499)	(20,987)
Fixed Sales and Marketing									
Sales Promotions	(788)	(788)	(788)	(788)	(827)	(827)	(827)	(827)	(807)
Printed Materials	(630)	(630)	(630)	(630)	(662)	(662)	(662)	(662)	(646)
Travel	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Total Selling and Marketing	(2,993)	(2,993)	(2,993)	(2,993)	(3,142)	(3,142)	(3,142)	(3,142)	(3,067)

Years 2&3, Revenue and Expenses

	Winter- Jan-Mar Year 2	Spring- Apr- Jun Year 2	Summer- Jul-Sep Year 2	Fall - Oct- Dec Year 2	Winter- Jan-Mar Year 3	Spring- Apr- Jun Year 3	Summer- Jul-Sep Year 3	Fall - Oct-Dec Year 3	quarterly averages Year 2&3
Central Virginia Processors									
General/Administrative									
Salaries (Mgmt./Admin. Support)	(4,788)	(4,788)	(4,560)	(4,484)	(4,788)	(4,788)	(4,560)	(4,484)	(4,655)
Fringe and Overhead (0.3)	(1,436)	(1,436)	(1,368)	(1,345)	(1,436)	(1,436)	(1,368)	(1,345)	(1,397)
Legal and Accounting	(300)	(300)	(300)	(9,450)	(300)	(300)	(300)	(9,923)	(2,647)
Office Equipment Depr./Lease	(315)	(315)	(315)	(315)	(331)	(331)	(331)	(331)	(323)
Telecommunications	(788)	(788)	(788)	(788)	(827)	(827)	(827)	(827)	(807)
Travel	(945)	(945)	(945)	(945)	(992)	(992)	(992)	(992)	(969)
Miscellaneous Administrative	(1,575)	(1,575)	(1,575)	(1,575)	(1,654)	(1,654)	(1,654)	(1,654)	(1,614)
Total General/Administrative Costs	(10,147)	(10,147)	(9,851)	(18,902)	(10,328)	(10,328)	(10,032)	(19,555)	(12,411)
Unforeseen/Contingency									
Unforeseen	(35,630)	(35,630)	(33,922)	(33,376)	(35,630)	(35,630)	(33,922)	(33,376)	(34,639)
Bad Debt Cash Reserve (0.03 of sales)	(10,689)	(10,689)	(10,177)	(10,013)	(10,689)	(10,689)	(10,177)	(10,013)	(10,392)
Total Fixed Costs	(102,473)	(134,304)	(99,957)	(140,129)	(104,751)	(136,506)	(102,159)	(142,804)	(120,385)
Central Virginia Processors EBITDA	67,061	35,230	60,359	17,301	63,930	32,175	57,307	13,777	43,392
Depreciation									
Equipment Depreciation	(5,936)	(5,936)	(5,936)	(5,936)	(5,936)	(5,936)	(5,936)	(5,936)	(5,936)
Building Depreciation	(13,275)	(13,275)	(13,275)	(13,275)	(13,275)	(13,275)	(13,275)	(13,275)	(13,275)
Receivables Interest (25 days @ 8.5%)	(2,074)	(2,074)	(1,975)	(1,943)	(2,074)	(2,074)	(1,975)	(1,943)	(2,017)
Net Central Virginia Processors Income	45,775	13,944	39,173	(3,853)	42,645	10,889	36,120	(7,378)	22,164

Comparison of Costs and Revenue

	Total Year 1		Year 1		Total Year 2		Year 2		Total Year 3		Year 3		
			Percent of Revenue	Revenue/ (Cost) per head	Revenue/ (Cost) per lb		Percent of Revenue	Revenue/ (Cost) per head	Revenue/ (Cost) per lb		Percent of Revenue	Revenue/ (Cost) per head	Revenue/ (Cost) per lb
Central Virginia Processors													
Animals processed in period	6,617				7,292				7,292				
Pounds of Meat available	3,503,517				3,855,823				3,855,823				
Income from Meat Operations									-				
Owner Slaughter Fees	142,259	11.30%	0.000	0.000	156,785	11.32%	21.501	0.041	156,785	11.32%	21.501	0.041	
Custom Slaughter Fees	42,844	3.40%	0.000	0.000	47,072	3.40%	6.455	0.012	47,072	3.40%	6.455	0.012	
Owner Processing Fees	812,068	64.50%	0.000	0.000	894,334	64.55%	122.646	0.232	894,334	64.55%	122.646	0.232	
Custom Processing Fees	247,920	19.69%	0.000	0.000	272,069	19.64%	37.311	0.071	272,069	19.64%	37.311	0.071	
Extra Hang-time Fees	13,896	1.10%	0.000	0.000	15,313	1.11%	2.100	0.004	15,313	1.11%	2.100	0.004	
Total Sales All Sources	1,258,987	100.00%	190.265	0.359	1,385,573	100.00%	190.013	0.359	1,385,573	100.00%	190.013	0.359	
Variable Costs									-				
Variable Processing Costs													
Direct Labor	(283,993)	-22.56%	(42.919)	(0.081)	(310,327)	-22.40%	(42.557)	(0.080)	(310,327)	-22.40%	(42.557)	(0.080)	
Electric	(54,000)	-4.29%	(8.161)	(0.015)	(56,700)	-4.09%	(7.776)	(0.015)	(59,535)	-4.30%	(8.164)	(0.015)	
Water/Sewer	(24,749)	-1.97%	(3.740)	(0.007)	(27,237)	-1.97%	(3.735)	(0.007)	(27,237)	-1.97%	(3.735)	(0.007)	
Cleaning Materials	(18,000)	-1.43%	(2.720)	(0.005)	(18,900)	-1.36%	(2.592)	(0.005)	(18,900)	-1.36%	(2.592)	(0.005)	
Trash Service	(1,800)	-0.14%	(0.272)	(0.001)	(1,890)	-0.14%	(0.259)	(0.000)	(1,985)	-0.14%	(0.272)	(0.001)	
Gas	(6,000)	-0.48%	(0.907)	(0.002)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)	
Laundry (\$7per worker/ wk)	(2,969)	-0.24%	(0.449)	(0.001)	(3,241)	-0.23%	(0.445)	(0.001)	(3,403)	-0.25%	(0.467)	(0.001)	

Total Variable Processing	(391,511)	-31.10%	(59.167)	(0.112)	(424,596)	-30.64%	(58.228)	(0.110)	(428,002)	-30.89%	(58.695)	(0.111)
Variable Marketing Costs												
Transportation Costs (\$1.25/mi)	(4,800)	-0.38%	(0.725)	(0.001)	(5,040)	-0.36%	(0.691)	(0.001)	(5,040)	-0.36%	(0.691)	(0.001)
Product Shrink 3.5%	(43,578)	-3.46%	(6.586)	(0.012)	(48,495)	-3.50%	(6.650)	(0.013)	(48,495)	-3.50%	(6.650)	(0.013)
Packaging/Shipping Materials (0.065/Lb)	(227,729)	-18.09%	(34.416)	(0.065)	(250,628)	-18.09%	(34.370)	(0.065)	(250,628)	-18.09%	(34.370)	(0.065)
Total Variable Marketing	(276,107)	-21.93%	(41.727)	(0.079)	(304,164)	-21.95%	(41.712)	(0.079)	(304,164)	-21.95%	(41.712)	(0.079)
Total Variable Costs	(667,618)	-53.03%	(100.894)	(0.191)	(728,759)	-52.60%	(99.940)	(0.189)	(732,166)	-52.84%	(100.407)	(0.190)
Variable Margin	591,369	46.97%	89.371	0.169	656,814	47.40%	90.073	0.170	653,408	47.16%	89.606	0.169
Fixed Costs		0.00%	0.000	0.000								
Processing Machinery (inc mat. hdlg)		0.00%	0.000	0.000								
Equipment Lease Payments	(12,644)	-1.00%	(1.911)	(0.004)	(13,276)	-0.96%	(1.821)	(0.003)	(13,940)	-1.01%	(1.912)	(0.004)
Tools, Dies, Fixtures, Fuel	(1,500)	-0.12%	(0.227)	(0.000)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)
Maintenance/Repairs	(6,000)	-0.48%	(0.907)	(0.002)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)
Maintenance Contracts	(6,000)	-0.48%	(0.907)	(0.002)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)
Total Equipment Costs	(26,144)	-2.08%	(3.951)	(0.007)	(32,176)	-2.32%	(4.412)	(0.008)	(33,785)	-2.44%	(4.633)	(0.009)
Facilities												
Working Capital Payments	(16,326)	-1.30%	(2.467)	(0.005)	(16,326)	-1.18%	(2.239)	(0.004)	(16,326)	-1.18%	(2.239)	(0.004)
Facilities Note Loan Payments	(63,662)	0.00%	0.000	0.000	(63,662)	-4.59%	(8.730)	(0.017)	(63,662)	-4.59%	(8.730)	(0.017)
Pest Control	(1,800)	-0.14%	(0.272)	(0.001)	(1,890)	-0.14%	(0.259)	(0.000)	(1,846)	-0.13%	(0.253)	(0.000)
Computer Service	(1,140)	-0.09%	(0.172)	(0.000)	(1,197)	-0.09%	(0.164)	(0.000)	(1,169)	-0.08%	(0.160)	(0.000)
Property/Casualty Insurance	(15,575)	-1.24%	(2.354)	(0.004)	(16,353)	-1.18%	(2.243)	(0.004)	(17,171)	-1.24%	(2.355)	(0.004)
Liability, Director, Etc. Insurance	(11,400)	-0.91%	(1.723)	(0.003)	(11,970)	-0.86%	(1.642)	(0.003)	(12,569)	-0.91%	(1.724)	
Property Taxes/Assessments	(9,760)	0.00%	0.000	0.000	(10,248)	-0.74%	(1.405)	(0.003)	(10,761)	-0.78%	(1.476)	(0.003)

Facility Improvements & Expansions	0	0.00%	0.000	0.000		0.00%	0.000	0.000	-	0.00%	0.000	0.000
Total Facility Costs	(119,663)	-9.50%	(18.084)	(0.034)	(121,647)	-8.78%	(16.682)	(0.032)	(123,504)	-8.91%	(16.937)	(0.032)
Indirect labor												
Indirect Labor (plant manager)	(60,000)	-4.77%	(9.068)	(0.017)	(63,000)	-4.55%	(8.640)	(0.016)	(66,150)	-4.77%	(9.072)	(0.017)
Fringe and Overhead (0.3)	(18,000)	-1.43%	(2.720)	(0.005)	(18,900)	-1.36%	(2.592)	(0.005)	(19,845)	-1.43%	(2.721)	(0.005)
Total Indirect Labor Costs	(78,000)	-6.20%	(11.788)	(0.022)	(81,900)	-5.91%	(11.231)	(0.021)	(85,995)	-6.21%	(11.793)	(0.022)
Fixed Sales and Marketing												
Sales Promotions	(4,250)	-0.34%	(0.642)	(0.001)	(3,150)	-0.23%	(0.432)	(0.001)	(3,308)	-0.24%	(0.454)	(0.001)
Printed Materials	(2,400)	-0.19%	(0.363)	(0.001)	(2,520)	-0.18%	(0.346)	(0.001)	(2,646)	-0.19%	(0.363)	(0.001)
Travel	(6,250)	-0.50%	(0.945)	(0.002)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)
Total Selling and Marketing	(12,900)	-1.02%	(1.950)	(0.004)	(11,970)	-0.86%	(1.642)	(0.003)	(12,569)	-0.91%	(1.724)	(0.003)
General/Administrative									-	0.00%	0.000	0.000
Salaries (Mgmt./Admin. Support)	(18,620)	-1.48%	(2.814)	(0.005)	(18,620)	-1.34%	(2.553)	(0.005)	(18,620)			
Fringe and Overhead (0.3)	(5,586)	-0.44%	(0.844)	(0.002)	(5,586)	-0.40%	(0.766)	(0.001)	(5,586)	-0.40%	(0.766)	(0.001)
Legal and Accounting	(8,800)	-0.70%	(1.330)	(0.003)	(10,350)	-0.75%	(1.419)	(0.003)	(10,823)	-0.78%	(1.484)	(0.003)
Office Equipment Depr./Lease	(1,200)	-0.10%	(0.181)	(0.000)	(1,260)	-0.09%	(0.173)	(0.000)	(1,323)	-0.10%	(0.181)	(0.000)
Telecommunications	(3,000)	-0.24%	(0.453)	(0.001)	(3,150)	-0.23%	(0.432)	(0.001)	(3,308)	-0.24%	(0.454)	(0.001)
Travel	(3,600)	-0.29%	(0.544)	(0.001)	(3,780)	-0.27%	(0.518)	(0.001)	(3,969)	-0.29%	(0.544)	(0.001)
Miscellaneous Administrative	(6,000)	-0.48%	(0.907)	(0.002)	(6,300)	-0.45%	(0.864)	(0.002)	(6,615)	-0.48%	(0.907)	(0.002)
Total General/Administrative Costs	(46,806)	-3.72%	(7.074)	(0.013)	(49,046)	-3.54%	(6.726)	(0.013)	(50,243)	-3.63%	(6.890)	(0.013)
Unforeseen/Contingency												
Unforeseen	(125,899)	-10.00%	(19.027)	(0.036)	(138,557)	-10.00%	(19.001)	(0.036)	(138,557)	-10.00%	(19.001)	(0.036)

Bad Debt Cash Reserve (0.03 of sales)	(37,770)	-3.00%	(5.708)	(0.011)	(41,567)	-3.00%	(5.700)	(0.011)	(41,567)	-3.00%	(5.700)	(0.011)
Total Fixed Costs	(447,181)	-35.52%	(67.581)	(0.128)	(476,863)	-34.42%	(65.395)	(0.124)	(486,219)	-35.09%	(66.678)	(0.126)
Central Virginia Processors EBITDA	144,188	11.45%	21.791	0.041	179,951	12.99%	24.678	0.047	167,189	12.07%	22.928	0.043
Depreciation												
Equipment Depreciation	(23,746)	-4.22%	(8.025)	(0.015)	(23,746)	-1.71%	(3.256)	(0.006)	(23,746)	-1.71%	(3.256)	(0.006)
Building Depreciation	(53,100)	-0.58%	(1.108)	(0.002)	(53,100)	-3.83%	(7.282)	(0.014)	(53,100)	-3.83%	(7.282)	(0.014)
Receivables Interest (25 days @ 8.5%)	(7,330)	-0.58%	(1.108)	(0.002)	(8,067)	-0.58%	(1.106)	(0.002)	(8,067)	-0.58%	(1.106)	(0.002)
Net Central Virginia Processors Income	60,013	4.77%	9.069	0.017	95,039	6.86%	13.033	0.025	82,276	5.94%	11.283	0.021

APPENDIX T: CASH FLOWS

STARTUP AND YEAR 1

For Central Virginia Processors

	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year 1
OPERATING ACTIVITIES														Annual
Net Income (Loss)	(65,569)	(18,693)	(2,456)	3,016	17,032	17,932	(13,649)	8,783	17,282	20,350	18,182	18,182	(25,948)	60,013
Non cash charges to net income (loss)														
Depreciation	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	6,404	76,846
Amortization														0
(Increase) Decrease in current assets														0
Accounts receivable (Meat sales)	(6,075)	(38,559)	(22,552)	(12,043)	(19,775)	0	0	18,780	(18,780)	(4,622)	4,622	0	18,780	(74,150)
Inventories														0
Increase (decrease) in current liabilities														0
Accounts payable and accrued expenses														0
Accrued interest	312	469	554	692	692	692	560	692	724	692	692	560	611	7,629
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	(64,929)	(50,378)	(18,051)	(1,931)	4,352	25,027	(6,685)	34,658	5,630	22,823	29,900	25,146	(154)	70,337
INVESTING ACTIVITIES														0
Purchases of property and equipment	(1,304,978)													0
FINANCING ACTIVITIES														0
Member contributions (distributions)	714,740	0	0	0	0	0	0	0	0	0	0	0	0	0
Other contributions		469	554	692	692	692	560	692	724	692	692	560	611	7,629
Grants														0
Net borrowings (payments) on short-term loans or notes														0
Purchase of financing costs		(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(5,010)	(60,115)
Principal payments on long-term loans		(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(2,710)	(32,517)
Proceeds from long-term debt borrowings	802,738													0
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	212,500	(7,250)	(7,166)	(7,028)	(7,028)	(7,028)	(7,159)	(7,028)	(6,995)	(7,028)	(7,028)	(7,159)	(7,108)	(85,003)
NET INCREASE IN CASH	147,571	(57,628)	(25,217)	(8,959)	(2,676)	18,000	(13,843)	27,630	(1,365)	15,795	22,872	17,987	(7,262)	(14,666)
CASH -beginning of period	0	147,571	89,943	64,726	55,767	53,092	71,092	57,248	84,878	83,513	99,308	122,181	140,168	147,571
CASH - end of period	147,571	89,943	64,726	55,767	53,092	71,092	57,248	84,878	83,513	99,308	122,181	140,168	132,906	132,906

Year 2 and Year 3 Operations

For Central Virginia Processors

	Winter- Jan-Mar Year 2	Spring- Apr- Jun Year 2	Summer- Jul-Sep Year 2	Fall - Oct- Dec Year 2	Winter- Jan-Mar Year 3	Spring- Apr- Jun Year 3	Summer- Jul-Sep Year 3	Fall - Oct- Dec Year 3	Annual Total Year 2	Annual Total Year 3
OPERATING ACTIVITIES										
Net Income (Loss)	\$ 45,775	\$ 13,944	\$ 39,173	\$ (3,853)	\$ 42,645	\$ 10,889	\$ 36,120	\$ (7,378)	\$ 95,039	\$ 82,276
Non cash charges to net income (loss)										
Depreciation	\$ 19,211	\$ 19,211	\$ 19,211	\$ 19,211	\$ 19,211	\$ 19,211	\$ 19,211	\$ 19,211	\$ 76,846	\$ 76,846
Amortization									\$ -	\$ -
(Increase) decrease in current assets									\$ -	\$ -
Accounts receivable (Meat sales)	\$ (17,659)	\$ -	\$ 4,692	\$ 1,499	\$ (6,191)	\$ -	\$ 4,692	\$ 1,499	\$ (11,468)	\$ -
Inventories									\$ -	\$ -
Increase (decrease) in current liabilities									\$ -	\$ -
Accounts payable and accrued expenses									\$ -	\$ -
Accrued interest	\$ 2,074	\$ 2,074	\$ 1,975	\$ 1,943	\$ 2,074	\$ 2,074	\$ 1,975	\$ 1,943	\$ 8,067	\$ 8,067
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	\$ 49,402	\$ 35,230	\$ 65,051	\$ 18,801	\$ 57,739	\$ 32,175	\$ 61,998	\$ 15,276	\$ 168,484	\$ 167,189
INVESTING ACTIVITIES									\$ -	\$ -
Purchases of property and equipment									\$ -	\$ -
FINANCING ACTIVITIES									\$ -	\$ -
Member contributions (distributions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions	\$ 2,074	\$ 2,074	\$ 1,975	\$ 1,943	\$ 2,074	\$ 2,074	\$ 1,975	\$ 1,943	\$ 8,067	\$ 8,067
Grants									\$ -	\$ -
Net borrowings (payments) on short-term loans or notes									\$ -	\$ -
Purchase of financing costs	\$ (14,422)	\$ (14,422)	\$ (14,422)	\$ (14,422)	\$ (12,889)	\$ (12,889)	\$ (12,889)	\$ (12,889)	\$ (57,688)	\$ (51,558)
Principal payments on long-term loans	\$ (8,736)	\$ (8,736)	\$ (8,736)	\$ (8,736)	\$ (9,388)	\$ (9,388)	\$ (9,388)	\$ (9,388)	\$ (34,943)	\$ (37,551)
Proceeds from long-term debt borrowings									\$ -	\$ -
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	\$ (21,084)	\$ (21,084)	\$ (21,183)	\$ (21,215)	\$ (20,203)	\$ (20,203)	\$ (20,302)	\$ (20,334)	\$ (84,565)	\$ (81,042)
NET INCREASE IN CASH	\$ 28,318	\$ 14,146	\$ 43,868	\$ (2,414)	\$ 37,536	\$ 11,972	\$ 41,696	\$ (5,058)	\$ 83,919	\$ 86,146
CASH -beginning of period	\$ 132,906	\$ 161,224	\$ 175,370	\$ 219,238	\$ 216,824	\$ 254,361	\$ 266,333	\$ 308,029	\$ 132,906	\$ 216,824
CASH - end of period	\$ 161,224	\$ 175,370	\$ 219,238	\$ 216,824	\$ 254,361	\$ 266,333	\$ 308,029	\$ 302,971	\$ 216,824	\$ 302,971

APPENDIX U: SCENARIO ANALYSIS LIGHTER ANIMALS BY 5%

PRO FORMA OPERATING STATEMENTS

For Central Virginia Processors

Fiscal Years 1-3

Scenario 5% lighter Animals

	Start-up	FY1	FY2	FY3
Revenues [Sales]	6,983	1,205,987	1,327,253	1,327,253
Total Processing Costs	(14,364)	(390,273)	(423,234)	(426,640)
Total Marketing Costs	(1,495)	(262,865)	(289,591)	(289,591)
Variable Margin (Loss)	(8,876)	552,848	614,429	611,022
Total Equipment and Facilities Costs	(9,328)	(145,806)	(153,822)	(157,288)
Total Indirect Labor Cost	(6,500)	(78,000)	(81,900)	(85,995)
Total Selling and Marketing Costs	(1,500)	(12,900)	(11,970)	(12,569)
General and Administrative Expenses	(22,194)	(46,806)	(49,046)	(50,243)
Unforeseen and Contingency Expenses	(10,908)	(156,778)	(172,543)	(172,543)
Central Virginia Processors Earnings EBITDA (Loss)	(59,306)	112,557	145,147	132,385
Total Central Virginia Processors Fees	-	-	-	-
Interest Expense	(41)	(7,021)	(7,727)	(7,727)
Depreciation Expense		(76,846)	(76,846)	(76,846)
Net Central Virginia Processors Venture Income (Loss)	(59,347)	28,690	60,574	47,812

Balance Sheet
Central Virginia Processors

Scenario 5% lighter Animals

	FY 1	FY 2	FY 3
ASSETS			
Cash and Equivalents	\$ 104,124	\$ 153,381	\$ 204,384
Accounts Receivables	\$ 76,848	\$ 87,833	\$ 87,833
Inventories			
TOTAL CURRENT ASSETS	\$ 180,971	\$ 241,214	\$ 292,217
BUILDINGS AND EQUIPMENT, net of depr.	\$ 1,228,132	\$ 1,151,286	\$ 1,074,441
OTHER ASSETS, net of amortization			
TOTAL ASSETS	\$ 1,409,104	\$ 1,392,501	\$ 1,366,658
LIABILITIES AND MEMBERS' EQUITY			
CURRENT LIABILITIES			
Accounts payable and accrued expenses			
Accrued interest	\$ 537	\$ 1,861	\$ 1,861
Current maturities of long-term debt			
TOTAL CURRENT LIABILITIES	\$ 537	\$ 1,861	\$ 1,861
LONG-TERM DEBT			
Senior debt	\$770,221	\$735,278	\$697,727
Less current maturities of long-term debt			
MEMBERS' EQUITY			
Member Equity and equity equivalents	\$ 609,655	\$ 594,787	\$ 619,258
Dispersed Member Equity	\$ -	\$ -	\$ -
Retained earnings (losses)	\$ 28,690	\$ 60,574	\$ 47,812
TOTAL LIABILITIES AND MEMBERS' EQUITY	\$ 1,409,104	\$ 1,392,501	\$ 1,366,658

APPENDIX V: SCENARIO ANALYSIS 90% CAPACITY

PRO FORMA OPERATING STATEMENTS

For Central Virginia Processors

Fiscal Years 1-3

Scenario 90% Capacity

	Start-up	FY1	FY2	FY3
Revenues [Sales]	6,225	1,159,103	1,246,656	1,246,656
Total Processing Costs	(14,351)	(389,544)	(421,864)	(425,271)
Total Marketing Costs	(1,345)	(254,552)	(274,167)	(274,167)
Variable Margin (Loss)	(9,471)	515,006	550,625	547,219
Total Equipment and Facilities Costs	(9,328)	(145,806)	(153,822)	(157,288)
Total Indirect Labor Cost	(6,500)	(78,000)	(81,900)	(85,995)
Total Selling and Marketing Costs	(1,500)	(12,900)	(11,970)	(12,569)
General and Administrative Expenses	(22,194)	(46,806)	(49,046)	(50,243)
Unforeseen and Contingency Expenses	(10,809)	(150,683)	(162,065)	(162,065)
Central Virginia Processors Earnings EBITDA (Loss)	(59,802)	80,811	91,822	79,059
Total Central Virginia Processors Fees	-	-	-	-
Interest Expense	(36)	(6,748)	(7,258)	(7,258)
Depreciation Expense		(76,846)	(76,846)	(76,846)
Net Central Virginia Processors Venture Income (Loss)	(59,838)	(2,783)	7,718	(5,045)

Balance Sheet
Central Virginia Processors

Scenario 90% Capacity

	FY 1	FY 2	FY 3
ASSETS			
Cash and Equivalents	\$ 68,228	\$ 72,414	\$ 69,622
Accounts Receivables	\$ 80,207	\$ 82,468	\$ 82,468
Inventories			
TOTAL CURRENT ASSETS	\$ 148,434	\$ 154,882	\$ 152,090
BUILDINGS AND EQUIPMENT, net of depr.	\$ 1,228,132	\$ 1,151,286	\$ 1,074,441
OTHER ASSETS, net of amortization			
TOTAL ASSETS	\$ 1,376,567	\$ 1,306,169	\$ 1,226,531
LIABILITIES AND MEMBERS' EQUITY			
CURRENT LIABILITIES			
Accounts payable and accrued expenses			
Accrued interest	\$ 560	\$ 1,748	\$ 1,748
Current maturities of long-term debt			
TOTAL CURRENT LIABILITIES	\$ 560	\$ 1,748	\$ 1,748
LONG-TERM DEBT			
Senior debt	\$770,221	\$735,278	\$697,727
Less current maturities of long-term debt			
MEMBERS' EQUITY			
Member Equity and equity equivalents	\$ 608,569	\$ 561,425	\$ 532,101
Dispersed Member Equity	\$ -	\$ -	\$ -
Retained earnings (losses)	\$ (2,783)	\$ 7,718	\$ (5,045)
TOTAL LIABILITIES AND MEMBERS' EQUITY	\$ 1,376,567	\$ 1,306,169	\$ 1,226,531

APPENDIX W: SCENARIO AND STABILITY

ANALYSIS; NO CUSTOM SLAUGHTER FOR DIFFERENT ANIMAL CAPACITY

Impact of lower animals slaughtered on operations

No Custom Slaughter

	Year 1					Year 2					Year 3				
	Animals Slaughtered Per Day					Animals Slaughtered Per Day					Animals Slaughtered Per Day				
	20	23	25	28	30	20	23	25	28	30	20	23	25	28	30
Total Revenue	1,020,382	1,134,073	1,210,328	1,323,502	1,399,527	1,065,447	1,225,153	1,332,167	1,491,591	1,598,147	1,065,447	1,225,153	1,332,167	1,491,591	1,598,147
Variable Slaughter	(387,622)	(389,951)	(391,511)	(393,823)	(395,377)	(419,142)	(422,407)	(424,596)	(427,855)	(430,034)	(422,549)	(425,814)	(428,002)	(431,262)	(433,441)
Variable Marketing	(232,050)	(257,410)	(274,704)	(299,590)	(316,526)	(242,778)	(278,415)	(302,294)	(337,870)	(361,649)	(242,778)	(278,415)	(302,294)	(337,870)	(361,649)
Fixed Costs	(283,512)	(283,512)	(283,512)	(283,512)	(283,512)	(296,738)	(296,738)	(296,738)	(296,738)	(296,738)	(306,095)	(306,095)	(306,095)	(306,095)	(306,095)
Unforeseen and Interest	(138,591)	(154,031)	(164,389)	(179,760)	(190,087)	(144,711)	(166,403)	(180,938)	(202,591)	(217,063)	(144,711)	(166,403)	(180,938)	(202,591)	(217,063)
Depreciation	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)	(76,846)
Net Income Central Virginia Processors	(98,239)	(27,677)	19,366	89,971	137,179	(114,768)	(15,656)	50,755	149,691	215,817	(127,532)	(28,420)	37,992	136,927	203,053

APPENDIX X: BALANCE SHEET

Balance Sheet Central Virginia Processors

	FY 1	FY 2	FY 3
ASSETS			
Cash and Equivalents	\$ 132,758	\$ 216,496	\$ 302,460
Accounts Receivables	\$ 80,207	\$ 91,672	\$ 91,672
Inventories			
TOTAL CURRENT ASSETS	\$ 212,964	\$ 308,168	\$ 394,133
BUILDINGS AND EQUIPMENT, net of depr.	\$ 1,228,132	\$ 1,151,286	\$ 1,074,441
OTHER ASSETS, net of amortization			
TOTAL ASSETS	\$ 1,441,097	\$ 1,459,455	\$ 1,468,573
LIABILITIES AND MEMBERS' EQUITY			
CURRENT LIABILITIES			
Accounts payable and accrued expenses			
Accrued interest	\$ 560	\$ 1,943	\$ 1,943
Current maturities of long-term debt			
TOTAL CURRENT LIABILITIES	\$ 560	\$ 1,943	\$ 1,943
LONG-TERM DEBT			
Senior debt	\$770,221	\$735,278	\$697,727
Less current maturities of long-term debt			
MEMBERS' EQUITY			
Member Equity and equity equivalents	\$ 610,464	\$ 627,374	\$ 686,807
Dispersed Member Equity	\$ -	\$ -	\$ -
Retained earnings (losses)	\$ 59,851	\$ 94,860	\$ 82,097
TOTAL LIABILITIES AND MEMBERS' EQUITY	\$ 1,441,097	\$ 1,459,455	\$ 1,468,573

APPENDIX Y: INDUSTRY SALARY BACKGROUND

19th Annual Salary Survey: Payroll Profile By Meat and Poultry Magazine

(MEAT&POULTRY, May 1, 2004)

By Marjorie Troxel-Hellmer and Keith Nunes.

2004 Compensation Total Number of Responses = 440

Title	Median base salary (\$000)	Median total cash (\$000)	Average # Years in Position
Corporate chief executive officer	212.5	287.5	10
Corporate controller/comptroller	119.5	139.5	8
Corporate marketing & sales executive	115.0	145.0	6
Corporate operations executive	121.0	156.5	10
Plant/general manager	95.0	105.5	6
Plant controller	70.6	75.6	3
Plant operations manager	68.4	73.4	7
Plant quality assurance manager	59.0	63.5	6
Plant purchasing manager	65.0	72.5	11
Plant R&D manager	63.0	68.0	4
Food safety/HACCP manager	63.3	66.0	4
Engineering Manager*	65.8	69.4	6

**New in 2004*

http://www.meatpoultry.com/resourcecenter/ind_article.asp?OSF=120022&ArticleID=71043

APPENDIX Z: HUDSON VALLEY MEAT PROCESSING FACILITY FEASIBILITY STUDY

Niche marketing of this sort has achieved significantly higher prices in at least some instances. Marketers are receiving prices of as much as \$2.74 per pound on the rail for Highlands beef, for example. The demand also appears to be growing. Locust Hill Farms of Argyle, New York, for instance, has experienced substantial growth in servicing direct marketers of niche products. Some 25 such marketers now use its services. These include growers of Scottish Highlander cattle, buffalo, beefalo, deer and other special product animals.

One absolutely essential means of adding value is a credible certification program. A quality control program, therefore, is critical. There is no natural meat certification program at the USDA level but the agency does offer a Prior Approval Label Process used by companies such as Coleman Natural Products to effectively certify their products. The process Coleman uses to qualify for this label involved USDA analysis of their "audit trail" to verify accuracy and completeness of record keeping from birth to slaughter. It also included third party verification by other agencies. There are no specific regulations governing this process but all claims must be verifiable from a paperwork trail subject to review by others. The Hudson Valley Livestock Marketing Task Force needs to employ such a program if it is to be successful in attaching added value to its grower's products sufficient to help pay for a new slaughter/processing facility.

This may also require some form of cooperative both from a quality management perspective and for the purpose of owning and operating the plant. Such a cooperative could also do marketing.

Existing Processing Facilities

An inventory of existing slaughterhouses within the region was made for the purposes of evaluating the supply of services available to Hudson Valley growers. All non-poultry facilities within 75 miles of Hudson listed in the July, 1999 USDA Meat and Poultry Inspection Directory were identified. Investigations were also made with USDA and State officials to determine if any new processing facilities were planned or in development within the region.

A new facility planned near Ellenville faced considerable community opposition and was recently dropped. A Western Massachusetts group is, however, being organized as the Northeast Livestock Producers Association and plans to reopen a slaughter/processing facility located east of Hartford, Connecticut (the "Stafford" or "Home Pride" plant). The Stafford Facility is in excellent condition and should have capacity to service Hudson Valley needs. The Hudson Valley Task Force should consider affiliation with this new cooperative on a group basis. This would allow it to economically support the establishment of additional slaughterhouse/processing capacity in the region while preserving the options of its own members to use or develop competitive services as may be appropriate or necessary.

There were, as of July, 1999, a total of 23 USDA inspected slaughtering facilities within or just outside the 75 miles market area previously discussed and mapped. One of these has since closed and two more are rumored to be shutting down operations soon. Two others offer no commercial services. Those plants with at least some capacity to provide the range of services and volumes

required by Hudson Valley growers include Schaller's Packing of Bridgewater, New York, approximately 80 miles from Hudson. This plant is for sale and could be an ideal situation because it would allow the Hudson Valley group to develop as a cooperative and grow its business prior to taking the step into ownership. Though located a significant distance away, the travel route is relatively easy via the NYS Thruway.

Most growers in the Hudson Valley are already familiar with the Meiller facility in nearby Pine Plains, Dutchess County. It is a small but very well run plant with a heavy demand on usage. It is an immaculately clean operation that delivers high quality services. The plant is located in the middle of a small hamlet on a relatively small property, but the owner indicates there is some room to expand. The Meiller facility is especially convenient, enjoys an excellent reputation and could offer additional capacity to serve the needs of The Task Force if expanded. This would require a partnership of some form between the Meillers and the Task Force. It will not~ however, be possible to effectively negotiate with this owner, or any other, if producers are not organized and in a position to deliver a documented flow of business.

Other options include the Adams Farm in Athol, Massachusetts, and the Locust Grove Farm plant located in Argyle, Washington County, New York approximately 65 miles north of Hudson. The latter operation is HACCP compliant and capable of being expanded. Moreover, the owner is interested in additional contract business provided there is a regular demand for it. These could be appealing options for the Task Force to consider as a means of getting a cooperative up and running, documenting the supply of business available and laying the foundation for a processing operation of its own. A contractual relationship with a reliable processor could also easily lead to a future joint venture in developing a new operation more convenient to Hudson Valley growers.

These various possibilities offer the Hudson Valley Livestock Marketing Task Force a number of different options for getting up and running as a marketing cooperative in the short-term. If approached in a deliberate manner, this will provide the guarantees of business required to justify investment in a new plant whether that investment comes from the private or the public sector. Financial analyses indicate such a plant is feasible at the level of approximately 1,500 steers plus 2,500 other animals per year without any substantial grants or other governmental assistance. With such assistance it is feasible with as little as half those volumes, well within the capacity of such a marketing cooperative to attract business from what is already known to be available.

Facility Requirements

Determining the feasibility of a new meat packing facility for the Hudson Valley demands sizing information relative to the market. Given the range of projected volumes discussed earlier, and allowing for some growth over the years, such a plant must be able to process as many as 2,000 beef, 2,200 hogs and a comparable number of other species. These rates can easily be accommodated with a 1,000-1,200 square foot slaughter department. Additional building space and equipment is necessary for coolers, employee areas, fabricating operations, offices and utilities. It is, therefore, reasonable to assume a new slaughter and processing plant would require a building of approximately 5,000 square feet in size. The cost of constructing this space is estimated to be approximately \$75 per square foot not including land and site work.

These costs do not include a retail sales area, the assumption being that a Hudson Valley facility would be direct marketing to metropolitan area restaurants and retailers. The total capital costs associated with a Hudson Valley facility are estimated at \$330,000 for a slaughter-only facility and \$605,000 for a slaughter/processing facility. These numbers form the basis of the cash flow analyses found in the full report.

Locating a new facility when and if the Hudson Valley Livestock Marketing Task Force decides to proceed with one will not necessarily be easy. The first option to be considered should be location in a structure previously occupied by a slaughterhouse. This will permit some exercise of "grandfather rights." Public opposition is also typically lessened by familiarity with a previously well-run operation. Such facilities include the Hillsdale Plant, located on the Edward Herrington Lumber property. It is now used as part of the lumber operation. The 6 acres on which it lies is a prime piece of commercial real estate and is not for sale at the present time. Acquiring it now would very likely require payment of a substantial premium.

There is also a plant located in the Town of Montgomery, near Walden, New York (west of Newburgh). It was associated with a livestock auction but is now closed and for sale. It includes 2.5 acres of land and an 18,000 square feet, 2-story building. The suitability of the facility for the Task Force's purposes is unclear but it is close enough to Hudson (less than 40 miles) to warrant some consideration.

Availability of infrastructure is also a critical location factor if a new facility is to be developed. A slaughter plant generates wastes that are often difficult to deal with using subsurface means. Moreover, the cost of a package treatment facility relative to the size of the slaughter plant that would be involved makes that option unrealistic. A reliable supply of potable water is also essential. Finally, the availability of public infrastructure provides a significant cost saving on the capital side, a minimum of \$20,000 and as much as \$70,000.

Zoning is still another critical factor for the reasons discussed earlier. A new slaughterhouse is likely to prompt "Not in MY Backyard" reactions. Location within an industrial or agricultural district, where slaughter and processing operations are permitted uses, will put the burden of proof on municipal officials and opponents to halt a project. The key to securing local approvals is a combination of sound site planning, presentation and persistence. A properly zoned site makes it easier, however, and provides continuing protection from incompatible uses.

Location away from residences that can pose conflicts, and downwind from other businesses that can generate odors~ smoke or dust is also a practical necessity. The latter is, in fact, a USDA requirement. A lot of sufficient size to buffer all the on-site activities (including pens and unloading areas) from adjoining uses, is therefore, appropriate. A 2-acre site should suffice.

These factors are not exclusive but they do suggest a certain type of site - a planned industrial development. The Columbia County Commerce Park offers potential and should be considered. It is largely undeveloped but served with the proper infrastructure, unlimited by inappropriate zoning and located in area away from potentially conflicting uses.

Alternatives/Recommendations

There are three basic action alternatives available to the Task Force at this juncture, They include, 1) contracting with an existing slaughter/processing company, 2) purchasing an existing facility, and 3) constructing a new facility. Each offers advantages and disadvantages but there is also a natural progression to follow in decision-making. The appropriate steps are as follows:

A. Assessing volume is the first step and this has been done. It should be possible, following a start-up period, to secure volumes of 1,500 beef, 1,250 hogs, 1,000 sheep and 250 other animals per year to process.

B. The next step is for the Task Force to form an organization of growers. The first challenge is to establish a clear and succinct definition of the product (e.g., "meat from animals grown with, no hormones or antibiotics on grass-fed diets, using humane methods"). USDA approval will be required. This must be followed by identification of the specific markets to whom these products can and will be marketed. This should not be difficult as individual members are already selling to these markets. A marketing and distribution framework must also be developed. Initially, this might well involve no more than a common label with the Task Force acting as a clearinghouse for market contacts. Promotion would also be involved. It could later include pick-up of animals for transportation to slaughter facilities and the distribution of product to processors, retailers and restaurants.

Money required will vary depending on the project scope. Conventional financing will suffice in some cases while others will demand low-interest loans, second-position financing or grants.

Potential sources of financing include USDA Business and Industry Direct Loans, Rural Cooperative Development Grants, Rural Business Enterprise Grants, Rural Business Opportunity Grants , the Resource Conservation & Development Program (RC&D), the Small Business Administration 504 Loan Program, the Economic Development Administration Facilities Program, the Fanner/Grower Grant Program, the Federal-State Marketing Program, the Catskill Watershed Corporation Economic Development Program, New York State Empire Development Corporation and the Community Development Block Grant Program . There are also numerous other financing programs available through county industrial development agencies, local and regional economic development organizations and private foundations.

This report is taken from the Cornell University web site and was completed under the Auspices of Hudson Valley Livestock Marketing Task Force.

Source: <http://www.sheepgoatmarketing.org/sgm/education/projects/udsonfeas.htm>

APPENDIX AA: MATSON CONSULTING SERVICES



Services Offered:

Feasibility Studies -We evaluate your proposed project to help to determine whether or not it could be feasible for your organization to continue.

Business Planning -We assist your project with the creation and implementation of a business plan that will guide you in adding further value to your product, and help generate profits.

Technical Assistance -Our experience in this area will help you avoid prevent and overcome difficulties you encounter throughout your development stages.

Grant Facilitation -We help through the entire grant process from identification of funding sources, through development of the grant application, to grant management

Board Training -Our specialist provide direction regarding the election, governance, and training of board members to help further advance your business.

Business Structure Consulting -We assist your organization with the incorporation process and to help you determine which structural forms best fit your business needs

Survey Design and Execution -We design, execute, compile and analyze membership and marketing surveys for your organization.

James Matson, the principle, has nearly 20 years of experience in marketing, developing, researching, writing, and teaching for government, private, and non-profit organizations. He has assisted more than 250 business projects. He has authored numerous works for scholarly, industry, and popular publications. Mr. Matson has worked in 19 countries on four continents. He is fluent in Spanish and has intermediate skills in Portuguese, as well as a basic knowledge of French and Japanese.

Mr. Matson has conducted numerous agricultural feasibility studies. He authored an USDA publication advising how to conduct a cooperative feasibility study.

He has a Master of Science degree in Agricultural Economics from the University of California, Davis and a Bachelor of Science degree in Agricultural Business Management and a Bachelor of Arts degree in Economics from North Carolina State University.