

A REVIEW OF USDA-INSPECTED LIVESTOCK SLAUGHTERING FACILITIES IN TENNESSEE

Analysis of Tennessee Resources That Contribute to Direct
Marketing Opportunities for Value-Added Meat Products



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Foreword

This publication is an important part of the *Center for Profitable Agriculture's* ongoing educational programs with individual farm families, value-added entrepreneurs and agricultural leaders across the state. The results presented in this publication represent one of the five objectives of the 2001 – 2003 Federal-State Market Improvement Program (FSMIP) project titled “Developing Target Markets for Value-Added Niche Products.”

Facilities in Tennessee that slaughter livestock for the public and whose services are inspected by the United States Department of Agriculture (USDA) are identified. Specific information pertaining to services rendered, species of livestock slaughtered and processed, and average cost of services is given. These results can assist agri-entrepreneurs and small farm agribusinesses in the development of new market opportunities for value-added products and enterprises and can contribute to an improved overall understanding of the critical success factors needed for successful value-added agribusinesses.

We greatly appreciate the cooperation of Jerry Brooks, Herb Hobbs and Bobby Cooksey, compliance officers with the USDA, Food Safety and Inspection Service in Tennessee. Their cooperation in identifying the USDA-inspected meat-processing facilities in Tennessee that process livestock for the public was invaluable in the completion of this project. In addition, appreciation is expressed to Anne Dalton and Shasta Hubbs for their contributions in implementing the entire project; Dwight Loveday for assisting with the development of the survey questionnaire; Emmet Rawls for insight on meat processing and meat marketing; Mary Jo Holden for editing; Richard Maxey for the publication layout and design; Joe Gaines, Dan McLemore and Dan Wheeler for their assistance and leadership in the project's administration; and Dan McLemore, Emmet Rawls, Margie Baker and Dwight Loveday for their participation in the peer review.

Additional information regarding this project may be obtained by contacting the *Center for Profitable Agriculture* at 931-486-2777 or <http://cpa.utk.edu>.

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Project Background

FSMIP Grant

In March 2001, specialists with the *Center for Profitable Agriculture* (CPA) submitted a proposal to the Federal-State Marketing Improvement Program (FSMIP) to develop five market development resource tools that would allow users to better evaluate opportunities for value-added products and enterprises. One of the goals of the overall FSMIP project was to document the stages and available resources for direct marketing value-added meat products. Previously, little information was available on slaughtering and processing facilities. In addition, identifying meat facilities inspected by the United States Department of Agriculture (USDA) that provide slaughtering and processing services for the public is challenging. Realizing that the USDA must inspect meat processed for resale, many people contact county Extension offices and the CPA seeking the name, location, services and other specific information about facilities that are USDA inspected.

Purpose of the Study

The two-fold purpose of this study was to 1) identify the USDA-inspected meat processing facilities in Tennessee that slaughter livestock for the public and 2) survey these facilities to determine location, species of livestock slaughtered, slaughtering capacity, services offered and costs of services. Previous studies of value-added enterprises in Tennessee have found that the slaughtering and processing stages have been obstacles in the development of value-added meat enterprises. Identifying the available slaughtering and processing resources and their services would provide a better understanding of potential processing opportunities for farmers in Tennessee and, perhaps, even a starting point for those interested in the meat processing industry. This could lead to an increase in direct and local sales of value-added meat products.

Details of the Study

The subjects surveyed in this study represent meat processing facilities in Tennessee that are USDA inspected for slaughtering and that slaughter for the public. Many contacts were made with various offices and branches of the Tennessee Department of Agriculture and the USDA to obtain a list of facilities that met these criteria, but the information obtained was outdated. Therefore, a new list to use in this survey was devised with the assistance of three USDA compliance officers in Tennessee, one in each of the state's three grand divisions. Each officer identified the USDA-inspected slaughtering

facilities in his respective division of the state. Sixteen facilities were identified and confirmed as meeting the requirements to participate in the survey.

A questionnaire (see Appendix A) with 12 questions was developed to generate information about the facilities' inspection status, location, services and costs of services. Dwight Loveday, University of Tennessee associate professor of Food Science and Technology, and Jerry Brooks, USDA compliance officer, were instrumental in helping to format questions and later in evaluating the questionnaire for terminology and understandable, user-friendly language.

Each of the identified 16 meat processing facilities was contacted by telephone. The survey respondents were persons designated by the management of individual facilities as having the knowledge to answer questions about the facility's operations. Fourteen facilities confirmed that they were USDA-inspected facilities. Of the 14, however, only 10 indicated that they provided USDA-inspected slaughtering for the public. Those 10 businesses are the subject of the survey.

Definitions and Descriptions of the Industry

The U.S. Congress enacted the country's first meat inspection laws in 1906 by requiring all meat sold to foreign countries, to the federal government or across state lines to be inspected. The Wholesome Meat Act was passed in 1967. It required all meat entering commerce in the U.S. to be inspected by standards "at least equal to" those of the federal inspection system. A provision of the 1967 law allowed states to pass and administer their own programs and laws identical to the federal provisions or to have their state inspection programs automatically taken over by the federal system. The nationwide Wholesome Meat Act applies to both slaughtering and processing activities. Although they meet federal inspection standards, meat products from state-inspected facilities are not allowed to enter interstate commerce. Meat from state-inspected plants can be sold only within the state in which it is inspected. Since 1971, Tennessee and 25 other states have opted out of state-inspection meat programs and rely totally on federal inspection.

The federal inspection program for meat and poultry is administered by the Food Safety and Inspection Service (FSIS), which is the public health agency of the USDA. FSIS provides inspections of all raw meat and poultry sold in interstate commerce and monitors meat and poultry products after they leave federally inspected plants. FSIS also cooperates with state-inspection programs.

A facility may be exempt from inspection when the animal to be slaughtered or the meat to be processed does not belong to the establishment and

when the product will not enter commerce. Establishments that offer slaughtering and/or processing services on a custom basis (only as non-owners of a product that will not enter commerce) are often referred to as “custom-exempt” facilities, while establishments that offer inspected services are referred to as “inspected” facilities. While custom-exempt facilities do not require inspection, these plants are still subject to regulation by the state Department of Agriculture. In fact, the requirements and regulations for the inspected and custom-exempt facilities are essentially the same. Exempt plants in Tennessee must conform to the same federally mandated Good Manufacturing Practices (GMPs) as federally inspected plants.

Because Tennessee does not have a state inspection program, USDA personnel who inspect Tennessee meat plants report to the USDA district headquarters in Mississippi. Generally, inspection is provided at no direct charge to the establishment, unless it is necessary for the inspector to work overtime, in which case the overtime costs are paid by the establishment. The establishment is, however, responsible for providing office space for the inspector.

To obtain federal inspection, the establishment must apply to the USDA Food Safety and Inspection Service (FSIS) for a “grant of inspection” to become an “official establishment” for meat, poultry or both. In addition, the applicant must specify the meat processing activities that need inspection (i.e., slaughtering, boning, fabricating, curing, formulating). The establishment premises must be described in a diagram, a written narrative and/or a schematic. To receive a grant of inspection, the establishment must develop and implement a Hazard Analysis and Critical Control Points (HACCP) plan and Sanitation Standard Operating Procedures (SSOP), conduct E. Coli tests, comply with set Salmonella standards, maintain sanitary conditions, remain fit to engage in business, maintain a pest management plan and comply with Occupational Safety and Health Administration (OSHA) standards.

Slaughtering, processing and boning are the terms used to describe the distinct stages for which inspection is provided. That is, meat entering commerce must be inspected at each of these stages, and facilities providing these services must be specifically inspected for each stage. A facility must apply for inspection for each specific operation that it wants to perform. USDA approval is granted independently for each function/operation. For example, a facility may be inspected for slaughtering but may not be an inspected facility for processing and boning. However, such a plant could still provide processing and boning services on a custom-exempt basis. In such a case, exempted activities performed must be specified on the application for inspection.

The slaughtering stage, also referred to as the harvesting stage, involves killing livestock and preparing the carcass for the processing stage. The processing stage involves numerous possible activities performed after the slaughter stage, which may range from disassembling the carcass to making

finished products. Intermediate stages may include cutting into primal or subprimals; manufacturing of meat products such as hot dogs and bologna; and cutting, wrapping or packaging for retail sale. Boning is the term used to describe the task of removing the meat from the bone to obtain boneless meat for products such as meat patties. The term is usually used in reference to cattle.

The cattle industry in the United States today is often described as having six distinct yet overlapping segments: seed-stock producers, cow-calf operations, backgrounding operations, finishing operations, slaughter facilities and market outlets. Each of these six broad segments could be further segmented into detailed sub-segments. For example, sub-segments of the market outlet segment could include restaurants, butcher shops, grocery stores and supermarkets. In addition, sub-segments of the slaughtering facilities segment may include slaughtering or harvesting, boning, packing and processing.

The lack of a thorough understanding and definition of the activities performed in the slaughtering facilities segment is often a source of confusion and miscommunication in the livestock and meat industry. Terms used by individuals active in the meat slaughtering and processing industry are often not completely understood by those outside the industry. That is, terms often mean one thing to those in the industry and another to the public. In addition, different terms are sometimes used interchangeably to express or communicate the same message. Many of these terms and concepts relate directly to the types of inspection required for commercial meat sales. Because meat from a custom-exempt establishment cannot be sold, farmers and entrepreneurs considering a value-added meat enterprise must clearly understand inspection programs and carefully identify establishments that can provide the required inspection.

Survey Results

A summary of the survey results is presented here. A table showing the kinds and volume of livestock slaughtered by the 10 USDA inspected facilities surveyed is followed by tables showing fees and capacity as well as a complete directory.

Slaughtering Services

Each facility was asked to identify the kinds of animals slaughtered. The survey found that hogs are the only animals that all 10 of the facilities will slaughter. As shown in Table 1, 90 percent of the facilities slaughter cattle and 70 percent slaughter sheep and goats. Although some facilities indicated that ostrich/emu, deer, beefalo and buffalo are included in the list of animals they

slaughter, disclosure of this information could reveal information specific to a particular business and is therefore not included in these results.

Table 1: Species and Percent of Respondents Slaughtering Them	
<i>Animal</i>	<i>Percent of Facilities that Slaughter</i>
Hogs	100
Cattle	90
Sheep	70
Goats	70

In order to evaluate the volume of slaughtering activity by these facilities, each was asked to report the number of each kind of animal slaughtered in a year. Table 2 provides the total number of animals slaughtered and the average number of animals slaughtered per facility.

Table 2: Number of Head Slaughtered		
<i>Animal</i>	<i>Number Slaughtered by Respondents per Year (head)</i>	<i>Average Number Slaughtered per Facility (head)</i>
Hogs	13,958	1,395
Cattle	7,976	886
Goats	1,612	230
Sheep	1,003	143
Emu/ostrich	337	133

Slaughtering Fees

Participants in the survey indicated their charge to slaughter varies by kind of animal. As shown in Table 3, the per-head charge to slaughter ranged from \$18 to \$50 depending on the specific facility. When averaged across all facilities, the per-head slaughtering charge ranged from \$28.33 for goats to \$34.37 for hogs. One reason for the relatively large range in reported slaughtering charges could be that facilities actually have different fee schedules based on whether slaughtering is inspected or custom-exempt or whether slaughtering includes any processing.

Table 3: Slaughtering Fees

<i>Animal</i>	<i>Range of Slaughtering Charge (\$ Per Head)</i>	<i>Average Slaughtering Charge (\$ Per Head)</i>
Cattle	\$18 - \$50	\$32.55
Hogs	\$18 - \$50	\$34.37
Sheep	\$20 - \$50	\$32.15
Goats	\$20 - \$50	\$28.33

Slaughtering Capacity

In addition to the actual amount of slaughter activity reported by each facility in Table 2, facilities were also asked to indicate their total slaughtering capacity. In this case, a facility's capacity represents the total number of animals the facility is capable of slaughtering in a year. As shown in Table 4, the 10 facilities that participated in the survey represent a slaughtering capacity of 36,273 head of hogs, 25,447 head of goats, 23,622 head of sheep and 21,847 head of cattle. Compared to the actual slaughtering statistics reported by the participants and provided in Table 2, there appears to be a significant amount of excess slaughtering capacity. That is, the existing inspected slaughtering facilities in Tennessee slaughter far fewer animals than they are capable of slaughtering. For example, the average facility slaughters 886 head of cattle in a year but could slaughter 3,121 head.

Table 4: Facility Slaughtering Capacity

<i>Animal</i>	<i>Total Capacity (head)</i>	<i>Average Capacity per Plant (head)</i>
Hogs	36,273	4,534
Goats	25,447	4,241
Sheep	23,622	3,937
Cattle	21,847	3,121

Processing

Although the participants in the survey were selected because of their classification as inspected for slaughtering, participating facilities were also asked to report on their inspection status for processing. All of the facilities that are inspected for slaughtering cattle, hogs, sheep and goats are also

inspected for processing. Because most facilities have a separate fee schedule for processing and slaughtering services, survey participants were asked to indicate the amount they charge for processing. Table 5 provides the per-pound range and average charges for processing each kind of animal. Facilities reported that per-pound charges for cattle ranged from 17 cents to 40 cents with an average per-pound charge of 30 cents. The highest average per pound charge for processing was for goats and sheep at 37 cents. All responses should reflect the per-pound charge for USDA-inspected processing, and the per-pound charge should be applicable to the dressed weight (not live weight).

Table 5: Per Pound Charges for Processing

<i>Animal</i>	<i>Range of Charges per pound</i>	<i>Average Charge per pound</i>
Cattle	\$0.17 to \$0.40	\$0.3055
Hogs	\$0.22 to \$0.40	\$0.3111
Sheep	\$0.30 to \$0.50	\$0.3760
Goats	\$0.30 to \$0.50	\$0.3750

Additional Comments

In addition to the responses to specific survey questions reported in the previous tables, some participants provided the following remarks during the interview:

- “Ninety percent of the work at our plant is not USDA inspected.”
- “If USDA inspection is needed . . . the client must request it and arrange it in advance and pay extra for it.”
- “We are limited in our plant by labor and equipment.”
- “Will not do any USDA inspection for the public, only for our business.”
- “We require that USDA-inspected services be scheduled one month in advance.”
- “The offal from sheep and goats must be picked up by the owner of the animals.”

Directory of Facilities

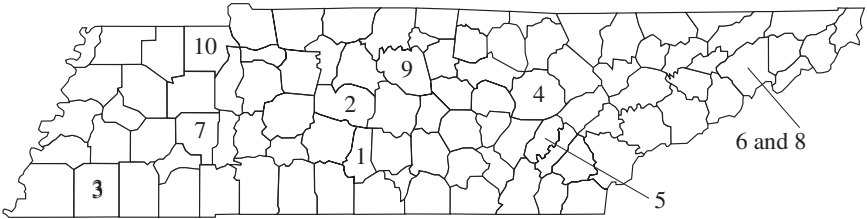
The following directory is intended to be a resource. The facilities are listed in alphabetical order. If the name of a facility is known, the facility can



Table 6: Directory of USDA Inspected Slaughtering Facilities in Tennessee

Map Point	Facility Name	Facility's Address	County Location	Region of State	Livestock Species Slaughtered for Public under USDA Inspection			
					Cattle	Hogs	Sheep	Goats
1	A & D Processing	2830 Ewell Road Chapel Hill, TN 37034 Phone: (931) 364-7924	Marshall	Middle	X	X	X	X
2	C & F Meats	5247 Murfreesboro Road College Grove, TN 37406 Phone: (615) 395-4819	Williamson	Middle	X	X	X	X
3	Fayette Packing Company	16620 Hwy. 196 Eads, TN 38028 Phone: (901) 867-3826	Fayette	West	X	X	X	X
4	H and R Slaughtering	544 Sawmill Road Crossville, TN 38555 Phone: (931)-484-1154	Cumberland	Middle	X	X		
5	Hampton Meat Processing	216 Breeden Drive Decatur, TN 37522 Phone: (423) 334-1079	Meigs	East	X	X		
6	Harris Country Meats	480 Twin Barns Road Greeneville, TN 37743 Phone: (423) 638-1072	Greene	East	X	X	X	X
7	Hays Meat Company	Highway 412 East Lexington, TN 38351 Phone: (731) 967-1411	Henderson	West	X	X	X	X
8	Snapps Ferry Packing Company	3670 Snapps Ferry Road Afton, TN 37616 Phone: (423) 638-7001	Greene	East	X	X	X	X
9	Tucker Sausage Inc.	215 N. College Street Lebanon, TN 37087 Phone: (615) 444-5112	Wilson	Middle		X		
10	Yoder Brothers Meat Processing	1650 Briarpatch Lake Road Paris, TN 38242 Phone: (731) 642-3333	Henry	West	X	X	X	X

be easily located in the alphabetical listing. If the need is to locate a facility in a specific geographic area, the directory provides three aids. The directory gives the complete address of each facility as well as the facility's county location. The number to the left of the facility column corresponds to the numbers on the following map.



Observations from the Survey

Because the survey for this study was conducted by telephone, participants often provided more description in their responses than simple, straightforward answers. Based on some of the additional descriptions noted by the surveyor, it seems that some of the questions were often interpreted differently by the various respondents. This causes some concern in the interpretation of the results. Some of the concerns arising from the noted variations in interpretations are described below:

- Some facilities participating in the survey provide both inspected and custom- exempt slaughtering. In one case, the participant indicated that slaughtering for their contract business was inspected, while slaughtering for the public was custom exempt. In addition, some facilities also indicated that their fee-schedule varied for inspected and custom-exempt services. However, answers to some questions were not segmented by inspected and custom-exempt services.
- Some facilities indicated they did not have a standard set of charges for processing because the actual charges depended on the specific procedures performed and the type of packaging used.
- Some facilities expressed difficulty in segmenting their charges per head for slaughtering and per pound for processing because they normally have a single charge for both.

- Some facilities indicated their potential production capacity in number of head per day; then indicated they could not operate every day without identifying the number of days they could operate.
- Some facilities indicated that they have limits on the size of animals they can service. Thus, their indication that they will process/slaughter a certain kind of animal does not mean they can handle all weights and sizes of that animal.
- Some facilities indicated that their fee structure varies based on whether the facility or the animal owner is responsible for disposal of the waste and by products of the slaughtering phase (offal).
- Some facilities distinguished wild game from domestic livestock; others did not.

These observations help confirm that participants in the overlapping segments of the livestock industry have various understandings and applications of terms, concepts and practices. While this seems common in the industry, new participants in value-added livestock enterprises should understand these concerns and variations.

Conclusions and Implications

To improve the economic viability of agricultural operations, farmers and agri-enterprises are processing, packaging and marketing farm commodities in different ways than have been done historically. One such commodity is meat. However, meat used in Tennessee value-added enterprises must be slaughtered and processed under USDA inspection. The results presented in this publication provide information that will be helpful for farmers and agri-entrepreneurs who are already involved or who are considering becoming involved in a value-added meat enterprise.

According to the study, there are only 10 plants in Tennessee providing USDA-inspected slaughtering for the public. None of these plants slaughters all of the kinds of livestock produced in Tennessee. Value-added meat entrepreneurs must consider the location of these plants as well as the kinds of animals slaughtered at each when conducting a feasibility study to determine the travel time and cost to use an acceptable facility.

The results of the study set the stage for a variety of future studies that would further the understanding of and opportunities for processing and marketing value-added meat products. Some specific opportunities for future studies include:

- Determining the slaughter capacity of facilities when slaughtering only one kind of animal and when slaughtering mixed kinds under USDA inspection.
- Determining the operations options that slaughtering facilities include when using the term “process.”
- Determining when USDA inspected slaughtering takes place—the days and month—for each kind of animal the facility slaughters.

APPENDIX A

Survey of Livestock Processing Facilities in Tennessee

1. Is the facility USDA inspected for slaughtering? Yes _____ No _____
2. Is the facility USDA inspected for processing? Yes _____ No _____
Is the facility USDA inspected for boning? Yes _____ No _____
3. Do you currently slaughter livestock for the public? Yes _____ No _____
If no, would you consider it? Yes _____ No _____
4. Would you describe your attitude about the future of the livestock processing industry in Tennessee as optimistic or pessimistic?
_____ optimistic (same or increase in demand for services)
_____ pessimistic (decrease in demand for services)

(The response options for questions 5 through 10 are cattle, hogs, deer, sheep, goat, emu/ostrich and other.)

5. What kinds of livestock are you currently USDA approved to slaughter?
6. How many of each kind do you slaughter per year?
7. What is your average fee/charge per head to slaughter?
8. What is the slaughter capacity of your facility (what is the most you could slaughter per year)?
9. Is processing beyond the slaughtering stage done at your facility?
10. What is your average fee/charge for processing per pound?
11. Within the next 12 months, do you expect the list of species you are approved to slaughter to change?
Yes: _____ No: _____
If yes, what changes do you expect? _____
12. Please give any additional comments that would be beneficial.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

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