January 2007

GIPSA Livestock and Meat Marketing Study

Contract No. 53-32KW-4-028

Volume 2: Data Collection Methods and Results
Final Report

Prepared for

Grain Inspection, Packers and Stockyard Administration
U.S. Department of Agriculture
Washington, DC 20250

Prepared by

RTI International
Health, Social, and Economics Research
Research Triangle Park, NC 27709

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Abstract

Over time, the variety, complexity, and use of alternative marketing arrangements (AMAs) have increased in the livestock and meat industries. Marketing arrangements refer to the methods by which livestock and meat are transferred through successive stages of production and marketing. Increased use of AMAs raises a number of questions about their effects on economic efficiency and on the distribution of the benefits and costs of livestock and meat production and consumption between producers and consumers.

This final report follows the publication of an interim report for the Grain Inspection, Packers and Stockyards Administration (GIPSA) Livestock and Meat Marketing Study that used qualitative sources of information to identify and classify AMAs and to describe their terms, availability, and reasons for use. This volume of the final report is based on quantitative analyses using industry survey data from producers, feeders, packers, processors, wholesalers, exporters, retailers, and food service operators, as well as transactions data and profit and loss (P&L) statements from packers and processors.

This volume of the final report describes the data collection methods for the industry survey and the collection of transactions data and P&L statements from packers and processors. This volume also presents and summarizes the results of the industry survey. Where relevant, these survey results are also incorporated in the report volumes for each species included in the study.

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We would like to thank the anonymous peer reviewers and GIPSA staff who provided comments on earlier drafts, which helped us improve the report. We also thank Sharon Barrell and Melissa Fisch for editing assistance.

This report and the study on which it is based were completed under a contract with GIPSA, U.S. Department of Agriculture (USDA). Any opinions, findings, and conclusions or recommendations expressed in this report are those of the authors and do not necessarily reflect the views of GIPSA or USDA.

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1 Introduction

This volume

- describes the industry survey procedures,
- presents the industry survey results, and
- describes the data collection procedures for the transactions and P&L statement data collection.

As part of the congressionally mandated Livestock and Meat Marketing Study, this volume of the final report describes the data collection methods for the study and presents the results of the industry survey. RTI International conducted an industry survey at multiple levels of production and marketing in the fed cattle, hog, lamb, and meat industries. The voluntary survey was national in scope and collected information from fed cattle, hog, and lamb producers and feeders; beef, pork, and lamb packers; meat processors; meat wholesalers; meat exporters; food retailers; and food service operators. The survey was administered by mail, with initial and follow-up contacts made by telephone to help encourage response.

We also collected procurement and sales transactions data from the largest meat packers and processors and downstream market participants (wholesalers, exporters, retailers, and food service operators) for the 2.5-year period from October 6, 2002, through March 31, 2005. Additionally, we collected weekly profit and loss (P&L) statements from meat packers and processors for the same time period. Response to the transactions data collection[1] was required for meat packers and processors as a special report under the Packers and Stockyards Act (7 U.S.C. § 222) and was voluntary for the downstream market participants. Meat packers and processors were required to provide daily procurement and sales transactions data, and downstream market participants were asked to provide weekly summaries of sales and purchases of

[1] Throughout the report, we collectively refer to the collection of procurement and sales transactions data and the weekly P&L statements as the "transactions data collection."

beef, pork, and lamb products. We did not receive transactions data from any downstream market participants.

The Grain Inspection, Packers and Stockyard Administration (GIPSA) received clearance from the Office of Management and Budget (OMB) to conduct the industry survey and the transactions data collection in October 2005. We started data collection for the voluntary industry survey in November 2005, and started data collection for the transactions data collection in February 2006, as we were completing the data collection for the industry survey.

Sections 2 through 5 of the report describe the sample design, survey design and administration procedures, response rates, and data set preparation for the industry survey. Sections 6 through 9 provide tables with weighted tabulations for each survey question, cross tabulations by size (small versus large) for selected industry segments and questions, and a brief summary of the survey findings for each industry segment. Sections 10 through 12 describe the sample design, study design and data collection procedures, and data set preparation for the transactions data collection.

Appendixes A, B, and C contain the survey questionnaires and other materials used to conduct the industry survey. Appendixes D, E, and F contain the instruction booklets and other materials for the transactions data collection.

2 Sample Design for the Industry Survey

This section describes the sample design for the industry survey. Consistent with the categories of market participants included in the study, we selected a sample of establishments or companies from each of the following industry segments:

- livestock producers and feeders
  - fed cattle
  - hogs
  - lamb
- meat packers
  - beef
  - pork
  - lamb
- meat processors
- downstream market participants
  - meat wholesalers
  - meat exporters
  - food retailers (grocery stores and other retailers)
  - food service operators (restaurants and other food service establishments)

We describe below the respondent universe and the methodology for constructing the sampling frames, as well as the stratification and sample selection procedures for each industry segment.

2.1 RESPONDENT UNIVERSE, SAMPLING FRAME, AND STRATIFICATION

For many of the industry segments, we constructed sampling frames for the industry survey on the basis of Standard Industrial Classification (SIC) codes. Table 2-1 provides the SIC codes and the corresponding North American Industry Classification System (NAICS) codes, along with the universe size for each industry segment.[1]

2.1.1 Livestock Producers and Feeders

We used the most current D&B database to construct the survey sampling frames for livestock producers and feeders. We constructed sampling frames by species on the basis of the establishment's primary SIC code. For each species, we took a census of the approximately 50 largest establishments and a sample of establishments from the remaining population (i.e., small establishments).

We used the most current D&B database (http:\www.dnb.com) to construct the survey sampling frames for livestock producers and feeders.[2] The D&B database provides detailed financial and other information for all businesses in the United States.

The sampling unit for livestock producers and feeders was defined as the establishment because establishment-level data were needed for the analysis. Using the D&B database, we constructed sampling frames by species on the basis of the establishment's primary SIC code. We excluded establishments without reported revenue or number of employees from the sampling frame because our previous experience using the D&B database suggests that most such business units are not currently operating.

To ensure proper representation of feedlots and different sizes of operations in the sample for fed cattle, we stratified the sample by type of operation on the basis of SIC code and by three size categories (small, medium, large) on the basis of annual sales revenues. For the large size category, a complete census was taken, while small operations were undersampled to allow a larger sample of medium operations relative to

[1] Although the NAICS codes replaced the SIC codes in 1997, Dun & Bradstreet (D&B) continues to classify establishments using SIC codes. The tables found at http://www.census.gov/epcd/naics02/N2SIC42.HTM were used to map each NAICS code(s) to the appropriate SIC code(s).

[2] Early in the survey development process, we evaluated the feasibility of working with the U.S. Department of Agriculture's (USDA's) National Agriculture Statistics Service (NASS) to draw the sample for livestock producers and feeders. However, using the NASS data would have required that NASS obtain informed consent from the selected establishments prior to providing RTI with the identities of the establishments. Because of time constraints for conducting the study, this option was considered infeasible.

Table 2-1. Respondent Universe Description and Size for Each Industry Segment

Industry Segment	NAICS Codes	SIC Codes	Universe Size	Percentage of Total Industry Volume
Livestock producers and feeders				
Fed cattle				
Feedlots	112112	0211	14,166	N/A
Ranching and farming	112111	0212	35,442	N/A
Hog	11221	0213	7,384	N/A
Lamb	11241	0214[a]	1,267	N/A
Packers	311611[b]	2011[b]		
Beef			482	99%
Pork			489	99%
Lamb			202	96%
Processors	311612[b]	2013[b]	4,050	N/A
Wholesalers	42242, 42247	5142[c], 5147[d]	3,562	N/A
Exporters	N/A	N/A	46	N/A
Retailers	44511, 44512, 44521, 45291	5411[e], 5421[f], 5399[g]	28,559	N/A
Food service operators	72211, 722211, 722212, 72231, 72111, 72112	5812[h], 7011[i]	44,246	N/A

Sources: Dun and Bradstreet (D&B). <http:www.dnb.com>.
U.S. Department of Agriculture, Food Safety and Inspection Service. 2005. Enhanced Facilities Database. Washington, DC: U.S. Department of Agriculture (USDA).
U.S. Meat Export Federation. 2005. *2005 Membership Directory*. Denver, CO: Meat Export Federation.

N/A = Not available.

[a] For SIC code 0214 (sheep and goats), the following subcategories were included in the sampling frame: sheep, lamb feedlot, sheep feeding farm, and sheep raising farm.

[b] NAICS and SIC codes were not used to identify the respondent universe for packers and processors but are included in the table for completeness.

[c] For SIC code 5142 (packaged frozen foods), the following subcategories were included in the sampling frame: frozen meat, frozen meat pies, and packaged frozen meat.

[d] For SIC code 5147 (meats and meat products), the following subcategories were included in the sampling frame: meats and meat products, excluding lard.

[e] For SIC code 5411 (grocery stores), the following subcategories were included in the sampling frame: supermarkets (chains and independents) and grocery stores (chains and independents).

[f] For SIC code 5421 (meat and fish markets), the following subcategories were included in the sampling frame: meat markets, including freezer provisioners.

[g] For SIC code 5399 (miscellaneous general merchandise stores), the following subcategories were included in the sampling frame: warehouse club stores.

[h] For SIC code 5812 (eating places), the following subcategories were included in the sampling frame: fast-food restaurants (chains and independents), family restaurants (chains and independents), steak and barbecue restaurants, and contract food services.

[i] For SIC code 7011 (hotels and motels), the following subcategories were included in the sampling frame: hotels (franchised and independents), casino hotels, and resort hotels (franchised and independents).

their population counts. Table 2-2 provides the initial sample design for fed cattle producers and feeders. After drawing the sample, we compared the sample for large operations with lists maintained by the National Cattlemen's Beef Association (NCBA) of the largest feeding and cow-calf operations.[3] Based on this comparison, we replaced the selected sample with the operations on the NCBA lists (n = 25 for feedlots and n = 25 for cow-calf operations), because the selected sample did not include some of the operations on the lists.

For hog and lamb producers and feeders, we took a census of the approximately 50 largest establishments[4] and a sample of

Table 2-2. Initial Sample Design for Fed Cattle Producers and Feeders

Size Category	Sales	Population	Percentage of Population	Percentage of Sample	Required Sample
Feedlots (SIC 0211)					
Small	≤$999,999	13,384	94.5	90	100
Medium	$1,000,000–$24,999,999	762	5.4	10	11
Large[a]	≥$25,000,000	20	0.1	All	20
Total		14,166 (29%)	100.0		131
Ranching and farming (SIC 0212)					
Small	≤$19,999	31,622	89.2	78	211
Medium	$20,000–$2,499,999	3,768	10.6	22	60
Large[a]	≥$2,500,000	52	0.1	All	52
Total		35,442 (71%)	100.0		323
Total fed cattle producers and feeders		49,608			

[a] For large operations, we subsequently replaced the selected sample with operations from lists maintained by the NCBA (n = 25 for feedlots and n = 25 for cow-calf operations).

[3] According to NCBA, the lists include member and nonmember operations.

[4] Our target sample size for large producers was 50 establishments; however, because revenue is reported as categories in the D&B database, it was necessary to select more than 50 establishments. For example, for lamb producers, the 24 largest producers had revenue of more than $500,000, so we had to select all of the lamb producers in the next revenue category (56 producers) to have a sample of at least 50. The resulting total sample was 80 lamb producers.

establishments from the remaining population (i.e., small operations). Information was not available to stratify by type of operation. We used annual revenue as the size criterion. The large hog operations selected have annual revenue greater than $2.5 million, and large lamb operations have annual revenue greater than $200,000. After drawing the sample, we compared the sample for large hog producers and feeders with *Successful Farming*'s list of the 30 largest hog producers (www.agriculture.com) to identify and add operations not included in the sample.

2.1.2 Meat Packers and Processors

We used the EFD (USDA, FSIS, 2005) to construct the sampling frames for packers and processors. For packers, we took a census because of the relatively small number of plants. For processors, we took a census of the 50 largest plants and selected a sample from the remaining population (i.e., small establishments).

We used the USDA, Food Safety and Inspection Service (FSIS) Enhanced Facilities Database (EFD) to construct the sampling frames for meat packers and meat processors (USDA, FSIS, 2005). The EFD is a database of federally and state-inspected meat, poultry, and egg products establishments and contains information on volume, annual revenue, number of employees, inspection activities, and contact information.

The sampling unit for meat packers and processors was defined as the establishment because establishment-level data were needed for the analysis. Using the EFD, we constructed separate sampling frames for beef packers, pork packers, lamb packers, and meat processors. We excluded from the sampling frames all state-inspected establishments and establishments that slaughter fewer than 50 head a year. These establishments are very small (the vast majority have fewer than 10 employees), thus the use of alternative marketing arrangements (AMAs) is likely to be limited. Also, for state-inspected establishments, products produced under state inspection are limited to intrastate commerce.

Establishments that slaughter and process were included in the sampling frame for packers. Packers that slaughter multiple species and have a Hazard Analysis and Critical Control Points (HACCP) size designation[5] of "small" or "large" were included in the sampling frame for each species slaughtered. Establishments with a HACCP size designation of "very small" were only included in the sampling frame for one species. Such

[5] Under FSIS' HACCP rule, large plants have 500 or more employees, small plants have 10 or more employees but fewer than 500, and very small plants have fewer than 10 employees or less than $2.5 million in annual sales.

establishments were assigned to one species by using an algorithm that allocated plants across species based on the relative slaughter volumes and so that the universe size was approximately equal for beef and pork packers.

For packers and processors, we stratified the sample by establishment size (large versus small) using annual slaughter volume as the size criterion for packers and annual revenue as the size criterion for processors. The large sample included the 60 largest beef packers, 60 largest pork packers, 30 largest lamb packers, and 50 largest processors[6] and was the same set of establishments initially selected to provide transactions data.

For packers, the small sample included all remaining plants; thus, we took a complete census of all packers because of the relatively small number of plants. For processors, we took a census of the 50 largest establishments and selected a sample of establishments from the remaining population (i.e., small establishments).

2.1.3 Wholesalers, Retailers, and Food Service Operators

We used the D&B database to construct the sampling frames for wholesalers, retailers, and food service operators. We took a census of the approximately 50 largest companies and a sample of companies from the remaining population (i.e., small companies).

We used the D&B database to construct the sampling frames for wholesalers, retailers, and food service operators. For these industry segments, the sampling unit was defined as the firm or company (single-location businesses or the headquarters for multilocation businesses) because firm-level data were needed for the analysis. We constructed separate sampling frames for each industry segment on the basis of the company's primary SIC code. Companies without reported revenue or number of employees were excluded from the sampling frame. For each industry segment, we took a census of the approximately 50 largest companies[7] and a sample of companies from the remaining population (i.e., small companies). We used annual revenue as the size criterion. The large wholesalers selected have annual revenues greater than $50 million, large retailers have annual revenues greater than $250 million, and large food

[6] Lamb processing plants (known as breakers) tend to be specialized and relatively small. To ensure adequate representation of lamb processors in the large sample, 10 specialized lamb processing plants were substituted for an equivalent number of nonlamb processing plants to achieve the specified sample size.

[7] Our target sample size for large companies within each industry segment was 50 companies; however, because revenue is reported as categories in the D&B database, it was necessary to select more than 50 companies.

service operators have annual revenues greater than $100 million (includes meat and nonmeat revenues).

After drawing the sample, we compared the large sample with industry lists of the largest companies (e.g., *Progressive Grocer*'s list of top 50 supermarket operations [www.progressivegrocer.com]) to identify and add companies not included in the sample.

2.1.4 Meat Exporters

We used the USMEF membership list to construct the sampling frame for meat exporters. We took a complete census of the 46 exporters.

Because there is not a separate SIC code for meat exporters, we used the 2005 membership list for the U.S. Meat Export Federation (USMEF) to construct the sampling frame for meat exporters. Exporters that also slaughter were excluded from the sampling frame because these establishments were included in the sampling frame for meat packers. The sampling unit for meat exporters was defined as the firm or company (single-location businesses or the headquarters for multilocation businesses) because firm-level data were needed for the analysis. Because the universe size for meat exporters is relatively small, we took a complete census of the 46 exporters.

2.2 SAMPLE SELECTION

Precision of survey results (i.e., reliability of data) is a direct function of sample and universe sizes and the particular design used for selecting the sample. The selected samples for the small strata needed to be large enough to ensure margins of error on estimated proportions to be no larger than ±5% with at least 95% confidence. Sample sizes were calculated to achieve this level of precision for the most variable estimates (i.e., proportions of about 50%). Thus, for each analytic domain of interest, the sample size (n) was calculated by

$$n = \frac{Np(1-p)}{(N-1)\frac{\varepsilon^2}{z^2} + p(1-p)}, \qquad (2.1)$$

where N is the universe, p is the estimated proportion, ε is the error bound, and z is the 95th percentile of the standard normal distribution.

To ensure that the sample size requirements were met, the required sample sizes were adjusted upward for the anticipated eligibility and response rates. The eligibility rate ranged from

55% to 90%, depending on the source of the sampling frame and the industry segment. A lower eligibility rate was assumed for the D&B database because our experience using this database suggests that some of the selected establishments will not be eligible for the survey (e.g., the establishments are out of business or do not process, distribute, or sell the specified type of livestock or meat). As described in Section 3.3, our data collection procedures included contacting sample establishments by telephone and screening them for eligibility.

Based on our experience with similar surveys, we assumed a response rate of 60% for livestock producers and feeders, wholesalers, retailers, food service operators, and exporters. A response rate of 65% was assumed for packers and processors, assuming that these segments would be more likely than the other industry segments to participate in the survey because GIPSA has direct authority over packers and processors.

For the small strata for industry segments for which a census was not taken, we also selected two reserve samples in case our assumed eligibility and response rates were lower than anticipated. The reserve samples were selected in the same way as the main sample. Reserve sample 2 was approximately 20% of the size of the starting sample, and reserve sample 3 was approximately 10% of the size of the starting sample. Ultimately, we needed to draw additional reserve samples for the beef producer, hog producer, and wholesaler segments during data collection, because the achieved response rates and eligibility rates were lower than anticipated. Table 2-3 shows the final sample design for the industry survey.

Table 2-3. Sample Design for the Industry Survey

Industry Segment	Universe Size	Small[a]				Small-Reserve Sample				Large[b]		Total Sample Released
		Required Sample	Eligibility Rate	Response Rate	Starting Sample	Reserve 2	Reserve 3	Reserve 4	Reserve 5	Starting Sample	Reserve Sample	
Livestock producers and feeders												
Fed cattle feedlot	14,166	111	85%	60%	217	43	22	14	15	25	5	326
Fed cattle ranching/ farming	35,442	271	85%	60%	532	106	53	35	36	25	12	763
Hog	7,384	374	85%	60%	733	146	74	250	100	102	—	1,305
Lamb	1,267	330	85%	60%	647	129	65	—	—	80	—	856
Packers[c]												
Beef	300		Census taken		240			Census taken		60	—	300
Pork	309		Census taken		249			Census taken		60	—	309
Lamb	120		Census taken		90			Census taken		30	—	120
Processors	4,050	351	90%	65%	600	120	60	—	—	50	—	650
Wholesalers	3,562	347	80%	60%	723	144	73	100	50	72	—	1,112
Exporters	46	Census taken										46
Retailers	28,559	379	80%	60%	790	158	79	—	—	91	—	1,039
Food service operators	44,246	380	55%	60%	1,154	212	106	—	—	122	—	1,488

Note: Shading indicates sample released during data collection.

[a] For fed cattle (feedlot and ranching/farming), small includes small and medium operations.

[b] It was not necessary to adjust for eligibility and nonresponse because we took a census of large establishments/companies.

[c] Universe size for packers is adjusted so that plants with a HACCP size of very small are only included in one species.

3 Design and Administration of the Industry Survey

This section describes the development of the survey instruments for the industry survey, our pretest procedures, and our data collection procedures for the industry survey.

3.1 SURVEY INSTRUMENT DESIGN

As shown in Table 3-1, we developed 10 separate self-administered questionnaires for the industry survey. We worked closely with the study teams to develop the questionnaires for each industry segment. Each questionnaire collected information on the following:

- characteristics and volumes of livestock and meat inputs and outputs
- participation in certification programs, branding programs, and alliances
- use of alternative purchasing methods and pricing methods for the purchase of inputs
- terms of purchase methods
- reasons for using the spot market or alternative purchase methods
- use of alternative sales methods and pricing methods for the sale of outputs
- terms of sales methods
- reasons for using the spot market or alternative sales methods
- characteristics of operation (e.g., number of employees, annual sales)

Table 3-1. Questionnaires for the Industry Survey

Industry Segment	Respondents					
	Livestock Producers and Feeders	Packers	Processors	Wholesalers and Exporters	Retailers	Food Service Operators
Fed cattle and beef	•	•				
Hogs and pork	•	•				
Lambs and lamb meat	•	•				
All species			•	•	•	•

3.2 PRETEST PROCEDURES

Our pretest procedures included a review of the survey instruments using RTI's Question Appraisal System (QAS) and interviews with individuals from the target population. The draft survey instruments were also reviewed by the peer reviewers and GIPSA staff.

3.2.1 Question Appraisal System

We thoroughly tested the 10 different versions of the questionnaire. Our pretest procedures included a review of the survey instruments using RTI's QAS and interviews with individuals from the target population. The draft survey instruments were also reviewed by the peer reviewers and GIPSA staff.

The QAS is a structured, standardized instrument review methodology that evaluates survey questions in relation to the tasks required of the respondents (to understand and respond to the questions) and evaluates the structure and effectiveness of the questionnaire form itself. In part, the QAS is a coding system (i.e., an item taxonomy) that describes the cognitive demands of the questionnaire and documents the question features that are likely to lead to response error. These potential errors include errors related to comprehension, task definition, information retrieval, judgment, and response generation. Two RTI survey methodologists used the QAS methodology to identify revision candidates with regard to item wording, response wording, and questionnaire formats. For example, the survey methodologists reviewed each question to identify any problems related to communicating the intent or meaning of the question to the respondent (e.g., the use of any undefined, unclear, or complex terms; the potential for multiple ways to interpret the question; and the use of complicated syntax). Based on the results of the QAS and comments provided by the peer reviewers and GIPSA staff, we revised the

draft questionnaires and then conducted pretest interviews, as described below.

3.2.2 Pretest Interviews

We conducted telephone interviews with 31 individuals from the target population (Table 3-2) to pretest the survey instruments for the industry survey. Plants/companies selected for the pretest interviews completed the draft questionnaire for their type of establishment before the interview. In the pretest interviews, an interviewer went through the questionnaire item by item with the pretest respondent and used probing techniques (e.g., explain what you mean by your response) to evaluate respondent comprehension and interpretation of each question. Through the pretest interviews, we were able to identify unclear terminology, ambiguous phrasing, inappropriate (or missing) multiple choice responses, and words and terms that did not denote their intended meanings and that could be interpreted in different ways by different segments of the target population.

Based on the pretest interview findings, we revised the questionnaires to clarify questions that were confusing to respondents; to clarify the definitions provided for the different types of marketing arrangements, pricing methods, and other terms used in the survey; to add additional response items to multiple choice questions where appropriate; and to reformat certain questions to reduce respondent burden. The final questionnaires are included as Appendix A in Volume 2.

Table 3-2. Number of Pretest Interviews

	Fed Cattle/ Beef	Hogs/ Pork	Lambs/Lamb Meat	All Species	Total
Livestock producers and feeders	4	5	5	—	14
Packers	3	3	3	—	9
Processors	—	—	—	3	3
Wholesalers	—	—	—	1	1
Exporters	—	—	—	1	1
Retailers	—	—	—	1	1
Food service operators	—	—	—	2	2
Total	7	8	8	8	31

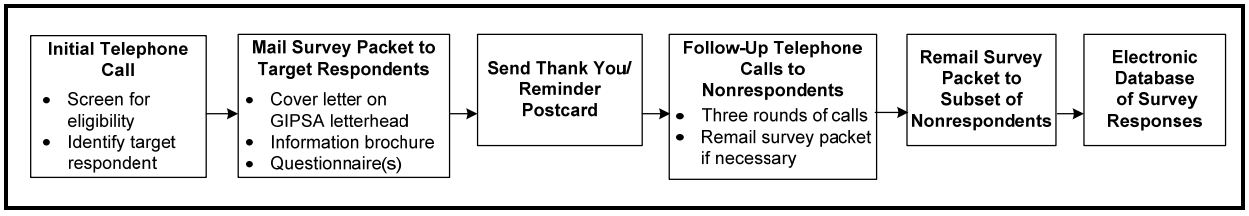
3.3 SURVEY ADMINISTRATION PROCEDURES

We conducted the full-scale data collection for the industry survey from November 2005 to February 2006 (no calls were made between Christmas and New Year's Day). Figure 3-1 illustrates the steps in the data collection process. These procedures included

- contacting sampled business units by telephone to screen for eligibility and to identify the target respondent for the survey,
- mailing the survey packet (cover letter, information brochure, questionnaire(s), and metered [prepaid] envelope) to target respondents,
- making follow-up telephone calls to nonrespondents to encourage participation, and
- remailing the survey packet to a subset of the nonrespondents.

We used a multimodal survey approach. We contacted sampled business units by telephone to screen for eligibility and to identify the target respondent, mailed a self-administered questionnaire to target respondents, and made a series of telephone calls to nonrespondents to encourage participation.

Figure 3-1. Data Collection Procedures for the Industry Survey



RTI's telephone interviewers contacted each sampled business unit by telephone using computer-assisted telephone interviewing (CATI). The purpose of this initial call was to ensure the sampled business unit met inclusion eligibility (Table 3-3) and to identify the appropriate contact person (i.e., target respondent) for the survey. Companies that had more than one packing and/or processing plant in the sample were contacted by RTI project staff. Sampled business units that refused to participate in the survey were contacted by a member of the project team, and a refusal conversion was attempted.

We sent a survey packet to each target respondent via Federal Express. The packet included a cover letter printed on GIPSA

Table 3-3. Inclusion Criteria for the Industry Survey

Industry Segment	Inclusion Criteria[a]
Livestock producers and feeders:	
Fed cattle	• Operation raises, backgrounds, or feeds beef calves or cattle, including fed Holsteins, intended for slaughter as fed cattle (includes cow-calf, stocker, and feeder operations)
Hog	• Operation raises, feeds, or finishes pigs or hogs intended for slaughter as market hogs (includes farrow-to-finish, feeder-to-finish, farrow-to-feeder, feeder-to-finish, and finishing operations) • Operation is not owned by a packer
Lamb	• Operation raises or feeds lambs intended for slaughter (includes lambing and feeder operations)
Packers:	
Beef	• Plant slaughters fed cattle • Plant does not perform only custom slaughter for fed cattle
Pork	• Plant slaughters market hogs • Plant does not perform only custom slaughter for market hogs
Lamb	• Plant slaughters lambs • Plant does not perform only custom slaughter for lambs
Processors	• Plant produces a product that uses beef, pork, or lamb as an input or ingredient (includes all methods of processing, fabricating, cutting, slicing, grinding, cooking, drying, smoking, curing, assembling, and repackaging) • Plant does not conduct any slaughter activities
Wholesalers	• Company operates a meat wholesaler • Company purchases fresh, frozen, or processed products containing at least 50% beef, pork, or lamb by weight
Exporters	• Company operates a meat exporter • Company purchases fresh, frozen, or processed products containing at least 50% beef, pork, or lamb by weight
Retailers	• Company operates a grocery or other retail store • Company purchases fresh, frozen, or processed products containing at least 50% beef, pork, or lamb by weight
Food service operators	• Company operates a food service operation • Company purchases fresh, frozen, or processed products containing at least 50% beef, pork, or lamb by weight

[a] Respondents were asked about their operations during the past year.

letterhead, the appropriate information brochure,[1] the appropriate questionnaire(s), and a metered (prepaid) envelope for returning the completed questionnaire to RTI. The cover letter was signed by the GIPSA deputy administrator for the Packers and Stockyards Program. The letter informed the establishment of its selection in the survey and explained the purpose of the survey, the importance of participation, the benefits of responding, and RTI's pledge of confidentiality. The information brochure introduced the study to the potential respondent, provided information on RTI's confidentiality procedures, and provided contact information for GIPSA and RTI. Appendixes B and C in Volume 2 provide copies of the cover letter and information brochure for packers and processors and downstream market participants, respectively.

Approximately 1 week after mailing the survey packet, we sent sampled business units a postcard. The postcard served as a thank you for those who had returned the completed questionnaire and as a reminder for those who had not. Appendixes B and C in Volume 2 provide a copy of the postcard for packers and processors and downstream market participants, respectively.

Several weeks after mailing the postcard, telephone interviewers began follow-up telephone calls to nonrespondents to remind them to complete and return the questionnaire. These calls were made at three different points during the data collection period. During the follow-up calls, interviewers offered to send a replacement questionnaire as necessary. Also, sampled business units that had not previously completed the initial telephone call were screened for eligibility.

Approximately 2 weeks before the end of the data collection period, we remailed the survey packet (via Federal Express) to nonrespondents in selected industry segments (large producers, small and large packers, small and large processors, and exporters). The cover letter provided a cut-off date for returning the completed questionnaire. We made the final set of follow-up telephone calls approximately 1 week after the remailing.

[1] We developed two versions of the information brochure targeted to each type of market participant: (1) producers/feeders, packers, and processors and (2) wholesalers, exporters, retailers, and food service operators.

During the data collection period, we operated a toll-free survey help line that respondents could call to request assistance when completing the questionnaire. The help line was staffed by members of the project team knowledgeable about the survey and the livestock and meat industries. We also provided an e-mail address that respondents could contact to request assistance when completing the survey.

At each stage of telephone calls (initial and three followups), up to eight call attempts were made for most cases. Sampled business units without a telephone number and those we were unable to contact by telephone were sent the survey packet; in these cases, the packet was addressed to “plant manager,” “operation manager,” or “meat purchasing department,” depending on the industry segment.

4 Response Rates for the Industry Survey

Because the eligibility and response rates were lower than anticipated, we did not achieve the target number of completed surveys, despite our follow-up efforts with nonrespondents. As a result, we are unable to provide results by size category for lamb packers, processors, and the downstream market participants. However, there are sufficient responses to make inferences to the population by size category for the remaining industry segments.

In this section, we describe the calculation of and provide the eligibility and response rates for the survey. Table 4-1 shows the final disposition of the sample and the eligibility and response rates, by industry segment and size. For these calculations, we assigned each sampled business unit or case to one of the following final disposition codes: respondent, nonrespondent, ineligible, duplicate, or unknown eligibility.

Respondents are cases that completed and returned the questionnaire.[1] Nonrespondents are cases that were eligible for the survey but did not complete the questionnaire. Duplicates are cases that were removed from the sample prior to data collection (e.g., for the downstream market participants, multiple locations for a single company).

The ineligibles category includes cases

- that did not meet the inclusion criteria for the survey (see Table 3-3),
- that were out of business,
- for which we were unable to obtain a working phone number and the mail survey questionnaire was undeliverable (assumed out of business), and
- that did not conduct the business activity for which the case was selected (e.g., included in the pork packer sample but the plant does not slaughter market hogs).

[1] For each questionnaire, we identified a set of key questions that had to be answered to be considered a completed survey; if these questions were not answered, the case was classified as a nonrespondent.

Table 4-1. Eligibility and Response Rates for the Industry Survey

	Beef Producers			Pork Producers			Lamb Producers		
	Small	**Large**	**Total**	**Small**	**Large**	**Total**	**Small**	**Large**	**Total**
Respondents	**270**	**23**	**293**	**206**	**23**	**229**	**267**	**35**	**302**
Nonrespondents	162	18	180	158	24	182	104	16	120
Ineligibles	226	10	236	359	35	394	198	17	215
Duplicates	0	0	0	0	1	1	0	0	0
Unknown eligibility	364	16	380	480	19	499	207	12	219
Total Sample	1,022	67	1,089	1,203	102	1,305	776	80	856
Eligibility rate (%)[a]	65.7	80.4	66.7	50.3	57.3	51.1	65.2	75.0	66.2
Unweighted response rate (%)[b]	33.9	40.4	34.4	24.4	34.8	25.2	46.2	55.6	47.1
Weighted response rate (%)[c]	40.2	42.7	40.2	34.0	39.7	34.1	52.8	58.3	53.1

	Beef Packers			Pork Packers			Lamb Packers			Processors		
	Small	**Large**	**Total**	**Small**	**Large**	**Total**	**Small**	**Large**	**Total**	**Small**	**Large**	**Total**
Respondents	**34**	**30**	**64**	**53**	**35**	**88**	**4**	**7**	**11**	**112**	**13**	**125**
Nonrespondents	100	13	113	83	12	95	35	9	44	159	6	165
Ineligibles	66	12	78	69	8	77	32	3	35	50	3	53
Duplicates	0	0	0	0	0	0	0	0	0	0	0	0
Unknown eligibility	40	5	45	44	5	49	19	11	30	279	28	307
Total sample	240	60	300	249	60	309	90	30	120	600	50	650
Eligibility rate (%)[a]	67.0	78.2	69.4	66.3	85.5	70.4	54.9	84.2	61.1	84.4	86.4	84.5
Unweighted response rate (%)[b]	19.5	62.5	28.8	29.4	67.3	37.9	6.9	25.9	12.9	20.4	27.7	20.9
Weighted response rate (%)[c]	21.1	64.0	30.7	32.1	68.3	40.5	8.1	27.7	15.0	22.1	30.1	22.2

(continued)

Table 4-1. Eligibility and Response Rates for the Industry Survey (continued)

	Wholesalers			Exporters	Retailers			Food Service Operators		
	Small	Large	Total		Small	Large	Total	Small	Large	Total
Respondents	**127**	**15**	**142**	**14**	**121**	**15**	**136**	**96**	**12**	**108**
Nonrespondents	279	26	305	21	259	38	297	277	32	309
Ineligibles	214	11	225	6	202	2	204	253	11	264
Duplicates	73	11	84	1	49	4	53	312	9	321
Unknown eligibility	347	9	356	4	317	32	349	428	58	486
Total sample	1,040	72	1,112	46	948	91	1,039	1,366	122	1,488
Eligibility rate (%)[a]	65.5	78.8	66.5	85.4	65.3	96.4	68.0	59.6	80.0	61.2
Unweighted response rate (%)[b]	16.9	30.0	17.7	35.9	17.4	17.7	17.4	12.0	11.8	12.0
Weighted response rate (%)[c]	20.1	31.2	20.3	36.4	20.6	17.9	20.6	15.3	13.3	15.3

[a] Eligibility rate = (Respondents + Nonrespondents) / (Respondents + Nonrespondents + Ineligibles)

[b] Unweighted response rate = Respondents / (Respondents + Nonrespondents + Unknown Eligibility)

[c] The weighted response rate was calculated using the survey weights adjusted for unknown eligibility.

For some cases, the eligibility status could not be determined because

- there was no telephone number available from directory assistance or the telephone number was not in service;
- a telephone number was available, but we were unable to reach an individual to verify eligibility in the initial or follow-up telephone calls; or
- the case refused to participate before being screened for eligibility.

The eligibility rate—the proportion of cases deemed eligible for the survey—was calculated as follows for each industry segment and size strata:

$$Eligibility\ Rate = \frac{Respondents + Nonrespondents}{Respondents + Nonrespondents + Ineligibles}. \quad (4.1)$$

The observed eligibility rates were much lower than anticipated, particularly for small establishments/companies and industry segments for which we used the D&B database as the sampling frame. Because the eligibility rates were much lower than anticipated, the reserve sample for some industry segments had to be released during data collection.

For producers, an eligibility rate of 85% was assumed; the actual eligibility rates ranged from 50% to 80%, depending on species and size. Most of the producers that were classified as ineligible did not produce the selected livestock species; this could be partly due to misclassification error in the sampling frame. The target eligibility rates for packers and processors were 95% and 90%, respectively. The actual eligibility rates ranged from 55% to 86% for packers, depending on species and size and 85% for processors. For packers, most of the plants that were classified as ineligible only conducted custom slaughter; thus, they were not eligible for the survey. For processors, most of the plants that were classified as ineligible did not conduct meat processing activities; this could be partly due to compilation error. For the downstream market participants (excluding exporters, for which we took a census), an eligibility rate of 80% was assumed. The actual eligibility rates ranged from 60% to 96%, depending on segment and size. For the downstream market participants, most of the companies that were classified as ineligible did not conduct the type of business activity for which the company was selected or did not buy meat (e.g., only purchase poultry or seafood).

Table 4-1 includes unweighted and weighted response rates for each industry segment and size strata. The unweighted response rates were calculated without making adjustments for cases in the sample with unknown eligibility, while the weighted response rates were calculated using the survey weights adjusted for unknown eligibility.

The unweighted response rate was calculated as follows:

$$\textit{Unweighted Response Rate} = \frac{\textit{Respondents}}{\textit{Respondents} + \textit{Nonrespondents} + \textit{Unknown Eligibility}}. \quad (4.2)$$

The weighted response rate provides an estimate of the percentage of cases on the sampling frame (i.e., the population) that are represented by the responding cases. For cases with unknown eligibility, an adjustment factor was calculated equal to the eligibility rate among cases with known eligibility and applied to the initial sampling weight. For cases with known eligibility, the adjustment factor was equal to one.

The actual response rates were much lower than anticipated. We had assumed response rates of 60% for producers, 65% for packers and processors, and 60% for the downstream market participants. For producers, the weighted response rates ranged from 34% to 58%; response was higher among lamb producers than among beef and pork producers. For packers and processors, the weighted response rates ranged from 8% to 68%; response was higher among beef and pork packers than among lamb packers. For the downstream market participants, the weighted response rates ranged from 13% to 36%. For producers, packers, and processors, response was higher among large establishments than among small establishments.

There are a number of possible reasons that the achieved response rates were lower than expected, including the following:

- The survey was administered over the holiday period. This made it difficult to reach respondents and also reduced their time availability for completing the survey.
- The survey instruments were fairly complex because of the nature of the research questions for the study. This complexity may have discouraged many potential respondents from completing the survey.
- Many potential respondents, particularly those from the downstream segments, may have had little incentive to

complete the survey because the issues of concern for the study may not have been of concern to them.

Because the eligibility and response rates were lower than anticipated, it was not possible to achieve the target number of completed surveys. This was in spite of releasing the reserve sample, making additional telephone followups, and remailing the survey to some industry segments. As a result, we are unable to provide results by size category for lamb packers, processors, and the downstream market participants. However, there are sufficient responses to make inferences to the population by size category for the remaining industry segments.

5 Data Set Preparation for the Industry Survey

This section describes the weighting, data editing, data preparation and coding, and data tabulation procedures for the industry survey.

5.1 WEIGHTING PROCEDURES

We prepared separate data sets for each industry segment. Our procedures for preparing the analysis data sets included developing the survey weights, data editing, data preparation, and data coding.

We developed all statistical estimates for the industry survey by applying to the respondent record data appropriate survey weights that reflect the number of eligible business units.[1] We computed a separate set of survey weights for each industry segment according to the following three steps:

1. We computed initial sampling weights by size stratum.
2. We calculated adjustment factors by size stratum to account for unknown eligibility.
3. We calculated poststratification adjustment factors by weighting class to compensate for nonresponse.

We describe each step of our weighting procedures below.

5.1.1 Initial Sampling Weights

We assigned each sampled business unit an initial sampling weight, W_0. The initial sampling weight is equal to the inverse of the selection probability, where the selection probability is equal to the sample size (n) divided by the population (N).

[1] We considered weighting the survey data by volume of animals or meat, but no reliable external data source was available for each industry segment; thus, we weighted the survey data by the number of eligible business units.

Thus, the initial sampling weight for each stratum was calculated as follows:

$$W_0 = \frac{1}{Selection\ Probability} = \frac{1}{\frac{n}{N}} = \frac{N}{n} \qquad (5.1)$$

For industry segments for which we did not release the reserve sample, the selected sample size was first reduced to the used sample size. For strata for which we took a census, the initial sampling weights were set to one. For each industry segment and stratum, the sum of the initial sampling weights across all sampled business units was equal to the population size.

5.1.2 Adjustment for Unknown Eligibility

We calculated adjustment factors within each industry segment and stratum to compensate for sampled business units for which the eligibility status was not determined. For sampled business units with unknown eligibility, this adjustment factor (F_1) was calculated as

$$F_1 = \frac{\sum_{R \cup \bar{R}} W_0}{\sum_{R \cup \bar{R} \cup I} W_0} , \qquad (5.2)$$

where R, $\bar{R}$, and I represent the sets of respondents, nonrespondents, and ineligibles, respectively, for the given stratum.[2] For sampled business units with known eligibility, this adjustment factor was equal to one (i.e., $F_1 = 1$).

Consequently, the adjusted weight for each sampled unit in a stratum was calculated by

$$W_1 = W_0 \times F_1 . \qquad (5.3)$$

5.1.3 Nonresponse Adjustment

Nonresponse adjustments ensure that, within each weighting class, respondent weights sum to the population counts of eligible sampled units. These adjustments, implemented with the computation and application of adjustment factors in each weighting class, can help reduce nonresponse bias to the extent that weighting classes are homogeneous.

[2] Thus, the adjustment factor for unknown eligibility (F_1) is equal to the sum of the weights for respondents and nonrespondents in the stratum divided by the sum of the weights for respondents, nonrespondents, and ineligibles in the stratum.

For each industry segment, size was used to define weighting classes. The resulting adjustment factors (F_2) within each weighting class were calculated as:

$$F_2 = \frac{\sum_{R \cup \overline{R} \cup U} W_1}{\sum_{R} W_1} \quad , \tag{5.4}$$

where U represents the set of cases with unknown eligibility status.[3]

Finally, the adjusted weight for each responding sampled unit in a weighting class was equal to

$$W_2 = W_1 \times F_2. \tag{5.5}$$

We calculated all survey results using the final adjusted weights (W_2). For each industry segment and stratum, the sum of the final adjusted weights across all respondents is equal to the population of eligible sampled units.

5.2 DATA EDITING

RTI's Fulfillment Department Staff edited the questionnaires to resolve any data errors prior to data entry. One of the most common errors made by respondents was not selecting a response option for each question (i.e., item nonresponse). Item nonresponse was initially recorded as a missing value in the survey data set. As described in Section 5.3, we used logical imputation to impute some missing values.

For the meat processor and downstream market participant questionnaires, several questions asked respondents to provide information on percentage of purchases by type of meat in a grid (e.g., Question 1.2 for the exporter questionnaire). Some respondents made errors when completing these questions (e.g., the responses for the row or the entire table summed to 100% instead of the column summing to 100%). In some cases, it was necessary to contact the respondent by telephone to resolve and correct these errors.

[3] Thus, the nonresponse adjustment (F_2) is equal to the sum of the weights for respondents, nonrespondents, and cases with unknown eligibility in the class divided by the sum of the weights for respondents in the class.

The edited questionnaires were keyed into a database using a data entry system developed by RTI. All data were double-keyed (i.e., 100% verification) for quality control purposes.

5.3 DATA PREPARATION AND CODING

Before tabulating the survey responses, we systematically examined all data to isolate and address data inconsistencies, reporting errors, or otherwise erroneous data. Specific data preparation procedures are described below.

Some questions required respondents to enter numeric responses that sum to 100%; however, some respondents had entered values that did not sum to 100%. Respondents' answers were excluded from the analysis data set if the sum of their responses was less than 80% or greater than 120%. If the sum of the responses was between 80% and 120%, then the corresponding responses were normalized to 100% using the initial response distribution and included in the analysis data set.

Some questions had asked the respondent to enter a numeric value (e.g., number of head sold or purchased). For these questions, we reviewed the responses to isolate and address any outliers. We contacted the respondent by telephone to clarify and, if necessary, adjust their erroneous responses.

For some questions, we used logical imputation to assign a value to a missing response item based on responses to other questions in the questionnaire. For example, if a respondent checked "internal transfer" as a purchase method but did not provide a response for type of pricing method for purchases, the missing response was imputed to the type of pricing method for internal transfers (i.e., "internal transfer pricing").

Some questions required respondents to enter a text response if "other" was selected. For such questions, we manually coded the open-ended text responses and created new response options, as appropriate.

To help assess the validity of the survey data, for each beef packer that provided both survey data and transactions data, we compared their survey responses with their aggregated transactions data (i.e., the analysis was conducted at the plant level). This comparison was conducted for the following variables: purchase method, type of pricing method for

purchases, formula base (if formula pricing was used for purchases), valuation method for fed cattle purchases, sales method, type of pricing method for sales, and formula base (if formula pricing was used for sales). For the purchase data, we found that, with a few exceptions, the survey data and transactions data were very consistent, and some comparisons were exactly the same. For the sales data, we found that for most respondents, the survey data and transactions data were generally consistent.

5.4 DATA TABULATION

Sections 6 through 9 of this report provide tables with weighted tabulations for each survey question. Additionally, results are provided by size (small versus large) for selected industry segments and questions.

All analyses were conducted using SAS®, a statistical analysis software tool that takes the sample design into consideration when computing the variances (SAS, version 9.1). In addition to the point estimates such as means or proportions, interval estimates were also provided (i.e., the 95% lower and upper confidence intervals). An indication of the precision of survey estimates is the widths of the 95% confidence intervals. For example, if it is reported that the 95% confidence interval for the percentage of beef packing plants that participate in a particular certification program is 30% to 40%, this means that the probability that the true population value lies between 30% and 40% is 0.95. That is, there remains a probability of 0.05 that the true population value lies outside of the given interval. If the estimated lower value of the confidence interval was negative, then we reported it as "<0." If the estimated upper value of the confidence interval for a mean percentage was greater than 100, then we reported it as ">100."

We computed weighted proportions for questions in which respondents could select one or more responses from a list of responses. Respondents who did not answer the question were excluded from the calculation of proportions. The results tables provide the number of respondents (n), the estimated proportion weighted by the number of eligible business units (%), and the corresponding 95% confidence interval (lower and upper) for each response item. For questions for which respondents could select only one response, the sum of the

responses equals 100%. In some cases, the sum does not equal 100% because of rounding, as noted by a dagger (†). For questions for which respondents could select more than one response, the total may sum to more than 100%. These questions are noted with an asterisk (*).

We computed weighted means for questions that required a numeric response from respondents. Respondents who did not answer the question were excluded from the calculation of means. The results tables provide the number of respondents used in the mean calculation (n), the estimated mean weighted by the number of eligible business units (mean), and the corresponding 95% confidence interval (lower and upper).

The constructed 95% confidence intervals can be used to make comparisons between survey estimates (e.g., comparisons between small and large operations). That is, overlapping confidence intervals suggest that the difference between the corresponding point estimates is not statistically significant.

To preserve confidentiality of responses and to avoid the possibility of revealing the identity of businesses that completed the survey, we did not report the results if the total number of respondents for a question was fewer than three or if fewer than three respondents provided a particular answer for a question (i.e., response item). Suppressions of results for a response item are noted in the results tables by “D.” For questions answered by fewer than three respondents, all of the results are suppressed, and, in the case of the cross tabulations, results for both small and large entities are suppressed.

6 Survey Results: Livestock Producers and Feeders

This section presents the weighted tabulations for livestock producers and feeders, by species.[1] We provide tables with weighted tabulations for all survey questions, tables with weighted tabulations for selected questions by size, and a brief summary of the key findings from the survey.

For weighted proportions, the tables provide the number of respondents (n), the estimated proportion weighted by the number of eligible operations (%), and the corresponding 95% confidence interval (lower and upper) for each response item. For questions for which respondents could select only one response, the sum of the responses equals 100%. For questions for which respondents could select more than one response, the total may sum to more than 100%. These questions are noted with an asterisk (*).

For weighted means, the tables provide the number of respondents used in the mean calculation (n), the estimated mean weighted by the number of eligible operations (mean), and the corresponding 95% confidence interval (lower and upper).

In reporting the survey findings, we make comparisons between small and large operations and changes in marketing practices between 3 years ago, the past year, and the next 3 years. These comparisons are based on the magnitude of the

[1] In this section, we use "producers" to collectively refer to producers, backgrounders, stockers, feeders, and finishers.

point estimates and not on statistical testing. The confidence intervals provided in the tables can be used to make comparisons between survey estimates. That is, overlapping confidence intervals suggest that the difference between the corresponding point estimates is not statistically significant.

6.1 BEEF PRODUCERS

Table 6-1 provides weighted tabulations for all survey questions for fed cattle producers and feeders (n = 293). Tables 6-2 through 6-7 provide weighted tabulations for selected questions by size (n = 270 for small beef producers and n = 23 for large beef producers).

6.1.1 Characteristics of Beef Producer Operations

Most operations identified themselves as cow-calf producers (88%), with a nearly equal number each from stocker (17%) and feedlot operations (16%). Nationally, beef cow-calf operations represent 78% of all farms with cattle (including dairy farms), and feedlots represent 9% of the U.S. farms with cattle. For operations that reported having cows and heiferettes in inventory on January 1, 2005, 38% had less than 50 head, 24% had 50 to 99 head, 33% had 100 to 499 head, and the remaining 5% had 500 or more head. (See Table 6-1, Questions 1.2 and 8.3e.)

The majority of beef producers can be characterized as independent businesses that do not participate in alliances, marketing agreements, or certification programs.

The majority of beef producers can be characterized as independent businesses that do not participate in alliances, marketing agreements, or certification programs. For example, 80% of producers do not participate in any type of certification program. Of producers that participated in certification programs, Beef Quality Assurance (BQA), an industry-led voluntary food safety and quality program, was the most frequently cited response, followed by branded beef program certification such as Certified Angus Beef (CAB) and other breed affiliation programs. (See Table 6-1, Question 1.3.)

Less than 9% of operations identified themselves as participating in an alliance. Most were only participating in one alliance. These alliances include other producers (seed stock, cow-calf, or feedlots), feed companies, and packers. (See Table 6-1, Question 1.4.)

There are numerous auction markets that sell cattle near producers. Producers identified an average of eight auctions

currently operating within a 200-mile radius of their location. The bulk of the auctions closest to the operations have sales at least weekly. (See Table 6-1, Questions 8.4 and 8.5.)

For most operations, the owner completed the questionnaire. Of these, the majority of respondents were over 45 years of age. About 26% have at least a 4-year college degree, and 35% reported some level of post-secondary education. More than 70% of operations reported annual gross cattle sales of less than $100,000, and 92% had gross cattle sales less than $500,000. Approximately 62% of operations reported total gross farm sales of less than $100,000, and 88% reported total farm gross sales of less than $500,000. For operations in which the owner completed the questionnaire, 45% of household income came from off-farm sources. (See Table 6-1, Questions 8.6 through 8.11.)

6.1.2 Methods for Purchasing or Receiving Calves and Cattle by Beef Producers

Relatively few operations reported purchasing calves or feeder cattle during the past year. Operations that purchased calves (< 500 pounds liveweight) bought an average of 1,440 head, and operations that purchased feeder cattle (≥ 500 pounds liveweight) purchased an average of 4,066 head. More than half (65% and 67%, respectively) of these operations purchased fewer than 500 head. The remaining operations purchased between 500 and more than 20,000 head. (See Table 6-1, Question 2.1.)

More than 80% of the calves and feeder cattle received were owned solely by the operation; 13% were not purchased, but delivered to the operation for custom feeding.[2] There were relatively few cattle purchased under shared ownership or joint ventures. For 78% of operations, all of their calves and feeder cattle were owned solely by the operation during the past year. Operations' ownership arrangements were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 6-1, Question 2.2.)

[2] These values were computed as the mean percentage of head weighted by the number of eligible operations. Other reported means were computed similarly (i.e., weighted by the number of eligible operations).

For producers that received calves or feeder cattle, the majority used only spot market transactions for purchases of calves and cattle.

For producers that received calves or feeder cattle, the majority used only spot market transactions for purchases of calves and cattle. For 76% of operations, all of the calves and feeder cattle received were from spot market transactions. During the past year, 51% of purchases were through auctions, 16% through dealers/brokers, and 14% through direct trade. Less than 5% of purchases were through AMAs (i.e., marketing agreement, forward contract, or internal transfer), and 9% were delivered for custom feeding. There appears to be a slight trend toward decreased use of auction barns and increased use of other types of spot market transactions, such as direct trades. (See Table 6-1, Question 2.3.)

For those operations that purchased calves and cattle, several pricing methods were employed. The most frequently cited pricing methods were public auction (80%) and individually negotiated pricing (43%). Less than 2% used formula pricing. For operations using formula pricing, the Chicago Mercantile Exchange (CME), subscription service prices, and other market prices were most often used as the base. (See Table 6-1, Questions 2.4 and 2.5.)

Buyers paid transportation costs in two-thirds of the transactions, which is not surprising given the amount of calves and feeder cattle purchased through auctions. Likewise, there were few cattle purchased using a written contract (8% of transactions). Most agreements were for less than 6 months. Nearly 85% of cattle purchased were scheduled for delivery within 2 weeks, and another 10% were scheduled for delivery 3 to 4 weeks in advance. (See Table 6-1, Questions 3.1 through 3.4.)

Producers that used only spot market transactions were asked to identify the three most important reasons for using the spot market. The most frequently cited reasons emphasized the business philosophy of the manager. More than 61% identified "Allows for independence, complete control, and flexibility of own business" as a reason for using only the spot market. About one-third chose "Can purchase calves and cattle at lower prices," "Allows for adjusting operations quickly in response to changes in market conditions," "Enhances ability to benefit from favorable market conditions," "Does not require managing complex and costly contracts," and "Secures higher quality calves and cattle." (See Table 6-1, Question 4.1.)

Operations using AMAs were asked to identify the three most important reasons for choosing an alternative to the cash market. Few operations used AMAs, but most of the responses focused on predictability and management. Ninety-five percent chose "Secures higher quality calves and cattle"; about one-half chose "Improves week-to-week supply management," "Can purchase calves and cattle at lower prices," "Improves efficiency of operations due to animal uniformity," and "Reduces price variability for calves and cattle." With the exception of the lower purchase price comment, buyers using AMAs identified quality, reduced variability, uniformity, and management as motivations to using AMAs. Interestingly, both the cash-only and AMA buyers identified "Can purchase calves and cattle at lower prices" and "Secures higher quality calves and cattle" as reasons for choosing the buying method used. These two factors are clearly important objectives, but operations choose different methods to achieve them. (See Table 6-1, Question 4.2.)

6.1.3 Methods for Selling or Transferring Calves or Cattle by Beef Producers

During the past year, operations that sold calves (< 500 pounds liveweight) sold an average of 187 head. Operations that sold feeder cattle (≥ 500 pounds liveweight) sold an average of 368 head, and operations that sold fed cattle sold an average of 1,974 head. One-half or more sold fewer than 50 head. More than 65% of the calves and cattle sold were sent through auction markets, and about 25% used some other type of cash transaction (i.e., video/electronic auction, dealer or broker, direct trade). Less than 4% used AMAs (i.e., forward contract, marketing agreement, or packer owned). During the past year, 85% of operations sold all of their calves or cattle through spot market transactions. Compared with 3 years ago, there has been a slight decrease in use of auction barns, with a slight increase in use of other types of spot market transactions. It is anticipated that 3 years from now there will be little change in the use of different types of sales methods. (See Table 6-1, Questions 5.1 and 5.2.)

Most beef producers priced their calves or cattle through public auctions, followed by individual negotiations.

Most beef producers priced their calves or cattle through public auctions (84% of operations), followed by individual negotiations (32%).[3] For cattle priced on a formula using a grid,

[3] Respondents could select multiple responses.

approximately one-half used a base price tied to individual or multiple plant average. USDA, CME, and subscription services also were used as a base for pricing formulas. For operations that sell fed cattle, the most frequently cited valuation method was liveweight (80% of operations), followed by carcass weight (25%) and carcass weight with a grid (15%). Producers expect little change in pricing and valuation methods in the next 3 years. (See Table 6-1, Questions 5.3 through 5.5.)

Producers paid transportation costs in about one-half of transactions. Likewise, producers that purchase calves also reported paying transportation costs. About 13% of calves and cattle were sold under a written agreement. Most agreements were for less than 6 months. Delivery was also scheduled short term: 64% of deliveries were within 7 days and 15% were delivered within 8 to 14 days. (See Table 6-1, Questions 6.1 through 6.4.)

As with purchasing calves and cattle, the most frequently cited reason for using only cash markets to sell cattle was that it "Allows for independence, complete control, and flexibility of own business" (54%). "Can sell calves and cattle at higher prices" was selected by 41% of operations. Interestingly, "Can purchase fed cattle at lower prices" was frequently cited by beef packers as a reason for only purchasing cattle on the spot market. The ability to both buy low and sell high in the spot market is consistent with producers' belief that the cash market "Enhances ability to benefit from favorable market conditions" (selected by 38% of operations). However, believing that spot markets provide both lower buying prices and higher selling prices appears inconsistent because spot markets are a zero-sum game before transactions costs are paid. (See Table 6-1, Question 7.1.)

Operations that used AMAs to sell calves and cattle placed more emphasis on market access, as well as on higher prices.

Operations that used AMAs to sell calves and cattle placed more emphasis on market access, as well as on higher prices. The most frequently cited reasons for using AMAs included the following: (1) "Allows for sale of higher quality calves and cattle" (52%), (2) "Can sell calves and cattle at higher prices" (39%), (3) "Reduces risk exposure" (35%), and (4) "Reduces price variability for calves and cattle" (34%). Note that producers using only the cash market and those using AMAs both identified selling calves at higher prices as a reason for using each method. (See Table 6-1, Question 7.2.)

6.1.4 Beef Producers' Marketing Practices, by Size of Operation

The majority of small beef producers are cow-calf operations (88%); few are backgrounders or feedlots. There is a variety of operation types among large beef producers, including cow-calf (61%), backgrounding or stocking (35%), and feedlot (52%). Large producers were more likely to participate in certification programs and alliances compared with small producers. Fifty percent of large producers participated in BQA, 30% participated in CAB, and 44% participated in one or more alliances. More than 80% of small producers did not participate in any certification programs or alliances.[4]

Purchasing and selling practices for calves and cattle differed by size of operation. Small producers purchased or received an average of 1,198 calves and 2,512 feeder cattle. Large producers purchased or received an average of 37,466 calves and 248,284 feeder cattle. Most small producers solely owned their cattle, while large producers had a variety of ownership arrangements, including partner agreements, shared ownership, joint ventures, and custom feeding. (See Table 6-2, Questions S2.1 and S2.2.)

Small producers were more likely than large producers to rely on spot market transactions to purchase calves and cattle.

Small producers were more likely than large producers to rely on spot market transactions to purchase calves and cattle (86% and 71%, respectively). Relative to small producers, large producers used more types of spot markets. Small producers sold 51% of their cattle through auctions, while large producers sold 66% of their cattle through auctions, dealers, and direct trade. With the emphasis on spot market transactions, there was relatively little use of AMAs for sale of calves and cattle. However, forward contracting and custom feeding were more common in large operations. Small producers primarily used public auction pricing for cattle sold (80%). Individual negotiation (100%) and public auction pricing (88%) were the most frequently cited pricing methods among large producers. (See Table 6-2, Questions S2.3 and S2.4.)

Large producers paid to transport more of their calves and cattle compared with small producers (79% versus 66% of transactions). Large producers used written contracts more often than small producers (26% versus 8% of transactions). For cattle purchased under contract, most used an agreement

[4] We do not present results by size for these questions in the tables.

of less than 6 months (14% small and 36% large). Large producers scheduled 66% of purchased cattle to be delivered in less than 2 weeks, while small producers scheduled 85% to be delivered in less than 2 weeks. Large producers scheduled 13% of purchased cattle to be delivered more than a month in advance compared with 5% of small producers. (See Table 6-3.)

The three most cited reasons by small producers for using only spot market transactions to purchase calves and cattle were that (1) the spot market "Allows for independence, complete control, and flexibility of own business," (2) producers "Can purchase calves and cattle at lower prices," and (3) the spot market "Allows for adjusting operations quickly in response to changes in market conditions." There were few large producers that used only spot markets. Similarly, we cannot evaluate producers' reasons for using AMAs by size of operation because of the small number of respondents. (See Table 6-4.)

Large producers sold more cattle by direct trade and AMAs than did small producers. Keep in mind that small producers were likely selling a higher percentage of feeder cattle than slaughter cattle, while large producers were selling a higher percentage of cattle for slaughter. Small producers sold nearly two-thirds of their cattle through auction markets and 16% by direct trade. Eight-five percent of small producers sold their cattle exclusively in the spot market. Large operations sold cattle using AMAs (44%) and direct trade (30%). About one-fourth of large producers used only spot market transactions to sell their cattle. (See Table 6-5, Question S5.2.)

Small producers were more likely than large producers to use public auctions to price calves and cattle. Individual negotiation and formula pricing were the most frequently cited pricing methods among large producers.

Small producers (84%) were more likely than large producers (35%) to use public auctions to price calves and cattle. Individual negotiation (74%) and formula pricing (57%) were the most frequently cited pricing methods among large producers. Given the small number of responses, relatively little difference was observed between small and large producers for cattle priced on a grid. An individual or multiple-plant average was the most cited base price. Few large producers reported selling cattle and calves on a formula without a grid. Small producers that did so most often used a plant or multiple-plant average price, retail price, or CME price as the base for their formula. (See Table 6-5, Questions 5.3 and 5.4.)

For producers that sell fed cattle, 80% of small producers sold fed cattle by liveweight, 25% by carcass weight, and 15% by

carcass weight with a grid. Similarly, 73% of large producers sold by liveweight, but 60% also sold cattle based on carcass weight with a grid and 33% sold cattle by carcass weight. (See Table 6-5, Question S5.5.)

Small producers paid to transport more of their calves and cattle compared with large producers (53% versus 38%). Small producers were less likely than large producers to have a written contract (12% versus 57%). For large producers, most contracts were for less than 6 months or for more than 10 years or evergreen (an agreement that continues indefinitely until either party decides to terminate). As with purchases, large producers scheduled sales farther in advance than did small producers; 64% of small producers scheduled delivery less than 7 days in advance. This is because small producers were also more frequent users of spot markets, and particularly of auction markets. About one-third of large producers scheduled delivery within 7 days, 23% within 8 to 14 days, and 22% 1 to 2 months in advance. (See Table 6-6.)

Because of the small number of respondents, we cannot compare by size of operation producers' reasons for only using the cash market for selling calves and cattle. There were relatively few operations using AMAs to sell cattle, but the three most frequently cited reasons given by small producers were as follows: (1) "Allows for sale of higher quality calves and cattle," (2) "Can sell calves and cattle at higher prices," and (3) "Reduces price variability for calves and cattle." The three most frequently cited reasons provided by large producers were (1) "Can sell calves and cattle at higher prices," (2) "Reduces risk exposure," and (3) "Facilitates or increases market access." Both large and small producers identified "higher prices" and "less risk" as additional reasons to use AMAs. (See Table 6-7, Questions S7.1 and S7.2.)

6.1.5 Beef Producer Survey Summary

Respondents to the cattle producer survey reflected relatively well the U.S. cattle production sector, with a large number of cow-calf producers and fewer backgrounder and feedlot operations. As such, the results are heavily weighted on feeder cattle marketing practices compared with fed cattle. Most producers were independent businesses that did not belong to an alliance or certification program and that valued independence in their marketing choices. Eighty-five percent of producers sold exclusively on the spot market, with the largest

Operations often cited the same motivation for using the cash market or AMAs for buying or selling calves and cattle. Either way, respondents identified getting the best price (higher or lower) as a major reason for choosing the marketing method used.

share of cattle sold through auctions. Relatively few producers reported using AMAs, having written contracts, or using advanced scheduling of cattle deliveries. Operations often cited the same motivation for using the cash market or AMAs for buying or selling calves and cattle. Either way, getting the best price was a major reason for choosing the marketing method used.

Large producers marketed relatively more fed cattle than feeder cattle, while small producers sold relatively more feeder cattle than fed cattle. As a result, the responses reflect marketing practices for feeder cattle (mostly auction trade) and fed cattle (direct trade to packers). Large producers were more frequent users of AMAs than were small producers. Large producers tended to schedule sales and purchases farther in advance and used auction markets less. Both large and small producers generally believed that their marketing method provides them higher selling prices. Beyond price, motivation for small producers to use auctions and other spot market transactions was based on management independence. At the same time, large producers stated that they used AMAs to reduce risk and market higher quality cattle.

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293)

	n	%	Lower	Upper
1.2* Which of the following describes your operation during the past year?				
1. Cow-calf	248	88.2	84.4	92.1
2. Backgrounder or stocker	56	17.2	12.6	21.8
3. Feedlot	62	16.3	11.9	20.7
4. Other	11	3.8	1.5	6.2
1.3* What types of certification programs did your operation participate in during the past year?				
1. None	202	80.3	75.3	85.3
2. Kosher certification	D	0.4	0.0	1.2
3. Halal certification	0	0.0	NA	NA
4. Organic certification	4	0.6	0.0	1.5
5. Animal welfare certification	D	0.5	0.0	1.4
6. Beef Quality Assurance (BQA) certification	38	11.1	7.1	15.1
7. Certified Angus Beef	21	4.4	2.1	6.7
8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	9	2.0	0.3	3.6
9. Own-company certification of breed or livestock quality	4	1.5	0.0	2.9
10. Buyer certification of breed or livestock quality	7	2.4	0.4	4.3
11. Other	8	1.2	0.0	2.5
1.4a What types of alliances did your operation participate in during the past year for the receipt and/or sale of calves and cattle?				
– Operations participating in an alliance	33	8.6	5.1	12.0
– Respondents with one alliance	26	83.1	66.7	99.6
– Respondents with two alliances	7	16.9	0.4	33.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible operations
Mean = estimated mean weighted by the number of eligible operations
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
1.4b	For producers that participated in alliances, what types of alliances did your operation participate in during the past year for the receipt and/or sale of calves and cattle?				
	1. Seed stock supplier only	3	3.8	0.0	9.3
	2. Feed company only	4	13.5	0.0	26.9
	3. Cow-calf operation only	5	21.0	3.9	38.1
	4. Feedlot only	5	17.8	2.4	33.2
	5. Packer/processor only	3	4.5	0.0	13.3
	6. Other only	5	19.3	2.9	35.7
	7. Feed company and seed stock supplier	D	4.4	0.0	13.1
	8. Other and cow-calf operation	D	0.1	0.0	0.2
	9. Packer/processor and feedlot	3	0.2	0.0	0.5
	10. Cow-calf operation, feedlot, and retailer	D	0.1	0.0	0.2
	11. Cow-calf operation, feedlot, and packer/processor	5	10.8	0.0	23.3
	12. Cow-calf operation, feedlot, packer/processor, and retailer	D	0.1	0.0	0.3
	13. Seed stock supplier, cow-calf operation, feedlot, and packer/processor	D	4.4	0.0	13.2
	Total		100.0		

		n	Mean	Lower	Upper
2.1a	How many calves (less than 500 pounds liveweight) did your operation receive or purchase during the past year?	51	1,439.8	499.4	2,380.2

	n	%	Lower	Upper
1–99	13	39.2	22.3	56.1
100–499	10	26.2	11.3	41.1
500–1,999	13	22.1	8.1	36.1
2,000–19,999	10	10.8	1.7	20.0
20,000 or more	5	1.7	0.0	4.6
Total		100.0		

		n	Mean	Lower	Upper
2.1b	How many feeder cattle (500 pounds liveweight or more) did your operation receive or purchase during the past year?	58	4,065.8	2,061.2	6,070.4

	n	%	Lower	Upper
1–99	15	38.2	22.7	53.8
100–499	13	29.2	14.5	43.8
500–1,999	7	14.0	3.5	24.5
2,000–19,999	11	15.6	5.1	26.0
20,000 or more	12	3.0	0.0	6.7
Total		100.0		

D = Results suppressed.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	3 Years Ago (n = 81)			During Past Year (n = 86)			Expected in 3 Years (n = 81)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2 For all calves and feeder cattle received or purchased by your operation, what were the ownership arrangements (% of head)?									
a. Sole ownership by your operation	81.2	72.4	90.0	81.0	72.0	90.0	81.5	72.3	90.8
b. Partner arrangement	1.3	0.0	2.5	1.3	<0	2.8	1.4	<0	3.2
c. Shared ownership	2.0	<0	4.6	1.0	<0	2.7	1.0	<0	3.0
d. Joint venture	0.0	0.0	0.1	0.1	<0	0.4	0.0	0.0	0.1
e. Delivered for custom feeding/backgrounding	11.4	4.6	18.1	12.7	5.3	20.0	11.7	4.4	19.1
f. Other	4.2	<0	9.2	3.9	<0	8.6	4.2	<0	9.4
Total	100.1†			100.0			99.8†		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are sole ownership	53	74.8	64.0	85.5	57	77.7	67.8	87.6	53	77.8	67.6	88.0

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	3 Years Ago (n = 74)			During Past Year (n = 78)			Expected in 3 Years (n = 73)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.3 What methods are used by your operation for receiving or purchasing calves and feeder cattle (% of head)?									
a. Auction barns	57.1	45.5	68.7	51.1	40.1	62.0	46.7	35.3	58.0
b. Video/electronic auctions	2.4	<0	5.9	3.9	<0	8.0	5.4	0.8	10.1
c. Dealers or brokers	16.3	7.2	25.3	16.1	7.5	24.8	15.9	6.6	25.2
d. Direct trade	13.4	6.3	20.4	14.4	7.2	21.6	16.1	7.9	24.3
e. Forward contract	1.2	<0	3.0	1.2	<0	3.0	2.5	<0	5.3
f. Marketing agreement	0.9	<0	2.7	0.9	<0	2.6	0.9	<0	2.8
g. Internal transfer	0.4	<0	1.1	2.0	<0	4.4	2.2	<0	5.4
h. Delivered for custom feeding/backgrounding	7.1	1.5	12.8	9.2	2.3	16.2	9.0	1.7	16.2
i. Other	1.3	<0	3.8	1.2	<0	3.6	1.3	<0	3.9
Total	100.1†			100.0			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market purchases	49	79.8	69.7	89.9	50	75.6	64.8	86.3	47	76.0	64.8	87.2

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.4* What types of pricing methods are used by your operation for purchasing calves and feeder cattle?								
1. Individually negotiated pricing	47	43.1	30.6	55.6	50	51.7	38.8	64.7
2. Public auction	68	80.0	69.8	90.1	64	75.3	64.1	86.6
3. Sealed bid	D	0.1	0.0	0.1	D	0.1	0.0	0.2
4. Formula pricing (using another price as the base)	8	1.8	0.0	4.2	6	1.0	0.0	2.7
5. Internal transfer	4	4.8	0.0	10.1	3	3.3	0.0	7.9
6. Delivered for custom feeding/backgrounding	24	19.3	9.7	28.8	21	16.3	7.2	25.4
7. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
2.5*	For calves and feeder cattle purchased by your operation during the past year using formula pricing, what was the base price of the formula?				
	1. USDA live quote	D	16.7	0.0	51.4
	2. Chicago Mercantile Exchange (CME) cattle futures	5	18.0	0.0	45.7
	3. Subscription service price (for example, Cattle Fax, Urner Barry)	3	36.4	0.0	81.3
	4. Cost of production	D	39.4	0.0	85.4
	5. Other market price	5	34.4	0.0	72.2
	6. Other	0	0.0	NA	NA
		n	**Mean**	**Lower**	**Upper**
2.6a	For calves purchased using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	6	4.8	4.6	5.0
	b. Maximum target weight (hundred weight)	12	5.6	5.1	6.2
	c. First slide premium below target weight (cents per pound)	6	8.1	7.5	8.6
	d. First slide discount above target weight (cents per pound)	12	8.3	6.6	10.1
2.6b	For steers purchased using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	3	7.8	6.5	9.2
	b. Maximum target weight (hundred weight)	9	8.2	6.9	9.4
	c. First slide premium below target weight (cents per pound)	3	2.1	2.1	2.1
	d. First slide discount above target weight (cents per pound)	9	5.3	2.6	8.0
2.6c	For heifers purchased using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	3	6.9	5.6	8.2
	b. Maximum target weight (hundred weight)	9	6.8	5.2	8.3
	c. First slide premium below target weight (cents per pound)	3	2.1	2.1	2.1
	d. First slide discount above target weight (cents per pound)	9	4.5	1.4	7.6

D = Results suppressed. (continued)
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	n	Mean	Lower	Upper
3.1 For what percentage of calves and feeder cattle purchased during the past year did the buyer (your operation) pay for transportation?	70	65.9	52.9	78.9
3.2 What percentage of calves and feeder cattle purchased during the past year were under a written agreement (versus oral)?	69	8.4	2.1	14.7

	Mean (n = 57)	Lower	Upper
3.3 For calves and feeder cattle purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?			
a. Purchases not under agreement or contract	82.6	71.3	94.0
b. Less than 6 months	14.1	4.0	24.2
c. 6 to 11 months	0.3	<0	0.6
d. 1 to 2 years	0.0	0.0	0.0
e. 3 to 5 years	0.0	0.0	0.0
f. 6 to 10 years	0.0	0.0	0.0
g. More than 10 years or evergreen	3.0	<0	9.0
Total	100.0		

	Mean (n = 70)	Lower	Upper
3.4 For calves and feeder cattle purchased during the past year, how far in advance of delivery was the delivery scheduled (% of head)?			
a. Less than 2 weeks	84.6	75.5	93.7
b. 3 to 4 weeks	10.1	2.4	17.9
c. 5 to 8 weeks	1.2	0.1	2.4
d. 9 to 12 weeks	2.8	<0	6.9
e. 13 to 16 weeks	0.1	<0	0.3
f. More than 16 weeks	1.1	<0	2.5
Total	99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
4.1*	What are the three most important reasons why your operation only uses the cash or spot market for purchasing calves and feeder cattle?				
	1. Can purchase calves and cattle at lower prices	17	36.4	20.9	51.8
	2. Reduces risk exposure	6	11.3	1.3	21.3
	3. Reduces costs of activities for buying calves and cattle	7	18.3	5.6	31.0
	4. Reduces price variability for calves and cattle	D	3.9	0.0	9.9
	5. Reduces potential liability and litigation concerns	D	0.0	0.0	0.1
	6. Increases supply chain information	D	5.0	0.0	12.1
	7. Secures higher quality calves and cattle	14	28.8	14.5	43.1
	8. Facilitates or increases market access	D	3.9	0.0	9.9
	9. Allows for adjusting operations quickly in response to changes in market conditions	19	33.8	18.8	48.9
	10. Does not require identifying and recruiting long-term contracting partners	4	10.5	0.4	20.7
	11. Does not require managing complex and costly contracts	12	30.7	15.8	45.6
	12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA
	13. Allows for independence, complete control, and flexibility of own business	30	61.3	45.7	76.9
	14. Enhances ability to benefit from favorable market conditions	19	32.9	18.2	47.6
	15. Other	D	2.8	0.0	8.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
4.2*	What are the three most important reasons why your operation uses alternative purchase methods for purchasing calves and feeder cattle?				
	1. Can purchase calves and cattle at lower prices	4	48.8	0.0	100.0
	2. Reduces risk exposure	D	1.7	0.0	5.7
	3. Reduces costs of activities for buying calves and cattle	3	5.0	0.0	10.7
	4. Reduces price variability for calves and cattle	D	45.4	0.0	100.0
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	D	1.7	0.0	5.7
	7. Secures higher quality calves and cattle	6	95.0	89.3	100.0
	8. Facilitates or increases market access	D	1.7	0.0	5.7
	9. Allows for food safety and biosecurity assurances	0	0.0	NA	NA
	10. Allows for product traceability	D	3.4	0.0	8.5
	11. Improves week-to-week supply management	5	51.2	0.0	100.0
	12. Improves efficiency of operations due to animal uniformity	D	46.2	0.0	100.0
	13. Reduces investment requirements for facilities and equipment	0	0.0	NA	NA
	14. Reduces operating capital requirements	0	0.0	NA	NA
	15. Enhances access to credit	0	0.0	NA	NA
	16. Other	0	0.0	NA	NA

		n	Mean	Lower	Upper
5.1a	How many calves (less than 500 pounds liveweight) did your operation sell or ship during the past year?	95	186.5	<0	449.1
		n	**%**	**Lower**	**Upper**
	1–49	66	77.0	67.9	86.1
	50–99	11	12.0	4.9	19.1
	100–499	9	9.2	2.9	15.4
	500–1,999	4	1.2	0.0	3.3
	2,000–49,999	5	0.7	0.0	1.8
	50,000 or more	0	0.0	NA	NA
	Total		100.1†		

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	Mean	Lower	Upper
5.1b	How many feeder cattle (500 pounds liveweight or more) did your operation sell or ship during the past year?	189	367.5	76.1	658.9
		n	**%**	**Lower**	**Upper**
	1–49	87	49.9	42.3	57.4
	50–99	30	17.9	12.0	23.8
	100–499	44	24.0	17.6	30.5
	500–1,999	13	5.8	2.4	9.1
	2,000 or more	15	2.4	0.5	4.2
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
5.1c	How many fed cattle (steers and heifers) did your operation sell or ship during the past year?	93	1,973.8	999.2	2,948.4
		n	**%**	**Lower**	**Upper**
	1–49	37	54.4	42.7	66.1
	50–99	10	13.3	5.2	21.3
	100–499	16	18.5	9.6	27.5
	500–1,999	7	6.2	0.9	11.6
	2,000–9,999	5	2.9	0.0	6.3
	10,000–19,999	5	2.9	0.0	6.3
	20,000–49,999	3	1.5	0.0	3.5
	50,000 or more	10	0.3	0.2	0.4
	Total		100.0		

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	3 Years Ago (n = 251)			During Past Year (n = 261)			Expected in 3 Years (n = 245)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
5.2 What methods for selling or shipping calves and cattle are used by your operation (% of head)?									
a. Auction barns	70.4	64.8	76.0	65.4	59.7	71.2	64.5	58.6	70.5
b. Video/electronic auctions	3.9	1.5	6.2	4.4	1.8	7.0	5.6	2.8	8.5
c. Dealers or brokers	4.8	2.1	7.5	5.5	2.7	8.3	5.4	2.7	8.0
d. Direct trade	12.9	8.9	17.0	15.7	11.4	20.0	14.8	10.5	19.1
e. Forward contract	2.1	0.6	3.7	3.0	1.2	4.9	2.7	1.0	4.3
f. Marketing agreement	0.4	<0	1.1	0.6	<0	1.3	1.3	0.3	2.3
g. Packer fed/owned	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1
h. Internal transfer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
i. Custom fed/ backgrounded, not marketed by your operation	2.9	0.9	4.8	3.5	1.3	5.8	3.4	1.1	5.6
j. Custom slaughtered for your operation	2.6	0.7	4.4	1.5	0.1	2.9	2.0	0.3	3.7
k. Other	0.0	0.0	0.0	0.2	<0	0.7	0.3	<0	0.8
Total	100.1†			99.9†			100.1†		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market sales	199	85.5	80.9	90.1	205	84.9	80.4	89.4	185	82.0	77.0	87.0

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
5.3* What types of pricing methods are used by your operation for selling calves and cattle?								
1. Individually negotiated pricing	107	31.8	26.0	37.6	101	33.1	27.0	39.2
2. Public auction	221	83.5	78.9	88.0	207	84.2	79.5	88.9
3. Sealed bid	D	0.5	0.0	1.3	D	0.7	0.0	1.8
4. Formula pricing (using another price as the base)	32	5.8	3.1	8.5	30	5.6	2.9	8.3
5. Internal transfer	4	0.2	0.0	0.6	3	0.0	0.0	0.1
6. Custom fed/backgrounded, not marketed by your operation	21	5.8	2.9	8.6	16	5.3	2.4	8.2
7. Custom slaughtered for your operation	16	5.4	2.6	8.2	17	6.4	3.2	9.5
8. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	With Grid				Without Grid			
	n	%	Lower	Upper	n	%	Lower	Upper
5.4* For calves and cattle sold by your operation during the past year using formula pricing, what was the base price of the formula?								
1. Individual or multiple packing plant average price	15	50.7	20.7	80.7	8	27.9	7.7	48.1
2. USDA live quote	8	15.4	0.0	32.9	D	5.7	0.0	17.1
3. USDA dressed or carcass quote	5	33.0	5.3	60.7	3	10.5	0.0	23.7
4. USDA boxed beef price	D	5.0	0.0	15.3	0	0.0	NA	NA
5. Chicago Mercantile Exchange (CME) cattle futures	D	16.0	0.0	39.5	4	15.1	0.0	30.9
6. Subscription service price (for example, Cattle Fax, Urner Barry)	3	19.0	0.0	41.5	4	7.3	0.0	18.1
7. Cost of production	D	4.8	0.0	15.1	D	0.1	0.0	0.3
8. Retail price	D	9.3	0.0	28.0	6	31.7	9.6	53.7
9. Other market price	D	0.2	0.0	0.6	0	0.0	NA	NA
10. Other	0	0.0	NA	NA	0	0.0	NA	NA
11. Auction price *(write-in response)*	0	0.0	NA	NA	3	13.6	0.0	29.7
	During Past Year				**Expected in 3 Years**			
	n	%	Lower	Upper	n	%	Lower	Upper
5.5* What types of valuation methods are used by your operation for selling fed cattle?								
1. Liveweight	55	79.9	69.1	90.7	50	77.7	66.0	89.4
2. Carcass weight not dependent on grid value	23	25.2	13.8	36.6	21	25.5	13.4	37.5
3. Carcass weight dependent on grid value	20	14.8	5.9	23.8	18	15.7	5.9	25.6
4. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	Mean	Lower	Upper
5.6a	For calves sold using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	D	3.0	NA	NA
	b. Maximum target weight (hundred weight)	7	6.6	4.9	8.2
	c. First slide premium below target weight (cents per pound)	D	10.0	NA	NA
	d. First slide discount above target weight (cents per pound)	7	5.8	2.5	9.2
5.6b	For steers sold using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	D	6.0	NA	NA
	b. Maximum target weight (hundred weight)	10	8.2	6.9	9.5
	c. First slide premium below target weight (cents per pound)	D	5.0	NA	NA
	d. First slide discount above target weight (cents per pound)	10	4.0	2.6	5.3
5.6c	For heifers sold using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (hundred weight)	D	6.0	NA	NA
	b. Maximum target weight (hundred weight)	9	7.9	6.9	9.0
	c. First slide premium below target weight (cents per pound)	D	5.0	NA	NA
	d. First slide discount above target weight (cents per pound)	9	4.0	2.6	5.3
6.1	For what percentage of calves and cattle sold during the past year did the seller (your operation) pay for transportation?	219	53.1	46.2	59.9
6.2	What percentage of calves and cattle sold during the past year were under a written agreement (versus oral)?	218	12.5	8.1	17.0

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	Mean (n = 193)	Lower	Upper
6.3 For calves and cattle sold during the past year, what was the length of the agreement or contract (oral or written) (% of head)?			
a. Sales not under agreement or contract	79.4	73.5	85.2
b. Less than 6 months	14.8	9.8	19.9
c. 6 to 11 months	5.0	1.7	8.2
d. 1 to 2 years	0.0	0.0	0.1
e. 3 to 5 years	0.0	0.0	0.0
f. 6 to 10 years	0.0	0.0	0.1
g. More than 10 years or evergreen	0.8	<0	1.9
Total	100.0		

	Mean (n = 205)	Lower	Upper
6.4 For calves and cattle sold during the past year, how far in advance of delivery was the delivery scheduled (% of head)?			
a. Less than 7 days	63.6	56.7	70.6
b. 8 to 14 days	14.8	9.9	19.7
c. 15 to 21 days	5.6	2.3	8.8
d. 22 to 30 days	6.1	2.6	9.6
e. 1 to 2 months	4.6	1.7	7.6
f. More than 2 months	5.2	2.0	8.5
Total	99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
7.1*	What are the three most important reasons why your operation only uses the cash or spot market for selling calves and cattle?				
	1. Can sell calves and cattle at higher prices	78	40.9	33.6	48.2
	2. Reduces risk exposure	22	11.8	7.0	16.7
	3. Reduces costs of activities for selling calves and cattle	42	22.8	16.5	29.1
	4. Reduces price variability for calves and cattle	16	8.4	4.3	12.5
	5. Reduces potential liability and litigation concerns	7	4.0	1.1	7.0
	6. Increases supply chain information	D	0.8	0.0	1.9
	7. Allows for sale of higher quality calves and cattle	29	16.3	10.7	21.8
	8. Facilitates or increases market access	22	11.6	6.8	16.4
	9. Allows for adjusting operations quickly in response to changes in market conditions	44	23.1	16.8	29.3
	10. Does not require identifying and recruiting long-term contracting partners	37	19.9	14.0	25.9
	11. Does not require managing complex and costly contracts	45	24.8	18.4	31.3
	12. Eliminates possible negative public perceptions about use of contracts	5	2.8	0.3	5.2
	13. Allows for independence, complete control, and flexibility of own business	101	54.1	46.7	61.5
	14. Enhances ability to benefit from favorable market conditions	72	37.5	30.3	44.8
	15. Other	D	1.2	0.0	3.0
	16. No other choice *(write-in response)*	D	0.8	0.0	1.9
	17. Can easily sell small number of animals *(write-in response)*	8	4.2	1.2	7.1
	18. Convenience *(write-in response)*	5	3.0	0.4	5.6

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
7.2*	What are the three most important reasons why your operation uses alternative sales methods for selling calves and cattle?				
	1. Can sell calves and cattle at higher prices	14	38.5	10.8	66.2
	2. Reduces risk exposure	11	34.5	7.5	61.4
	3. Reduces costs of activities for selling calves and cattle	3	12.8	0.0	31.4
	4. Reduces price variability for calves and cattle	6	33.8	7.7	59.9
	5. Reduces potential liability and litigation concerns	D	8.3	0.0	25.0
	6. Increases supply chain information	D	4.5	0.0	13.6
	7. Allows for sale of higher quality calves and cattle	10	51.6	23.2	80.0
	8. Facilitates or increases market access	9	19.7	0.0	42.1
	9. Increases flexibility in responding to consumer demand	D	10.0	0.0	29.7
	10. Allows for product branding in retail sales	3	4.7	0.0	14.0
	11. Allows for food safety and biosecurity assurances	D	0.2	0.0	0.5
	12. Allows for product traceability	D	0.2	0.0	0.5
	13. Improves week-to-week production management	6	9.4	0.0	22.5
	14. Secures a buyer for calves and cattle	10	26.5	3.4	49.6
	15. Provides detailed carcass data	4	20.3	0.0	46.1
	16. Enhances access to credit	D	8.3	0.0	25.0
	17. Other	D	0.3	0.0	0.8
		n	**Mean**	**Lower**	**Upper**
8.1	Approximately how many people (including yourself and family members) were employed for livestock production at your operation during the past year?				
	a. Full time	207	2.3	2.0	2.6
	b. Part time	114	1.9	1.6	2.1
	c. Seasonal	59	2.7	2.0	3.3
8.2	What is the total acreage of your operation used for livestock production?	281	3,347.5	2,276.1	4,418.9

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	Mean	Lower	Upper
8.3a	How many beef calves (less than 500 pounds liveweight), including fed Holsteins, were on this operation on January 1, 2005?	158	197.7	50.1	345.3
		n	**%**	**Lower**	**Upper**
	1–49	91	65.3	57.3	73.3
	50–99	18	13.6	7.6	19.5
	100–499	30	17.6	11.3	23.9
	500–1,999	7	2.3	0.1	4.4
	2,000–19,999	9	1.3	0.0	3.0
	20,000 or more	3	0.0	0.0	0.1
	Total		100.1†		
		n	**Mean**	**Lower**	**Upper**
8.3b	How many steers, including fed Holsteins, were on this operation on January 1, 2005?	165	347.1	205.9	488.3
		n	**%**	**Lower**	**Upper**
	1–49	87	65.6	57.7	73.4
	50–99	14	9.6	4.6	14.5
	100–499	28	15.8	9.7	21.9
	500–1,999	15	6.0	2.5	9.5
	2,000–19,999	10	2.9	0.5	5.3
	20,000 or more	11	0.2	0.1	0.2
	Total		100.1†		
		n	**Mean**	**Lower**	**Upper**
8.3c	How many heifers, including fed Holsteins, were on this operation on January 1, 2005?	192	219.4	135.7	303.0
		n	**%**	**Lower**	**Upper**
	1–49	112	70.2	63.2	77.1
	50–99	17	10.9	5.9	15.9
	100–499	30	14.3	9.1	19.6
	500–1,999	12	3.2	0.9	5.5
	2,000–19,999	12	1.3	0.1	2.6
	20,000–49,999	3	0.0	0.0	0.1
	50,000 or more	6	0.1	0.0	0.1
	Total		100.0		

NA = Confidence interval not calculable.

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	Mean	Lower	Upper
8.3d	How many bulls, stags, and bullocks, including fed Holsteins, were on this operation on January 1, 2005?	207	10.3	4.9	15.6
		n	**%**	**Lower**	**Upper**
	1–49	188	97.3	95.4	99.1
	50–99	6	1.9	0.3	3.5
	100–499	7	0.6	0.0	1.3
	500–1,999	6	0.3	0.0	0.8
	2,000 or more	0	0.0	NA	NA
	Total		100.1†		
		n	**Mean**	**Lower**	**Upper**
8.3e	How many cows and heiferettes, including fed Holsteins, were on this operation on January 1, 2005?	232	143.8	118	169.5
		n	**%**	**Lower**	**Upper**
	1–49	81	37.6	31.0	44.3
	50–99	50	24.4	18.4	30.3
	100–499	73	33.4	26.9	39.8
	500–1,999	14	4.0	1.7	6.4
	2,000–9,999	10	0.5	0.0	1.2
	10,000–49,999	4	0.0	0.0	0.1
	50,000 or more	0	0.0	NA	NA
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
8.4	How many auctions operate for selling cattle within 200 miles of your operation?				
	a. Number of auctions operating 3 years ago	255	8.7	7.6	9.9
	b. Number of auctions currently operating	256	8.4	7.2	9.5

NA = Confidence interval not calculable.

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

	3 Years Ago				Currently			
	n	%	Lower	Upper	n	%	Lower	Upper
8.5* For the auction located closest to your operation, how often does it operate for selling cattle?								
1. Monthly	0	0.0	NA	NA	D	0.4	0.0	1.3
2. Every 2 weeks	3	1.0	0.0	2.3	4	1.3	0.0	2.7
3. Weekly	209	89.1	84.9	93.4	213	88.1	83.8	92.4
4. 2 times per week	17	6.7	3.3	10.2	19	6.9	3.5	10.2
5. 3 to 5 times per week	8	3.6	1.1	6.0	7	2.7	0.6	4.8
6. Daily	3	1.4	0.0	3.1	D	1.0	0.0	2.3
7. Other	D	0.5	0.0	1.6	D	0.5	0.0	1.6
8. Less than monthly *(write-in response)*	5	2.0	0.0	3.9	5	1.9	0.0	3.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
8.6	What were your operation's approximate total gross sales for calves and cattle during the past year?				
	1. Under $99,999	176	71.6	66.1	77.1
	2. $100,000 to $499,999	55	20.4	15.4	25.5
	3. $500,000 to $999,999	6	1.9	0.3	3.5
	4. $1,000,000 to $2,499,999	8	2.0	0.5	3.5
	5. $2,500,000 to $4,999,999	6	0.6	0.0	1.5
	6. $5,000,000 to $9,999,999	6	0.9	0.0	2.2
	7. $10,000,000 to $19,999,999	4	0.6	0.0	1.4
	8. $20,000,000 to $99,999,999	8	1.0	0.1	1.9
	9. $100,000,000 to $499,999,999	8	0.4	0.0	1.0
	10. $500,000,000 or more	3	0.5	0.0	1.4
	Total		99.9†		
8.7	What were your operation's approximate total gross sales for all farm outputs during the past year?				
	1. Under $99,999	149	61.8	55.7	67.9
	2. $100,000 to $499,999	67	26.4	20.8	32.0
	3. $500,000 to $999,999	14	4.6	2.1	7.1
	4. $1,000,000 to $2,499,999	13	3.2	1.4	5.1
	5. $2,500,000 to $4,999,999	5	1.0	0.0	2.1
	6. $5,000,000 to $9,999,999	5	0.5	0.0	1.4
	7. $10,000,000 to $19,999,999	5	0.8	0.0	1.7
	8. $20,000,000 to $99,999,999	7	0.8	0.0	1.6
	9. $100,000,000 to $499,999,999	7	0.2	0.0	0.6
	10. $500,000,000 or more	3	0.7	0.0	1.7
	Total		100.0		
8.8	Which of the following best describes your position with this operation?				
	1. Owner	242	91.5	88.2	94.8
	2. Manager	31	4.9	2.4	7.4
	3. Family member (not owner or manager)	4	1.5	0.0	2.9
	4. Other hired employee	4	0.0	0.0	0.1
	5. Other	D	0.8	0.0	1.9
	6. Partner or co-owner *(write-in response)*	4	1.3	0.0	2.6
	Total		100.0		

D = Results suppressed.

† Total does not sum to 100% because of rounding.

(continued)

Table 6-1. Weighted Responses for the Beef Producer Survey (n = 293) (continued)

		n	%	Lower	Upper
8.9	If owner, what is your age?				
	1. Less than 25	0	0.0	NA	NA
	2. 26 to 35	4	1.9	0.0	3.7
	3. 36 to 45	14	5.7	2.7	8.8
	4. 46 to 55	78	31.0	24.9	37.0
	5. 56 to 65	67	27.6	21.7	33.5
	6. Older than 65	79	33.9	27.6	40.1
	Total		100.1†		
8.10	If owner, what is your education level?				
	1. Less than high school graduate	18	7.8	4.2	11.3
	2. High school graduate/GED	74	31.0	25.0	37.1
	3. Some college or technical school, no degree	80	35.2	28.9	41.6
	4. College graduate	49	19.1	14.0	24.2
	5. Post-graduate	19	6.8	3.6	10.1
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
8.11	If owner, what percentage of your total annual household income comes from off-farm sources?	240	44.8	40.3	49.4

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

Table 6-2. Use of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23)

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S2.1a	How many calves (less than 500 pounds liveweight) did your operation receive or purchase during the past year?	39	1,198.4	292.6	2,104.2	12	37,466.2	<0	81,152.4	51	1,439.8	499.4	2,380.2
S2.1b	How many feeder cattle (500 pounds liveweight or more) did your operation receive or purchase during the past year?	45	2,511.9	762.6	4,261.2	13	248,284.4	98,147.4	398,421.4	58	4,065.8	2,061.2	6,070.4

(continued)

Table 6-2. Use of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small (n = 70)			Large (n = 16)			All Operations (n = 86)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.2 For all calves and feeder cattle received or purchased by your operation during the past year, what were the ownership arrangements (% of head)?									
a. Sole ownership by your operation	81.1	72.0	90.1	59.2	37.8	80.6	81.0	72.0	90.0
b. Partner arrangement	1.3	<0	2.8	5.0	0.2	9.8	1.3	<0	2.8
c. Shared ownership	0.9	<0	2.7	7.5	<0	16.1	1.0	<0	2.7
d. Joint venture	0.1	<0	0.4	5.8	<0	13.7	0.1	<0	0.4
e. Delivered for custom feeding/ backgrounding	12.6	5.2	20.1	21.6	4.8	38.4	12.7	5.3	20
f. Other	3.9	<0	8.7	0.9	<0	2.9	3.9	<0	8.6
Total	99.9†			100.0			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are sole ownership	52	78.0	68.0	87.9	5	31.3	5.7	56.8	57	77.7	67.8	87.6

† Total does not sum to 100% because of rounding.

(continued)

Table 6-2. Use of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small (n = 64)			Large (n = 14)			All Operations (n = 78)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.3 What methods were used by your operation during the past year for receiving or purchasing calves and feeder cattle (% of head)?									
a. Auction barns	51.2	40.1	62.2	23.4	9.3	37.4	51.1	40.1	62.0
b. Video/electronic auctions	3.9	<0	8.1	4.9	0.3	9.6	3.9	<0	8.0
c. Dealers or brokers	16.1	7.4	24.8	21.1	3.2	39.1	16.1	7.5	24.8
d. Direct trade	14.3	7.1	21.6	21.2	4.6	37.9	14.4	7.2	21.6
e. Forward contract	1.2	<0	3.0	8.6	<0	19.9	1.2	<0	3.0
f. Marketing agreement	0.9	<0	2.6	0.0	0.0	0.0	0.9	<0	2.6
g. Internal transfer	2.0	<0	4.4	1.8	<0	5.6	2.0	<0	4.4
h. Delivered for custom feeding/ backgrounding	9.2	2.2	16.2	19.0	4.5	33.5	9.2	2.3	16.2
i. Other	1.2	<0	3.6	0.0	0.0	0.0	1.2	<0	3.6
Total	100.0			100.0			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market purchases	46	75.8	64.9	86.6	4	28.6	1.5	55.6	50	75.6	64.8	86.3

(continued)

Table 6-2. Use of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.4* What types of pricing methods were used by your operation during the past year for purchasing calves and feeder cattle?												
1. Individually negotiated pricing	31	42.8	30.3	55.4	16	100.0	100.0	100.0	47	43.1	30.6	55.6
2. Public auction	54	79.9	69.7	90.2	14	87.5	69.3	100.0	68	80.0	69.8	90.1
3. Sealed bid	0	0.0	NA	NA	D	12.5	0.0	30.7	D	0.1	0.0	0.1
4. Formula pricing (using another price as the base)	D	1.7	0.0	4.0	D	37.5	10.9	64.1	8	1.8	0.0	4.2
5. Internal transfer	D	4.8	0.0	10.2	D	6.3	0.0	19.6	4	4.8	0.0	10.1
6. Delivered for custom feeding/backgrounding	15	19.1	9.4	28.7	9	56.3	28.9	83.6	24	19.3	9.7	28.8
7. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-2. Use of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.5* For calves and feeder cattle purchased by your operation during the past year using formula pricing, what was the base price of the formula?												
1. USDA live quote	D	16.6	0.0	54.5	D	20.0	0.0	75.5	D	16.7	0.0	51.4
2. Chicago Mercantile Exchange (CME) cattle futures	D	17.3	0.0	47.4	D	60.0	0.0	100.0	5	18.0	0.0	45.7
3. Subscription service price (for example, Cattle Fax, Urner Barry)	D	36.7	0.0	85.7	D	20.0	0.0	75.5	3	36.4	0.0	81.3
4. Cost of production	D	40.0	0.0	90.1	0	0.0	NA	NA	D	39.4	0.0	85.4
5. Other market price	D	34.7	0.0	75.9	D	20.0	0.0	75.5	5	34.4	0.0	72.2
6. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-3. Terms of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23)

		Small			Large			All Operations		
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S3.1	For what percentage of calves and feeder cattle purchased during the past year did the buyer (your operation) pay for transportation?	55	65.8	52.7	79.0	15	79.2	58.6	99.8	70	65.9	52.9	78.9
S3.2	What percentage of calves and feeder cattle purchased during the past year were under a written agreement (versus oral)?	54	8.3	1.9	14.7	15	25.7	8.1	43.3	69	8.4	2.1	14.7
		Small (n = 44)				Large (n = 13)				All Operations (n = 57)			
			Mean	Lower	Upper		Mean	Lower	Upper		Mean	Lower	Upper
S3.3	For calves and feeder cattle purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?												
	a. Purchases not under agreement or contract		82.8	71.3	94.3		60.7	34.8	86.6		82.6	71.3	94.0
	b. Less than 6 months		14.0	3.7	24.2		35.8	11.3	60.3		14.1	4.0	24.2
	c. 6 to 11 months		0.3	<0	0.6		1.9	<0	5.3		0.3	<0	0.6
	d. 1 to 2 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	e. 3 to 5 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	f. 6 to 10 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	g. More than 10 years or evergreen		3.0	<0	9.1		1.5	<0	3.8		3.0	<0	9.0
	Total		100.1†				99.9†				100.0		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-3. Terms of Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small (n = 55)			Large (n = 15)			All Operations (n = 70)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S3.4 For calves and feeder cattle purchased during the past year, how far in advance of delivery was the delivery scheduled (% of head)?									
a. Less than 2 weeks	84.7	75.6	93.9	65.8	44.9	86.7	84.6	75.5	93.7
b. 3 to 4 weeks	10.1	2.2	17.9	21.3	2.7	39.9	10.1	2.4	17.9
c. 5 to 8 weeks	1.2	0.0	2.4	4.4	0.8	8.0	1.2	0.1	2.4
d. 9 to 12 weeks	2.9	<0	6.9	2.2	0.2	4.2	2.8	<0	6.9
e. 13 to 16 weeks	0.1	<0	0.3	2.5	0.2	4.7	0.1	<0	0.3
f. More than 16 weeks	1.1	<0	2.5	3.8	<0	10.9	1.1	<0	2.5
Total	100.1†			100.0			99.9†		

† Total does not sum to 100% because of rounding.

Table 6-4. Reasons for Using Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.1* What are the three most important reasons why your operation only uses the cash or spot market for purchasing calves and feeder cattle?												
1. Can purchase calves and cattle at lower prices	D	36.4	20.8	51.9	D	40.0	0.0	100.0	17	36.4	20.9	51.8
2. Reduces risk exposure	D	11.3	1.3	21.3	D	20.0	0.0	75.5	6	11.3	1.3	21.3
3. Reduces costs of activities for buying calves and cattle	7	18.4	5.6	31.1	0	0.0	NA	NA	7	18.3	5.6	31.0
4. Reduces price variability for calves and cattle	D	4.0	0.0	10.0	0	0.0	NA	NA	D	3.9	0.0	9.9
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA	D	20.0	0.0	75.5	D	0.0	0.0	0.1
6. Increases supply chain information	D	5.0	0.0	12.2	0	0.0	NA	NA	D	5.0	0.0	12.1
7. Secures higher quality calves and cattle	D	28.8	14.5	43.2	D	20.0	0.0	75.5	14	28.8	14.5	43.1
8. Facilitates or increases market access	D	4.0	0.0	10.0	0	0.0	NA	NA	D	3.9	0.0	9.9
9. Allows for adjusting operations quickly in response to changes in market conditions	15	33.7	18.6	48.8	4	80.0	24.5	100.0	19	33.8	18.8	48.9
10. Does not require identifying and recruiting long-term contracting partners	4	10.6	0.4	20.8	0	0.0	NA	NA	4	10.5	0.4	20.7
11. Does not require managing complex and costly contracts	12	30.8	15.8	45.8	0	0.0	NA	NA	12	30.7	15.8	45.6
12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
13. Allows for independence, complete control, and flexibility of own business	27	61.3	45.7	77.0	3	60.0	0.0	100.0	30	61.3	45.7	76.9
14. Enhances ability to benefit from favorable market conditions	16	32.9	18.1	47.7	3	60.0	0.0	100.0	19	32.9	18.2	47.6
15. Other	D	2.8	0.0	8.3	0	0.0	0.0	0.0	D	2.8	0.0	8.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-4. Reasons for Using Purchase Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.2* What are the three most important reasons why your operation uses alternative purchase methods for purchasing calves and feeder cattle?	(results suppressed)				(results suppressed)							
1. Can purchase calves and cattle at lower prices									4	48.8	0.0	100.0
2. Reduces risk exposure									D	1.7	0.0	5.7
3. Reduces costs of activities for buying calves and cattle									3	5.0	0.0	10.7
4. Reduces price variability for calves and cattle									D	45.4	0.0	100.0
5. Reduces potential liability and litigation concerns									0	0.0	NA	NA
6. Increases supply chain information									D	1.7	0.0	5.7
7. Secures higher quality calves and cattle									6	95.0	89.3	100.0
8. Facilitates or increases market access									D	1.7	0.0	5.7
9. Allows for food safety and biosecurity assurances									0	0.0	NA	NA
10. Allows for product traceability									D	3.4	0.0	8.5
11. Improves week-to-week supply management									5	51.2	0.0	100.0
12. Improves efficiency of operations due to animal uniformity									D	46.2	0.0	100.0
13. Reduces investment requirements for facilities and equipment									0	0.0	NA	NA
14. Reduces operating capital requirements									0	0.0	NA	NA
15. Enhances access to credit									0	0.0	NA	NA
16. Other									0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23)

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S5.1a	How many calves (less than 500 pounds liveweight) did your operation sell or ship during the past year?	87	176.3	<0	439.3	8	5,978.0	<0	13,686.2	95	186.5	<0	449.1
S5.1b	How many feeder cattle (500 pounds liveweight or more) did your operation sell or ship during the past year?	180	363.2	71.5	655.0	9	4,844.1	1,210.6	8,477.6	189	367.5	76.1	658.9
S5.1c	How many fed cattle (steers and heifers) did your operation sell or ship during the past year?	77	1,024.6	270.3	1,778.8	16	216,302.3	73,292.1	359,312.4	93	1,973.8	999.2	2,948.4

(continued)

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small (n = 240)			Large (n = 21)			All Operations (n = 261)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S5.2 What methods for selling or shipping calves and cattle were used by your operation during the past year (% of head)?									
a. Auction barns	65.5	59.8	71.3	4.4	<0	9.6	65.4	59.7	71.2
b. Video/electronic auctions	4.4	1.8	7.0	5.3	0.0	10.6	4.4	1.8	7.0
c. Dealers or brokers	5.5	2.7	8.3	7.6	<0	17.4	5.5	2.7	8.3
d. Direct trade	15.7	11.4	20.0	30.0	11.8	48.3	15.7	11.4	20.0
e. Forward contract	3.0	1.1	4.8	17.3	3.5	31.2	3.0	1.2	4.9
f. Marketing agreement	0.5	<0	1.2	15.0	1.2	28.7	0.6	<0	1.3
g. Packer fed/owned	0.0	0.0	0.1	9.5	<0	23.2	0.1	0.0	0.1
h. Internal transfer	0.0	0.0	0.0	2.0	<0	5.0	0.0	0.0	0.0
i. Custom fed/ backgrounded, not marketed by your operation	3.5	1.3	5.8	6.3	<0	16.4	3.5	1.3	5.8
j. Custom slaughtered for your operation	1.5	0.1	2.9	2.4	<0	7.3	1.5	0.1	2.9
k. Other	0.2	<0	0.7	0.0	0.0	0.0	0.2	<0	0.7
Total	99.8†			99.8†			99.9†		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market sales	200	85.0	80.5	89.5	5	23.8	3.9	43.7	205	84.9	80.4	89.4

† Total does not sum to 100% because of rounding.

(continued)

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.3* What types of pricing methods were used by your operation for selling calves and cattle during the past year?												
1. Individually negotiated pricing	90	31.7	25.9	37.5	17	73.9	54.5	93.3	107	31.8	26.0	37.6
2. Public auction	213	83.6	79.0	88.1	8	34.8	13.7	55.8	221	83.5	78.9	88.0
3. Sealed bid	D	0.5	0.0	1.3	0	0.0	NA	NA	D	0.5	0.0	1.3
4. Formula pricing (using another price as the base)	19	5.7	3.0	8.4	13	56.5	34.6	78.4	32	5.8	3.1	8.5
5. Internal transfer	D	0.2	0.0	0.6	D	13.0	0.0	27.9	4	0.2	0.0	0.6
6. Custom fed/ backgrounded, not marketed by your operation	17	5.7	2.9	8.6	4	17.4	0.6	34.2	21	5.8	2.9	8.6
7. Custom slaughtered for your operation	D	5.4	2.6	8.2	D	4.3	0.0	13.4	16	5.4	2.6	8.2
8. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.4a*	For calves and cattle sold by your operation during the past year using formula pricing with a grid, what was the base price of the formula?												
	1. Individual or multiple packing plant average price	8	50.4	18.5	82.4	7	63.6	29.7	97.5	15	50.7	20.7	80.7
	2. USDA live quote	3	14.8	0.0	33.4	5	45.5	10.4	80.5	8	15.4	0.0	32.9
	3. USDA dressed or carcass quote	5	33.7	4.1	63.2	0	0.0	NA	NA	5	33.0	5.3	60.7
	4. USDA boxed beef price	D	4.9	0.0	15.9	D	9.1	0.0	29.3	D	5.0	0.0	15.3
	5. Chicago Mercantile Exchange (CME) cattle futures	D	16.3	0.0	41.4	0	0.0	NA	NA	D	16.0	0.0	39.5
	6. Subscription service price (for example, Cattle Fax, Urner Barry)	3	19.4	0.0	43.5	0	0.0	NA	NA	3	19.0	0.0	41.5
	7. Cost of production	D	4.9	0.0	15.9	0	0.0	NA	NA	D	4.8	0.0	15.1
	8. Retail price	D	9.4	0.0	29.5	0	0.0	NA	NA	D	9.3	0.0	28.0
	9. Other market price	0	0.0	NA	NA	D	9.1	0.0	29.3	D	0.2	0.0	0.6
	10. Other	0	0.0	NA	NA	0	0.0	0.0	0.0	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.4b*	For calves and cattle sold by your operation during the past year using formula pricing without a grid, what was the base price of the formula?												
	1. Individual or multiple packing plant average price	D	27.9	7.5	48.3	D	25.0	0.0	100.0	8	27.9	7.7	48.1
	2. USDA live quote	D	5.6	0.0	17.1	D	25.0	0.0	100.0	D	5.7	0.0	17.1
	3. USDA dressed or carcass quote	3	10.5	0.0	23.9	0	0.0	NA	NA	3	10.5	0.0	23.7
	4. USDA boxed beef price	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	5. Chicago Mercantile Exchange (CME) cattle futures	4	15.2	0.0	31.1	0	0.0	NA	NA	4	15.1	0.0	30.9
	6. Subscription service price (for example, Cattle Fax, Urner Barry)	D	7.1	0.0	18.0	D	50.0	0.0	100.0	4	7.3	0.0	18.1
	7. Cost of production	0	0.0	NA	NA	D	25.0	0.0	100.0	D	0.1	0.0	0.3
	8. Retail price	6	31.8	9.5	54.1	0	0.0	NA	NA	6	31.7	9.6	53.7
	9. Other market price	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	10. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	11. Auction *(write-in response)*	3	13.7	0.0	30.0	0	0.0	NA	NA	3	13.6	0.0	29.7

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-5. Use of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.5* What types of valuation methods are used by your operation for selling fed cattle?												
1. Liveweight	44	79.9	69.0	90.8	11	73.3	48.0	98.7	55	79.9	69.1	90.7
2. Carcass weight not dependent on grid value	18	25.1	13.6	36.6	5	33.3	6.3	60.4	23	25.2	13.8	36.6
3. Carcass weight dependent on grid value	11	14.6	5.5	23.6	9	60.0	31.9	88.1	20	14.8	5.9	23.8
4. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-6. Terms of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23)

		Small			Large			All Operations		
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S6.1	For what percentage of calves and cattle sold during the past year did the seller (your operation) pay for transportation?	201	53.1	46.3	59.9	18	38.1	17.4	58.8	219	53.1	46.2	59.9
S6.2	What percentage of calves and cattle sold during the past year were under a written agreement (versus oral)?	199	12.4	8.0	16.9	19	56.7	36.7	76.6	218	12.5	8.1	17.0
		Small (n = 175)				Large (n = 18)				All Operations (n = 193)			
S6.3	For calves and cattle sold during the past year, what was the length of the agreement or contract (oral or written) (% of head)?												
	a. Sales not under agreement or contract		79.4	73.6	85.3		31.0	10.5	51.5		79.4	73.5	85.2
	b. Less than 6 months		14.8	9.7	19.9		31.9	10.1	53.8		14.8	9.8	19.9
	c. 6 to 11 months		5.0	1.7	8.2		5.1	<0	12.4		5.0	1.7	8.2
	d. 1 to 2 years		0.0	0.0	0.1		6.1	<0	16.8		0.0	0.0	0.1
	e. 3 to 5 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	f. 6 to 10 years		0.0	0.0	0.1		0.0	0.0	0.0		0.0	0.0	0.1
	g. More than 10 years or evergreen		0.7	<0	1.9		25.8	4.2	47.5		0.8	<0	1.9
	Total		99.9†				99.9†				100.0		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-6. Terms of Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small (n = 185)			Large (n = 20)			All Operations (n = 205)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S6.4 For calves and cattle sold during the past year, how far in advance of delivery was the delivery scheduled (% of head)?									
a. Less than 7 days	63.7	56.8	70.7	30.5	12.7	48.3	63.6	56.7	70.6
b. 8 to 14 days	14.8	9.8	19.7	23.3	4.6	41.9	14.8	9.9	19.7
c. 15 to 21 days	5.6	2.3	8.9	1.3	<0	3.4	5.6	2.3	8.8
d. 22 to 30 days	6.1	2.6	9.6	11.7	1.2	22.1	6.1	2.6	9.6
e. 1 to 2 months	4.6	1.6	7.5	21.5	4.7	38.3	4.6	1.7	7.6
f. More than 2 months	5.2	2.0	8.4	11.9	<0	25.1	5.2	2.0	8.5
Total	100.0			100.2†			99.9†		

† Total does not sum to 100% because of rounding.

Table 6-7. Reasons for Using Sales Methods for Beef Producers, by Size (Small = 270, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.1* What are the three most important reasons why your operation only uses the cash or spot market for selling calves and cattle?	(results suppressed)				(results suppressed)							
1. Can sell calves and cattle at higher prices									78	40.9	33.6	48.2
2. Reduces risk exposure									22	11.8	7.0	16.7
3. Reduces costs of activities for selling calves and cattle									42	22.8	16.5	29.1
4. Reduces price variability for calves and cattle									16	8.4	4.3	12.5
5. Reduces potential liability and litigation concerns									7	4.0	1.1	7.0
6. Increases supply chain information									D	0.8	0.0	1.9
7. Allows for sale of higher quality calves and cattle									29	16.3	10.7	21.8
8. Facilitates or increases market access									22	11.6	6.8	16.4
9. Allows for adjusting operations quickly in response to changes in market conditions									44	23.1	16.8	29.3
10. Does not require identifying and recruiting long-term contracting partners									37	19.9	14.0	25.9
11. Does not require managing complex and costly contracts									45	24.8	18.4	31.3
12. Eliminates possible negative public perceptions about use of contracts									5	2.8	0.3	5.2
13. Allows for independence, complete control, and flexibility of own business									101	54.1	46.7	61.5

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 6-7. Reasons for Using Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.1* (continued)	(results suppressed)				(results suppressed)							
14. Enhances ability to benefit from favorable market conditions									72	37.5	30.3	44.8
15. Other									D	1.2	0.0	3.0
16. No other choice *(write-in response)*									D	0.8	0.0	1.9
17. Can easily sell small number of animals *(write-in response)*									8	4.2	1.2	7.1
18. Convenience *(write-in response)*									5	3.0	0.4	5.6
S7.2* What are the three most important reasons why your operation uses alternative sales methods for selling calves and cattle?												
1. Can sell calves and cattle at higher prices	6	38.1	8.4	67.7	8	57.1	27.5	86.8	14	38.5	10.8	66.2
2. Reduces risk exposure	5	34.3	5.4	63.1	6	42.9	13.2	72.5	11	34.5	7.5	61.4
3. Reduces costs of activities for selling calves and cattle	D	12.9	0.0	32.8	D	7.1	0.0	22.6	3	12.8	0.0	31.4
4. Reduces price variability for calves and cattle	6	34.6	6.6	62.6	0	0.0	NA	NA	6	33.8	7.7	59.9
5. Reduces potential liability and litigation concerns	D	8.5	0.0	26.4	0	0.0	NA	NA	D	8.3	0.0	25.0
6. Increases supply chain information	D	4.4	0.0	14.2	D	7.1	0.0	22.6	D	4.5	0.0	13.6
7. Allows for sale of higher quality calves and cattle	7	52.3	22.0	82.7	3	21.4	0.0	46.0	10	51.6	23.2	80.0
8. Facilitates or increases market access	3	19.1	0.0	43.1	6	42.9	13.2	72.5	9	19.7	0.0	42.1
9. Increases flexibility in responding to consumer demand	D	10.2	0.0	31.4	0	0.0	NA	NA	D	10.0	0.0	29.7

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-7. Reasons for Using Sales Methods for Beef Producers, by Size (Small = 270, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.2* (continued)												
10. Allows for product branding in retail sales	D	4.5	0.0	14.4	D	14.3	0.0	35.3	3	4.7	0.0	14.0
11. Allows for food safety and biosecurity assurances	0	0.0	NA	NA	D	7.1	0.0	22.6	D	0.2	0.0	0.5
12. Allows for product traceability	0	0.0	NA	NA	D	7.1	0.0	22.6	D	0.2	0.0	0.5
13. Improves week-to-week production management	D	9.0	0.0	22.9	D	28.6	1.5	55.6	6	9.4	0.0	22.5
14. Secures a buyer for calves and cattle	5	26.3	1.6	51.0	5	35.7	7.0	64.4	10	26.5	3.4	49.6
15. Provides detailed carcass data	D	20.4	0.0	48.0	D	14.3	0.0	35.3	4	20.3	0.0	46.1
16. Enhances access to credit	D	8.5	0.0	26.4	0	0.0	NA	NA	D	8.3	0.0	25.0
17. Other	0	0.0	NA	NA	D	14.3	0.0	35.3	D	0.3	0.0	0.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

6.2 PORK PRODUCERS

Table 6-8 provides weighted tabulations for all survey questions for pork producers (n = 229).[5] Tables 6-9 through 6-15 provide weighted tabulations for selected questions by size (n = 206 for small pork producers and n = 23 for large pork producers).

6.2.1 Characteristics of Pork Producer Operations

Most operations identified themselves as independent growers (82%); the remaining were contract growers or producers with production contracts (17%) or swine integrators with production facilities (7%). Almost 86% of operations conducted feeder-to-finish operations, 67% conducted wean-to-feeder operations, and 63% also conducted farrow-to-wean operations. Although not asked directly, some operations have multiple production segments, such as farrow-to-finish operations. (See Table 6-8, Questions 1.2 and 1.3.)

Operations reported having, on average, 528 nursery pigs, 696 weaned pigs, 925 feeder pigs, and 1,997 finishing hogs in their owned inventory on January 1, 2005. However, these mean values can be misleading because some operations are specialized and only have one category of hogs, while other operations may have some hogs in each category. Few producers had pigs or hogs at their operations that were owned by another operation or owned jointly with another operation. Although few operations owned pigs or hogs on contract farms operated by a different owner, of those that did own pigs or hogs on contract farms, the number of pigs or hogs was quite large. Specifically, for operations that owned finishing hogs on contract farms operated by a different owner, the average number of hogs was nearly 6,600. (See Table 6-8, Questions 9.3 and 9.4.)

More than three-fourths of pork producers participated in some type of certification program last year.

More than three-fourths of pork producers participated in some type of certification program last year. Seventy-four percent of operations participated in the Pork Quality Assurance (PQA) certification program, and 10% participated in an animal welfare certification program. (See Table 6-8, Question 1.4.)

[5] The survey results presented in this volume are weighted using the survey weighting procedures described in Section 5.1 of this volume. In contrast, some of the survey results presented in Volume 4 are recalculated using weights that are benchmarked to external counts obtained from the Pork Check-off Program.

Producers identified an average of three hog auctions and five buying stations operating within a 200-mile radius of their location. Most auctions and buying stations operate on a daily or weekly basis. (See Table 6-8, Questions 9.5 and 9.6.)

For most operations, the owner completed the questionnaire. Of these, 80% of respondents were over 45 years of age. Specifically, 41% were 46 to 55 years of age, and 38% were 56 or older. More than 40% of owner respondents have a college degree, and another 26% have some college or technical school training. About 35% of operations reported that total gross sales for pigs and hogs were less than $100,000, and an additional 35% had total gross sales of $100,000 to $500,000. Approximately 18% of operations reported total gross farm sales of less than $100,000, and 43% reported total gross farm sales between $100,000 and $500,000. For operations in which the owner completed the questionnaire, on average, 28% of household income came from off-farm sources. (See Table 6-8, Questions 9.7 through 9.12.)

6.2.2 Methods for Procuring Pigs by Pork Producers

Respondents included operations that produce pigs from sows, procure weaned pigs, and/or procure feeder pigs. For operations that procured weaned pigs from U.S. sources (including iso-weaned and nursery pigs), 55% procured less than 5,000 weaned pigs during the past year, 21% procured 5,000 to 9,999 pigs, and 24% procured 10,000 or more weaned pigs. For operations that procured feeder pigs from U.S sources, 53% procured less than 2,000 feeder pigs during the past year, 21% procured 2,000 to 4,999 pigs, and 26% procured 5,000 or more pigs. Few operations reported procuring weaner or feeder pigs or hogs from outside the United States. (See Table 6-8, Question 2.1.)

The most common ownership arrangement for pigs arriving on the farm was sole ownership. During the past year, 65% of pigs were owned solely by the operation, 26% were owned by an integrator or packer, and 8% were owned through partnership or other arrangements.[6] For 63% of the operations that received pigs, all of their pigs were owned solely by the

[6] These values were computed as the mean percentage of head weighted by the number of eligible operations. The other means were computed similarly (i.e., weighted by the number of eligible operations).

operation during the past year. Operations' ownership arrangements were similar 3 years ago and are not expected to change within the next 3 years. (See Table 6-8, Question 2.2.)

Pork producers used a variety of purchase and pricing methods to procure pigs, including procurement or marketing contracts, production contracts, and marketing agreements. Spot market transactions were used to a lesser extent.

Pork producers used a variety of methods to receive or purchase pigs. During the past year, 27% of pigs were purchased using spot market transactions, 14% were purchased using procurement or marketing contracts, 35% were obtained using production contracts, 11% were purchased using marketing agreements, 9% were transferred internally, and 4% were procured using other methods. For 26% of operations, 100% of the pigs procured were from spot market transactions. In general, operations' purchase methods were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 6-8, Question 2.3.)

Pork producers used a variety of methods for pricing pigs. Nearly 47% of operations used formula pricing, 31% used individually negotiated pricing, 27% used production contract terms, 11% used internal transfer pricing, and 9% used public auctions. The use of production contracts to price pigs is expected to increase some in the next 3 years (32% versus 27%), and negotiated pricing is expected to decline slightly. For producers using formula pricing, 60% used CME lean hog futures as the base price of the formula. To a much lesser extent, formulas were based on the USDA-quoted price and cost of production. (See Table 6-8, Questions 2.4 and 2.5.)

On average, 37% of all pigs were purchased using a slide. Buyers paid transportation costs in 43% of all transactions. Almost 32% of pigs were purchased under a written agreement. (See Table 6-8, Questions 2.6 through 2.8.)

Eleven respondents reported using procurement or marketing contracts to procure pigs during the past year. Because of the small number of respondents, we cannot characterize producers' use of procurement or marketing contracts. (See Table 6-8, Questions 3.1 through 3.3.)

Thirty-seven respondents reported using production contracts during the past year. For operations using production contracts, 58% had feeder-to-finish contracts, 25% had wean-to-finish contracts, 11% had farrow-to-wean contracts, and 7% had contracts for other stages of production. With the exception of feeder-to-finish contracts, we cannot characterize producers'

use of production contracts because of the small number of respondents. Feeder-to-finish production contracts varied in contract length, with 36% of operations having contracts that were 3 to 5 years in length and 28% of operations having contracts that were 6 years or longer. However, 31% of operations had contracts that were for only one batch of pigs at a time.[7] Most specified payment per square foot of housing for each specified time period and/or payment per pig or hog delivered as the compensation formula. For contracts with efficiency adjustments, most specified a feed conversion efficiency and many specified a survivability premium to reduce death loss. Contracts specified a variety of terms; however, the most common term was to offer a minimum guaranteed payment for each batch of pigs. This minimum guarantee reduces the risk to the grower. While not specified, it is likely that the multiyear contracts are more recent and match the length of the loan for the contract building. Matching contract and loan lengths has been a common requirement of lenders since the early to mid-1990s. (See Table 6-8, Questions 4.1 through 4.5.)

For producers that only used spot market transactions to procure pigs, the two most frequently cited reasons for doing so were (1) "Allows for independence, complete control, and flexibility of own business" (71%) and (2) "Can purchase pigs at lower prices" (46%). One-third of producers reported "Allows for adjusting operations quickly in response to changes in market conditions" and "Enhances ability to benefit from favorable market conditions" as important reasons for only buying on the spot market. For producers that used AMAs to procure pigs, the three most frequently cited reasons for doing so were (1) "Reduces risk exposure" (62%), (2) "Reduces price variability for pigs" (53%), and "Secures higher quality pigs" (44%). Thus, these producers value AMAs because they help mitigate risk in procurement transactions. (See Table 6-8, Questions 5.1 and 5.2.)

[7] Respondents could select multiple responses.

6.2.3 Methods for Selling or Transferring Pigs and Hogs by Pork Producers

Most pork producers responding to the survey sell or ship market hogs; fewer respondents sell or ship weaned and feeder pigs. Most producers are small operations and sell or ship fewer than 2,000 pigs or hogs each year. For operations that sell or ship weaned pigs, 44% sold or shipped fewer than 2,000 pigs during the past year, 37% sold or shipped 2,000 to 19,999 pigs, and 19% sold or shipped 20,000 or more pigs. For operations that sell or ship feeder pigs, 68% sold or shipped fewer than 2,000 pigs during the past year, 21% sold or shipped 2,000 to 19,999 pigs, and 11% sold or shipped 20,000 or more pigs. For operations that sell or ship market hogs, 54% sold or shipped fewer than 2,000 hogs during the past year, 40% sold or shipped 2,000 to 19,999 hogs, and 6% sold or shipped 20,000 or more hogs. (See Table 6-8, Question 6.1.)

More pork producers (but with fewer hogs) relied on the spot market to sell pigs and hogs, but some producers (with more hogs) used AMAs such as marketing agreements, procurement or marketing contracts, and production contracts.

Pork producers used a variety of methods to sell or transfer pigs and hogs. During the past year, 61% of pigs and hogs were sold using spot market transactions, 16% were sold using marketing agreements, 9% were sold using procurement or marketing contracts, 7% were sold using production contracts, and 7% were sold using other methods. For 57% of producers, all pig and hog sales were through spot market transactions. Sales methods were very similar 3 years ago; however, spot market transactions are expected to decline slightly in the next 3 years, as is the number of producers that use only spot markets. (See Table 6-8, Question 6.2.)

Likewise, a variety of pricing methods were employed to sell pigs and hogs. About 53% of operations used formula pricing, 49% used individually negotiated pricing, 14% used public auctions, and 2% used production contracts to price pigs and hogs. The use of production contract terms is expected to increase slightly in the next 3 years. Because of the small number of respondents, we cannot characterize the base used to price weaned and feeder pigs sold using formula pricing. For operations that sell market hogs using formula pricing, 50% used individual or multiple-plant average price as the base and 30% used USDA dressed or carcass quote as the base. For operations that sell market hogs, 70% used carcass weight dependent on merit as the valuation method, and 36% used liveweight. (See Table 6-8, Questions 6.3 through 6.5.)

On average, 30% of all pigs and hogs were sold using a slide. Sellers paid transportation costs in 67% of all transactions. Almost 18% of pigs and hogs were sold under a written agreement. (See Table 6-8, Questions 6.6 through 6.8.)

Eighteen respondents reported using procurement or marketing contracts to sell pigs and hogs during the past year. Operations with procurement or marketing contracts most often had only one contract, but some reported selling pigs and hogs under two contracts. Most pigs and hogs were sold under contracts with a length of 1 to 2 years, but 22% were in 3- to 5-year contracts, and more than 18% were in contracts longer than 10 years in length. Producers specified a variety of terms in their procurement or marketing contracts. The most common terms specified the number of pigs or hogs to be delivered during each period and required the producer to be PQA certified. Other contract terms addressed quality of hogs and changes to carcass pricing grid, without producer's consent. (See Table 6-8, Questions 7.1 through 7.3.)

For producers that used only spot market transactions, the three most frequently cited reasons for doing so were as follows: (1) "Allows for independence, complete control, and flexibility of own business" (80%), (2) "Enhances ability to benefit from favorable market conditions" (41%), and (3) "Can sell pigs and hogs at higher prices" (35%). These producers value the independence and flexibility offered by spot market transactions. For producers that used AMAs, the three most frequently cited reasons for doing so were (1) "Reduces risk exposure" (76%), (2) "Reduces price variability for pigs and hogs" (44%), and (3) "Secures a buyer for pigs and hogs" (39%). These producers value AMAs because they help mitigate risk in sales transactions. (See Table 6-8, Questions 8.1 and 8.2.)

6.2.4 Pork Producers' Marketing Practices, by Size of Operation

Of the 89 respondents that provided information on their marketing practices for procuring pigs, fewer than 10 respondents were large operations. Because of the small number of large operations, we cannot compare differences in pig procurement practices by size of operation. (See Tables 6-9 through 6-12.) However, we can compare differences in pig and hog sales practices, as described below.

Large producers were more likely than small producers to use AMAs to sell pigs and hogs.

During the past year, small producers sold an average of 10,800 weaned pigs, 4,400 feeder pigs, and 4,300 market hogs. Large producers sold an average of 62,800 weaned pigs, 45,400 feeder pigs, and 171,100 market hogs. Large producers were more likely than small producers to use AMAs to sell pigs and hogs. During the past year, large producers sold 77% of their pigs and hogs using AMAs, and small producers sold 36% of their pigs and hogs using AMAs. For large producers, the most common types of AMAs included marketing agreements and production contracts. Only 17% of large producers sold all of their pigs or hogs using spot market transactions compared with 58% of small producers. (See Table 6-13, Questions S6.1 and S6.2.)

Both large and small producers used a variety of methods to price pigs and hogs. The majority used formula pricing for selling pigs and hogs (73% of large producers and 53% of small producers). About 40% of large producers and 49% of small producers used individually negotiated pricing. Almost 27% of large producers and less than 2% of small producers used production contract terms, and 7% of large producers and 14% of small producers used public auctions to sell pigs and hogs. Similar valuation methods were employed by small and large producers for selling market hogs, with carcass weight dependent on merit being the most frequently cited valuation method. (See Table 6-13, Questions S6.3 and 6.5.)

Large producers tended to use slides to sell pigs and hogs more often compared with small producers (56% versus 28% of total head sold). Small producers paid to transport more of their pigs and hogs compared with large producers (68% versus 46% of total head sold). Large producers were more likely than small producers to use written contracts (61% versus 17% of total head sold). (See Table 6-13, Questions 6.6 through 6.8.)

Because of the small number of respondents, we cannot compare the terms of procurement or marketing contracts by size of operation. Likewise, we cannot compare producers' reasons for using the spot market or AMAs by size of operation because of the small number of respondents. (See Tables 6-14 and 6-15.)

6.2.5 Pork Producer Survey Summary

The majority of pork producers used AMAs in addition to or instead of the cash market for purchasing pigs. Conversely, the majority of pork producers relied primarily on spot market transactions for selling pigs and hogs.

The majority of pork producers used AMAs in addition to or instead of the cash market for purchasing pigs. Producers used production contracts, procurement or marketing contracts, and marketing agreements to purchase pigs. Producers used AMAs to reduce risk exposure, reduce price variability, and secure higher quality pigs. A variety of pricing methods were employed to purchase pigs and hogs, including formula pricing, individually negotiated pricing, and public auctions. Nearly one-third of pigs were purchased under written agreements.

Conversely, the majority of pork producers relied primarily on spot market transactions for selling pigs and hogs because they believe they get higher prices and because the cash market allows for greater independence and enhances the ability to benefit from favorable market conditions. Compared with small producers, large producers were more likely to use AMAs to sell pigs and hogs. For producers using AMAs, the most common type of arrangement was a marketing agreement. A variety of pricing methods were employed to sell pigs and hogs, including formula pricing, individually negotiated pricing, and public auctions. Less than 20% of pigs and hogs were sold under a written agreement.

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229)

		n	%	Lower	Upper
1.2*	Which of the following describes your operation during the past year?				
	1. Independent grower	175	81.9	76.6	87.1
	2. Contract grower (producer with production contract)	39	17.2	12.0	22.4
	3. Swine integrator with production facilities	21	7.0	3.6	10.4
	4. Swine integrator without production facilities	0	0.0	NA	NA
	5. Packer-owned farm	0	0.0	NA	NA
	6. Other	0	0.0	NA	NA
1.3*	What types of activities were conducted at this location during the past year?				
	1. Farrow to wean	146	62.6	56.0	69.2
	2. Wean to feeder	154	67.3	60.9	73.7
	3. Feeder to finish	192	85.6	80.8	90.4
1.4*	What types of certification programs did your operation participate in during the past year?				
	4. None	50	24.4	18.4	30.4
	5. Organic certification	0	0.0	NA	NA
	6. Animal welfare certification	24	10.4	6.1	14.6
	7. Pork Quality Assurance (PQA) certification	164	73.6	67.5	79.8
	8. Third-party certification of breed or livestock quality (for example, Berkshire Gold)	9	3.2	0.8	5.7
	9. Own-company certification of breed or livestock quality	4	1.2	0.0	2.6
	10. Buyer certification of breed or livestock quality	6	2.6	0.4	4.8
	11. Other	D	0.6	0.0	1.6
	12. Trucker quality assurance *(write-in response)*	3	1.5	0.0	3.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible operations
Mean = estimated mean weighted by the number of eligible operations
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		U.S. Sources				Outside the United States			
		n	**Mean**	**Lower**	**Upper**	**n**	**Mean**	**Lower**	**Upper**
2.1a	How many weaned pigs (including iso-weaned and nursery pigs) did your operation receive or purchase during the past year?	43	9,384.7	5,020.6	13,748.8	D	(results suppressed)		
		n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
	1–1,999	9	23.3	9.4	37.1		(results suppressed)		
	2,000–4,999	13	31.4	16.2	46.5				
	5,000–9,999	8	20.7	7.4	34.0				
	10,000–19,999	4	10.3	0.3	20.3				
	20,000 or more	9	14.4	3.3	25.4				
	Total		100.1						
		n	**Mean**	**Lower**	**Upper**	**n**	**Mean**	**Lower**	**Upper**
2.1b	How many feeder pigs did your operation receive or purchase during the past year?	56	4,447.5	1,913.2	6,981.8	5	5,792.0	2,199.2	9,384.8
		n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
	1–499	16	29.3	16.5	42.0		(results suppressed)		
	500–1,999	13	23.5	11.6	35.4				
	2,000–4,999	11	21.3	9.8	32.8				
	5,000–9,999	9	17.4	6.7	28.1				
	10,000 or more	7	8.6	1.0	16.1				
	Total		100.1†						

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	3 Years Ago (n = 86)			During Past Year (n = 89)			Expected in 3 Years (n = 86)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2 For all pigs received or purchased by your operation, what were the ownership arrangements (% of head)?									
a. Sole ownership by your operation	66.5	56.1	76.9	65.2	55.0	75.5	64.9	54.5	75.3
b. Partner arrangement	5.5	0.6	10.5	7.4	2.0	12.8	7.7	2.0	13.3
c. Shared ownership	1.3	<0	3.8	0.6	<0	1.8	0.6	<0	1.9
d. Joint venture	0.0	0.0	0.0	0.3	<0	0.9	0.6	<0	1.9
e. Owned by integrator or packer (other than your operation)	26.7	16.9	36.5	26.5	16.9	36.0	26.2	16.5	35.9
f. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			100.0			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are sole ownership	55	65.2	54.5	75.8	56	63.3	52.8	73.9	54	63.2	52.5	73.9

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	3 Years Ago (n = 77)			During Past Year (n = 85)			Expected in 3 Years (n = 78)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.3 What methods are used by your operation for receiving or purchasing pigs (% of head)?									
a. Auction barns	4.4	<0	8.9	4.9	0.3	9.5	3.8	<0	8.2
b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	8.6	1.9	15.3	8.7	2.4	15.0	7.0	1.0	13.1
d. Direct trade	12.7	5.0	20.4	12.6	5.3	19.9	11.0	3.8	18.1
e. Procurement or marketing contract	10.9	3.7	18.1	13.6	6.0	21.2	14.9	6.7	23.2
f. Production contract with packer or integrator	17.5	8.5	26.5	17.0	8.6	25.4	18.7	9.5	27.9
g. Production contract with weaner or feeder pig producer	17.3	8.3	26.3	18.1	9.4	26.8	19.9	10.4	29.3
h. Forward contract	0.0	0.0	0.0	1.3	<0	3.8	1.4	<0	4.2
i. Marketing agreement	11.4	3.8	19.0	10.9	4.0	17.8	10.5	3.4	17.7
j. Internal transfer	13.0	5.1	20.8	9.1	2.8	15.4	10.0	3.0	16.9
k. Other	2.9	<0	6.8	2.6	<0	6.1	1.4	<0	4.2
l. Receive through co-op *(write-in response)*	1.4	<0	4.3	1.3	<0	3.8	1.4	<0	4.2
Total	100.1†			100.1†			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market purchases	18	25.7	15.2	36.1	20	25.6	15.7	35.5	15	21.1	11.4	30.8

† Total does not sum to 100% because of rounding.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.4* What types of pricing methods are used by your operation for purchasing pigs?								
1. Individually negotiated pricing	23	30.5	19.3	41.7	18	27.2	15.7	38.7
2. Public auction	6	9.0	2.0	16.0	4	6.7	0.2	13.2
3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	34	46.9	34.7	59.1	30	47.3	34.3	60.2
5. Internal transfer	10	11.1	3.6	18.6	10	12.4	4.0	20.8
6. Production contract terms	19	27.1	16.2	37.9	20	32.0	19.9	44.1
7. Other	0	0.0	NA	NA	0	0.0	NA	NA
8. Co-op shares *(write-in response)*	D	3.0	0.0	7.2	D	1.7	0.0	5.0

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
2.5*	For pigs purchased by your operation during the past year using formula pricing, what was the base price of the formula?				
	1. USDA live quote	5	16.4	2.5	30.4
	2. Chicago Mercantile Exchange (CME) lean hog futures	20	60.1	41.8	78.4
	3. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA
	4. Cost of production	7	17.4	3.4	31.3
	5. Other market price	D	6.6	0.0	15.9
	6. Other	D	3.3	0.0	10.0
		n	**Mean**	**Lower**	**Upper**
2.6	What percentage of pigs purchased during the past year were purchased using a slide?	62	36.7	24.3	49.1
2.7	What percentage of pigs purchased during the past year did the buyer (your operation) pay for transportation?	62	43.1	30.6	55.7
2.8	What percentage of pigs purchased during the past year were under a written agreement (versus oral)?	62	31.6	19.5	43.6
		n	**%**	**Lower**	**Upper**
3.1	With how many pork producers did your operation maintain procurement or marketing contracts for purchasing pigs during the past year?				
	1. One	11	90.3	68.6	100.0
	2. Two	D	9.7	0.0	31.4
	3. Three to five	0	0.0	NA	NA
	4. Six to ten	0	0.0	NA	NA
	5. More than ten	0	0.0	NA	NA
	Total		100.0		
			Mean (n = 11)	**Lower**	**Upper**
3.2	For pigs purchased under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?				
	a. Less than 6 months		21.5	<0	53.8
	b. 6 to 11 months		0.0	0.0	0.0
	c. 1 to 2 years		0.0	0.0	0.0
	d. 3 to 5 years		12.3	<0	36.9
	e. 6 to 10 years		12.3	<0	36.9
	f. More than 10 years or evergreen		53.9	15.3	92.4
	Total		100.0		

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
3.3*	Which of the following terms were specified in the procurement or marketing contracts used by your operation during the past year?				
	1. Number of pigs to be delivered each specified time period	9	70.8	37.7	100.0
	2. Average weight of pigs	7	51.4	15.3	87.5
	3. Quality of pigs	10	80.5	51.7	100.0
	4. Producer must sell 100 percent of production to your operation	D	9.7	0.0	31.4
	5. Minimum guaranteed price for pigs	4	38.9	3.5	74.3
	6. Includes a ledger account	0	0.0	NA	NA
	7. Includes a price window	D	19.5	0.0	48.3
	8. Specifications for production facilities	D	9.7	0.0	31.4
	9. Breeding/genetics used by producer	6	50.0	13.8	86.2
	10. Feeding programs used by producer	4	38.9	3.5	74.3
	11. Producer must be Pork Quality Assurance (PQA) certified	6	50.0	13.8	86.2
	12. Allows your operation to inspect and monitor production facilities	4	30.5	0.0	63.8
	13. Includes definition of viable or acceptable pig	8	61.1	25.7	96.5
	14. Price adjustment for single or multiple source pigs	0	0.0	NA	NA
	15. None of the above	D	9.7	0.0	31.4
			Mean (n = 37)	**Lower**	**Upper**
4.1	What types of contracts did your operation have during the past year for the production of pigs or hogs (% of head)?				
	a. Farrow to wean		10.8	0.3	21.2
	b. Farrow to feeder		0.0	0.0	0.0
	c. Farrow to finish		1.5	<0	4.5
	d. Wean to feeder		5.6	<0	12.5
	e. Wean to finish		24.6	9.6	39.7
	f. Feeder to finish		57.5	40.7	74.2
	g. Other		0.0	0.0	0.0
	Total		100.0		

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Farrow to Wean				Farrow to Feeder				Farrow to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.2* What was the length of the production contracts used by your operation during the past year?												
1. One batch of pigs or hogs at a time	0	0.0	NA	NA	(n = 0)				(results suppressed)			
2. Less than 1 year	0	0.0	NA	NA								
3. 1 to 2 years	5	74.2	15.5	100.0								
4. 3 to 5 years	0	0.0	NA	NA								
5. 6 to 10 years	D	25.8	0.0	84.5								
6. More than 10 years	D	22.6	0.0	80.7								
	Wean to Feeder				**Wean to Finish**				**Feeder to Finish**			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
1. One batch of pigs or hogs at a time	D	22.6	0.0	80.7	0	0.0	NA	NA	8	31.3	11.1	51.4
2. Less than 1 year	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
3. 1 to 2 years	D	25.8	0.0	84.5	0	0.0	NA	NA	3	9.4	0.0	21.9
4. 3 to 5 years	4	51.6	0.0	100.0	6	61.0	21.5	100.0	9	35.6	14.8	56.4
5. 6 to 10 years	0	0.0	NA	NA	3	25.4	0.0	60.8	7	23.1	4.9	41.3
6. More than 10 years	0	0.0	NA	NA	D	13.5	0.0	40.7	D	5.0	0.0	14.1

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Farrow to Wean				Farrow to Feeder				Farrow to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.3* What was the compensation formula for production contracts used by your operation during the past year?												
1. Payment per square foot of housing for each specified time period	D	2.6	0.0	9.0	(n = 0)				(results suppressed)			
2. Payment per pig or hog delivered	7	81.6	36.5	100.0								
3. Payment per pound of weight gain	0	0.0	NA	NA								
4. Other	D	18.4	0.0	63.5								

	Wean to Feeder				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
1. Payment per square foot of housing for each specified time period	5	74.2	15.5	100.0	6	68.2	18.9	100.0	11	38.8	17.1	60.6
2. Payment per pig or hog delivered	D	25.8	0.0	84.5	D	31.8	0.0	81.1	11	46.7	24.4	69.1
3. Payment per pound of weight gain	0	0.0	NA	NA	0	0.0	NA	NA	7	28.3	8.1	48.5
4. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Farrow to Wean				Farrow to Feeder				Farrow to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.4* What type of efficiency adjustments were used as part of the compensation formula for production contracts used by your operation during the past year?												
1. Feed conversion efficiency	D	30.5	0.0	100.0			(n = 0)				(results suppressed)	
2. Livability/survivability	D	30.5	0.0	100.0								
3. Preferred weight category	0	0.0	NA	NA								
4. Comparison between your operation's performance and other growers' performance	0	0.0	NA	NA								
5. Comparison between your operation's performance and a fixed standard	0	0.0	NA	NA								
6. Pigs weaned per sow	5	100.0	100.0	100.0								
7. Back fat measurement within target range	0	0.0	NA	NA								
8. Quality defects (for example, abscesses or injuries)	D	4.3	0.0	18.0								
9. Other	0	0.0	NA	NA								

Note: Question 4.4 only applies to respondents that use efficiency adjustments.

(continued)

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Wean to Feeder				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.4* (continued)												
1. Feed conversion efficiency	D	50.0	0.0	100.0	3	41.6	0.0	100.0	12	76.6	51.2	100.0
2. Livability/survivability	4	100.0	100.0	100.0	4	61.1	0.0	100.0	8	46.8	16.8	76.8
3. Preferred weight category	0	0.0	NA	NA	D	38.9	0.0	100.0	5	37.2	8.1	66.4
4. Comparison between your operation's performance and other growers' performance	0	0.0	NA	NA	D	19.5	0.0	73.5	4	29.8	2.1	57.5
5. Comparison between your operation's performance and a fixed standard	0	0.0	NA	NA	0	0.0	NA	NA	D	8.5	0.0	24.6
6. Pigs weaned per sow	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Back fat measurement within target range	0	0.0	NA	NA	0	0.0	NA	NA	D	14.9	0.0	36.5
8. Quality defects (for example, abscesses or injuries)	D	6.2	0.0	32.8	D	19.5	0.0	73.5	D	7.4	0.0	23.4
9. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

Note: Question 4.4 only applies to respondents that use efficiency adjustments.
D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Farrow to Wean				Farrow to Feeder				Farrow to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.5* Which of the following terms were specified in the production contracts used by your operation during the past year?												
1. Specifies minimum number of batches of pigs or hogs for each specified time period	D	18.9	0.0	67.6		(n = 0)				(results suppressed)		
2. Specifies genetics of pigs or hogs	D	21.6	0.0	70.7								
3. Offers minimum guaranteed payment for each batch	D	21.6	0.0	70.7								
4. Specifies that insurance premiums for pig or hog mortality are paid by grower	0	0.0	NA	NA								
5. Requires mandatory facilities/equipment upgrades	0	0.0	NA	NA								
6. Offers payment incentives for facilities/equipment upgrades	0	0.0	NA	NA								
7. Offers subsidized financing for facilities/equipment upgrades	0	0.0	NA	NA								
8. Requires mandatory arbitration for conflict resolution	D	21.6	0.0	70.7								
9. Allows contractor to change compensation formula without grower's consent	D	2.7	0.0	9.6								
10. Includes provision for dead on arrival, condemned, lightweight, or culled pigs or hogs	3	56.8	0.0	100.0								
11. Includes definition of viable or acceptable pig	3	40.5	0.0	100.0								
12. Other	0	0	NA	NA								

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Wean to Feeder				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.5* Which of the following terms were specified in the production contracts used by your operation during the past year?												
1. Specifies minimum number of batches of pigs or hogs for each specified time period	D	41.3	0.0	100.0	D	24.1	0.0	100.0	4	25.7	1.7	49.7
2. Specifies genetics of pigs or hogs	0	0.0	NA	NA	D	24.1	0.0	100.0	D	12.8	0.0	31.3
3. Offers minimum guaranteed payment for each batch	3	52.9	0.0	100.0	3	51.7	0.0	100.0	12	60.5	33.9	87.2
4. Specifies that insurance premiums for pig or hog mortality are paid by grower	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
5. Requires mandatory facilities/equipment upgrades	0	0.0	NA	NA	0	0.0	NA	NA	D	6.4	0.0	20.0
6. Offers payment incentives for facilities/equipment upgrades	0	0.0	NA	NA	0	0.0	NA	NA	D	0.9	0.0	2.8
7. Offers subsidized financing for facilities/equipment upgrades	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
8. Requires mandatory arbitration for conflict resolution	D	5.8	0.0	24.4	0	0.0	NA	NA	D	7.3	0.0	21.0
9. Allows contractor to change compensation formula without grower's consent	D	5.8	0.0	24.4	0	0.0	NA	NA	D	7.3	0.0	21.0
10. Includes provision for dead on arrival, condemned, lightweight, or culled pigs or hogs	D	47.1	0.0	100.0	D	48.3	0.0	100.0	8	40.4	13.7	67.1
11. Includes definition of viable or acceptable pig	3	52.9	0.0	100.0	D	24.1	0.0	100.0	4	14.7	0.0	33.3
12. Other	0	0.0	NA	NA	0	0.0	NA	NA	D	0.9	0.0	2.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
5.1*	What are the three most important reasons why your operation only uses the cash or spot market for purchasing pigs?				
	1. Can purchase pigs at lower prices	11	45.6	24.2	66.9
	2. Reduces risk exposure	6	21.3	3.9	38.7
	3. Reduces costs of activities for buying pigs	4	16.6	0.6	32.6
	4. Reduces price variability for pigs	D	8.3	0.0	20.1
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality pigs	5	17.2	1.2	33.1
	8. Facilitates or increases market access	D	4.1	0.0	12.7
	9. Allows for adjusting operations quickly in response to changes in market conditions	8	33.1	12.9	53.4
	10. Does not require identifying and recruiting long-term contracting partners	D	4.1	0.0	12.7
	11. Does not require managing complex and costly contracts	3	12.4	0.0	26.6
	12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA
	13. Allows for independence, complete control, and flexibility of own business	18	71.0	51.5	90.5
	14. Enhances ability to benefit from favorable market conditions	8	33.1	12.9	53.4
	15. Other	D	4.1	0.0	12.7
5.2*	What are the three most important reasons why your operation uses alternative purchase methods for purchasing pigs?				
	1. Can purchase pigs at lower prices	3	15.2	0.0	32.4
	2. Reduces risk exposure	13	61.6	38.8	84.4
	3. Reduces costs of activities for buying pigs	4	15.9	0.0	33.2
	4. Reduces price variability for pigs	13	52.9	29.3	76.5
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality pigs	12	43.5	20.1	66.8
	8. Facilitates or increases market access	0	0.0	NA	NA
	9. Allows for food safety and biosecurity assurances	D	0.7	0.0	2.2
	10. Allows for product traceability	0	0.0	NA	NA
	11. Improves week-to-week supply management	4	11.6	0.0	26.2
	12. Improves efficiency of operations due to animal uniformity	10	42.0	18.7	65.4
	13. Reduces investment requirements for facilities and equipment	3	15.2	0.0	32.4
	14. Reduces operating capital requirements	4	15.9	0.0	33.2
	15. Enhances access to credit	0	0.0	NA	NA
	16. Other	3	15.2	0.0	32.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	Mean	Lower	Upper
6.1a	How many weaned pigs did your operation sell or ship during the past year?	25	13,543.7	6,529.7	20,557.6
		n	**%**	**Lower**	**Upper**
	1–1,999	11	44.4	20.6	68.1
	2,000–9,999	3	15.8	0.0	33.5
	10,000–19,999	4	21.1	1.3	40.8
	20,000–49,999	3	11.3	0.0	26.3
	50,000 or more	4	7.5	0.0	18.6
	Total		100.1†		
		n	**Mean**	**Lower**	**Upper**
6.1b	How many feeder pigs did your operation sell or ship during the past year?	37	5,705.7	1,806.3	9,605.1
		n	**%**	**Lower**	**Upper**
	1–499	13	42.0	23.9	60.0
	500–1,999	9	26.3	10.1	42.4
	2,000–4,999	6	11.0	0.0	22.1
	5,000–19,999	4	10.1	0.0	21.1
	20,000 or more	5	10.6	0.0	21.6
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
6.1c	How many market hogs did your operation sell or ship during the past year?	198	6,299.8	4,468.1	8,131.4
		n	**%**	**Lower**	**Upper**
	1–499	36	19.5	13.8	25.3
	500–1,999	64	34.7	27.8	41.6
	2,000–4,999	36	19.5	13.8	25.3
	5,000–9,999	23	12.0	7.3	16.7
	10,000-19,999	16	8.2	4.2	12.2
	20,000–49,999	14	5.3	2.1	8.4
	50,000 or more	9	0.7	0.4	1.0
	Total		99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	3 Years Ago (n = 207)			During Past Year (n = 212)			Expected in 3 Years (n = 199)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
6.2 What methods for selling or shipping pigs and hogs are used by your operation (% of head)?									
a. Auction barns	4.9	2.2	7.7	4.6	1.9	7.3	4.6	1.8	7.4
b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	9.1	5.1	13.2	9.0	5.1	13.0	7.8	4.0	11.6
d. Direct trade	46.3	39.5	53.1	47.5	40.7	54.2	42.2	35.5	49.0
e. Procurement or marketing contract	8.3	4.5	12.0	8.9	5.0	12.7	8.9	5.0	12.8
f. Production contract	9.3	5.2	13.4	7.4	3.8	11.0	8.6	4.7	12.6
g. Forward contract	1.7	0.3	3.1	2.6	1.0	4.2	4.6	2.3	7.0
h. Marketing agreement	17.9	12.5	23.2	15.6	10.7	20.6	18.4	13.0	23.7
i. Internal transfer	1.2	<0	2.7	2.0	0.1	3.8	2.2	0.2	4.3
j. Other	0.9	<0	2.2	0.9	<0	2.1	0.9	<0	2.3
k. Sold through co-op *(write-in response)*	0.5	<0	1.6	1.6	<0	3.3	1.7	<0	3.5
Total	100.1†			100.1†			99.9†		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market sales	110	57.3	50.3	64.3	113	57.0	50.0	64.0	90	48.8	41.5	56.1

† Total does not sum to 100% because of rounding.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
6.3* What types of pricing methods are used by your operation for selling pigs and hogs?								
1. Individually negotiated pricing	81	48.6	40.7	56.5	69	46.3	38.0	54.5
2. Public auction	22	13.5	8.1	18.9	21	14.2	8.4	20.0
3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	92	52.9	45.0	60.7	82	53.0	44.7	61.3
5. Internal transfer	D	0.6	0.0	1.9	D	0.7	0.0	2.1
6. Production contract terms	7	2.3	0.1	4.5	13	6.8	2.7	10.8
7. Other	D	0.6	0.0	1.9	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Weaned Pigs				Feeder Pigs				Market Hogs			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
6.4* For pigs and hogs sold by your operation during the past year using formula pricing, what was the base price of the formula?												
1. Individual or multiple packing plant average price	D	17.7	0.0	43.9	0	0.0	NA	NA	49	50.0	39.7	60.3
2. USDA live quote	D	8.9	0.0	28.4	5	32.4	6.4	58.4	20	17.8	10.0	25.7
3. USDA dressed or carcass quote	0	0.0	NA	NA	D	13.0	0.0	31.7	33	30.0	20.6	39.4
4. Auction prices	4	35.5	2.8	68.1	9	58.4	31.4	85.3	6	6.5	1.4	11.5
5. Chicago Mercantile Exchange (CME) lean hog futures	6	38.0	5.3	70.6	D	1.8	0.0	3.8	13	12.2	5.5	18.8
6. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA	0	0.0	NA	NA	D	1.1	0.0	3.2
7. Corn or soybean meal futures	D	8.9	0.0	28.4	D	6.5	0.0	20.2	D	2.2	0.0	5.2
8. Cost of production	0	0.0	NA	NA	0	0.0	NA	NA	5	3.5	0.0	7.2
9. Retail price	0	0.0	NA	NA	D	7.4	0.0	21.3	3	2.3	0.0	5.3
10. Other market price	0	0.0	NA	NA	0	0.0	NA	NA	D	2.2	0.0	5.2
11. Other	D	8.9	0.0	28.4	D	6.5	0.0	20.2	D	1.1	0.0	3.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
6.5* What types of valuation methods are used by your operation for selling market hogs?								
1. Liveweight	56	35.6	27.8	43.3	48	32.6	24.7	40.5
2. Carcass weight not dependent on merit	8	4.8	1.4	8.3	9	6.0	2.0	9.9
3. Carcass weight dependent on merit	114	70.1	62.7	77.6	109	72.2	64.6	79.8
4. Other	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	Mean	Lower	Upper
6.6	What percentage of pigs and hogs sold during the past year were sold using a slide?	169	27.9	21.1	34.8
6.7	For what percentage of pigs and hogs sold during the past year did the seller (your operation) pay for transportation?	170	67.3	60.1	74.5
6.8	What percentage of pigs and hogs sold during the past year were under a written agreement (versus oral)?	170	17.5	11.9	23.1
		n	**%**	**Lower**	**Upper**
7.1	With how many buyers did your operation maintain procurement or marketing contracts during the past year?				
	1. One	14	73.4	49.3	97.5
	2. Two	3	19.3	0.0	41.0
	3. Three to five	D	7.3	0.0	21.0
	4. Six to ten	0	0.0	NA	NA
	5. More than ten	0	0.0	NA	NA
	Total		100.0		
			Mean (n = 18)	**Lower**	**Upper**
7.2	For pigs and hogs sold under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?				
	a. Less than 6 months		9.1	<0	24.1
	b. 6 to 11 months		2.0	<0	4.3
	c. 1 to 2 years		42.2	14.1	70.2
	d. 3 to 5 years		21.5	<0	44.7
	e. 6 to 10 years		6.9	<0	21.4
	f. More than 10 years or evergreen		18.3	<0	39.4
	Total		100.0		

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
7.3*	Which of the following terms were specified in the procurement or marketing contracts used by your operation during the past year?				
	1. Number of pigs or hogs to be delivered each specified time period	16	86.3	66.5	100.0
	2. Average weight of pigs or hogs	8	43.1	15.1	71.2
	3. Quality of pigs or hogs	9	50.0	21.6	78.4
	4. Yield percentage of market hogs	4	21.6	0.0	44.8
	5. Producer must sell 100 percent of production to your operation	3	20.6	0.0	43.8
	6. Minimum guaranteed price for pigs or hogs	6	35.3	8.1	62.5
	7. Includes a ledger account	D	6.9	0.0	21.4
	8. Includes a price window	4	21.6	0.0	44.8
	9. Specifications for production facilities	0	0.0	NA	NA
	10. Breeding/genetics used by producer	D	13.7	0.0	33.5
	11. Feeding programs used by producer	D	6.9	0.0	21.4
	12. PSE requirements	0	0.0	NA	NA
	13. Producer must be Pork Quality Assurance (PQA) certified	14	72.5	47.0	98.1
	14. Allows packer to inspect and monitor production facilities	3	14.7	0.0	34.6
	15. Allows producer to visit and monitor packing facilities	D	7.8	0.0	22.5
	16. Allows packer to change carcass pricing grid without producer's consent	9	50.0	21.6	78.4
	17. Includes definition of viable or acceptable pig or hog	10	51.0	22.6	79.3
	18. Price adjustment for single or multiple sources of pigs or hogs	0	0.0	NA	NA
	19. None of the above	D	6.9	0.0	21.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
8.1*	What are the three most important reasons why your operation only uses the cash or spot market for selling pigs and hogs?				
	1. Can sell pigs and hogs at higher prices	37	35.3	25.7	45.0
	2. Reduces risk exposure	12	11.4	5.0	17.8
	3. Reduces costs of activities for selling pigs and hogs	20	20.5	12.4	28.7
	4. Reduces price variability for pigs and hogs	3	3.1	0.0	6.6
	5. Reduces potential liability and litigation concerns	3	3.1	0.0	6.6
	6. Increases supply chain information	D	0.1	0.0	0.4
	7. Allows for sale of higher quality pigs	11	9.5	3.7	15.4
	8. Facilitates or increases market access	14	14.4	7.3	21.5
	9. Allows for adjusting operations quickly in response to changes in market conditions	20	19.6	11.6	27.7
	10. Does not require identifying and recruiting long-term contracting partners	17	16.6	9.1	24.1
	11. Does not require managing complex and costly contracts	24	24.6	15.9	33.3
	12. Eliminates possible negative public perceptions about use of contracts	D	2.1	0.0	4.9
	13. Allows for independence, complete control, and flexibility of own business	78	80.1	72.1	88.1
	14. Enhances ability to benefit from favorable market conditions	40	41.1	31.1	51.0
	15. Other	0	0.0	NA	NA
	16. No other choice *(write-in response)*	D	1.0	0.0	3.1
	17. Can easily sell small number of animals *(write-in response)*	7	7.2	2.0	12.4
	18. Convenience *(write-in response)*	3	3.1	0.0	6.6

D = Results suppressed. (continued)
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
8.2*	What are the three most important reasons why your operation uses alternative sales methods for selling pigs and hogs?				
	1. Can sell pigs and hogs at higher prices	4	21.4	1.2	41.6
	2. Reduces risk exposure	16	76.4	56.1	96.6
	3. Reduces costs of activities for selling pigs and hogs	6	22.9	2.6	43.2
	4. Reduces price variability for pigs and hogs	10	44.3	20.1	68.5
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	D	6.1	0.0	17.3
	7. Allows for sale of higher quality pigs	D	10.7	0.0	25.9
	8. Facilitates or increases market access	6	18.3	0.1	36.5
	9. Increases flexibility in responding to consumer demand	0	0.0	NA	NA
	10. Allows for product branding in retail sales	0	0.0	NA	NA
	11. Allows for food safety and biosecurity assurances	0	0.0	NA	NA
	12. Allows for product traceability	0	0.0	NA	NA
	13. Improves week-to-week production management	4	16.8	0.0	34.9
	14. Secures a buyer for pigs and hogs	9	38.9	15.2	62.7
	15. Provides detailed carcass data	4	16.8	0.0	34.9
	16. Enhances access to credit	3	11.4	0.0	26.8
	17. Other	0	0.0	NA	NA
		n	**Mean**	**Lower**	**Upper**
9.1	Approximately how many people (including yourself and family members) were employed for livestock production at your operation during the past year?				
	a. Full time	192	2.9	2.4	3.4
	b. Part time	125	1.8	1.6	2.0
	c. Seasonal	24	2.1	1.1	3.0
9.2	What is the total acreage of your operation used for livestock production?	212	463.7	391.3	536.0

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	Owned by Your Operation				Owned by Another Operation				Owned Jointly with Another Operation			
	n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
9.3 How many pigs and hogs were on your operation on January 1, 2005?												
a. Nursing pigs	121	528.3	356.3	700.3	4	2,967.7	<0	7,631.0	0	—	—	—
b. Weaned pigs	119	696.3	495.7	897.0	10	6,990.1	<0	16,548.3	D	(results suppressed)		
c. Feeder pigs	117	924.5	563.0	1,286.0	7	1,308.7	542.6	2,074.8	3	2,166.7	<0	6,528.7
d. Finishing hogs	161	1,997.4	1,153.5	2,841.2	19	4,592.3	115.5	9,069.1	3	1,633.3	<0	4,121.6
e. Sows	137	464.7	312.2	617.3	5	2,260.5	721.0	3,800.0	0	—	—	—
f. Boars	133	7.2	6.1	8.3	5	5.2	2.9	7.4	0	—	—	—

	n	Mean	Lower	Upper
9.4 How many pigs and hogs owned by your operation were on contract farms operated by a different owner on January 1, 2005?				
a. Nursing pigs	D	(results suppressed)		
b. Weaned pigs	10	2,918.7	1,029.9	4,807.6
c. Feeder pigs	10	4,122.1	569.6	7,674.6
d. Finishing hogs	25	6,577.3	2,891.3	10,263.3
e. Sows	4	7,912.5	<0	25,135.8
f. Boars	3	11.3	<0	31.4

	3 Years Ago				Currently			
	n	Mean	Lower	Upper	n	Mean	Lower	Upper
9.5 How many auctions and buying stations operate for selling pigs and hogs within 200 miles of your operation?								
a. Hog auctions	115	3.3	2.7	3.9	122	2.6	2.1	3.1
b. Buying stations	136	6.3	4.4	8.2	140	4.9	3.2	6.6

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

	3 Years Ago				Currently			
	n	%	Lower	Upper	n	%	Lower	Upper
9.6* For the auction or buying station located closest to your operation, how often does it operate for selling pigs and hogs?								
1. Monthly	3	1.9	0.0	4.4	D	1.7	0.0	4.0
2. Every 2 weeks	3	1.9	0.0	4.4	6	5.0	1.0	8.9
3. Weekly	46	38.3	29.3	47.4	52	40.4	31.6	49.3
4. 2 times per week	D	1.8	0.0	4.2	11	9.2	3.9	14.4
5. 3 to 5 times per week	20	16.9	9.9	23.9	23	18.4	11.4	25.4
6. Daily	53	43.8	34.5	53.0	48	37.1	28.4	45.8
7. Other	D	0.9	0.0	2.6	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
9.7	What were your operation's approximate total gross sales for pigs and hogs during the past year?				
	1. Under $99,999	71	35.2	28.6	41.9
	2. $100,000 to $499,999	71	35.2	28.6	41.9
	3. $500,000 to $999,999	20	10.0	5.8	14.3
	4. $1,000,000 to $2,499,999	18	6.9	3.4	10.4
	5. $2,500,000 to $4,999,999	14	4.9	2.0	7.8
	6. $5,000,000 to $19,999,999	6	0.9	0.0	1.9
	7. $20,000,000 to $49,999,999	4	0.7	0.0	1.7
	8. $50,000,000 to $99,999,999	4	1.6	0.0	3.3
	9. $100,000,000 to $499,999,999	7	3.1	0.7	5.5
	10. $500,000,000 or more	3	1.5	0.0	3.2
	Total		100.0		
9.8	What were your operation's approximate total gross sales for all farm outputs during the past year?				
	1. Under $99,999	38	18.0	12.6	23.3
	2. $100,000 to $499,999	87	43.0	36.2	49.9
	3. $500,000 to $999,999	33	16.3	11.2	21.5
	4. $1,000,000 to $2,499,999	22	9.6	5.6	13.7
	5. $2,500,000 to $9,999,999	21	7.4	3.9	11.0
	6. $10,000,000 to $19,999,999	5	0.3	0.1	0.6
	7. $20,000,000 to $49,999,999	4	0.7	0.0	1.7
	8. $50,000,000 to $99,999,999	0	0.0	NA	NA
	9. $100,000,000 to $499,999,999	6	2.1	0.2	4.1
	10. $500,000,000 or more	5	2.5	0.3	4.6
	Total		99.9†		
9.9	Which of the following best describes your position with this operation?				
	1. Owner	194	89.1	85.0	93.3
	2. Manager	19	6.3	3.1	9.5
	3. Family member (not owner or manager)	5	2.0	0.1	3.9
	4. Other hired employee	4	0.7	0.0	1.7
	5. Other	0	0.0	NA	NA
	6. Partner or co-owner *(write-in response)*	4	1.9	0.0	3.8
	Total		100.0		
9.10	If owner, what is your age?				
	1. Less than 25	0	0.0	NA	NA
	2. 26 to 35	7	3.8	1.0	6.6
	3. 36 to 45	31	16.5	11.1	21.9
	4. 46 to 55	79	41.4	34.2	48.6
	5. 56 to 65	52	26.6	20.2	33.0
	6. Older than 65	23	11.7	7.0	16.3
	Total		100.0		

NA = Confidence interval not calculable. (continued)
† Total does not sum to 100% because of rounding.

Table 6-8. Weighted Responses for the Pork Producer Survey (n = 229) (continued)

		n	%	Lower	Upper
9.11	If owner, what is your education level?				
	1. Less than high school graduate	D	1.1	0.0	2.6
	2. High school graduate/GED	55	29.7	23.0	36.3
	3. Some college or technical school, no degree	51	26.1	19.7	32.5
	4. College graduate	77	40.3	33.1	47.5
	5. Post-graduate	7	2.9	0.5	5.3
	Total		100.1†		
		n	**Mean**	**Lower**	**Upper**
9.12	If owner, what percentage of your total annual household income comes from off-farm sources?	192	28.3	23.9	32.7

D = Results suppressed.
† Total does not sum to 100% because of rounding.

Table 6-9. Use of Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23)

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S2.1a1	How many weaned pigs (including iso-weaned and nursery pigs) did your operation receive or purchase from U.S. sources during the past year?	38	7,054.9	4,452.1	9,657.7	5	134,680.0	<0	401,560.7	43	9,384.7	5,020.6	13,748.8
S2.1a2	How many weaned pigs (including iso-weaned and nursery pigs) did your operation receive or purchase from sources outside the U.S. during the past year?	(results suppressed)				(results suppressed)				(results suppressed)			
S2.1b1	How many feeder pigs did your operation receive or purchase from U.S. sources during the past year?	51	3,211.7	2,146.5	4,276.9	5	93,644.0	<0	327,442.9	56	4,447.5	1,913.2	6,981.8
S2.1b2	How many feeder pigs did your operation receive or purchase from sources outside the U.S. during the past year?	5	5,792.0	2,199.2	9,384.8	0	—	—	—	5	5,792.0	2,199.2	9,384.8

(continued)

Table 6-9. Use of Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small (n = 82)			Large (n = 7)			All Operations (n = 89)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.2 For all pigs received or purchased by your operation during the past year, what were the ownership arrangements (% of head)?									
a. Sole ownership by your operation	65.3	55.0	75.7	57.1	7.7	>100	65.2	55.0	75.5
b. Partner arrangement	7.3	1.8	12.8	14.3	<0	49.2	7.4	2.0	12.8
c. Shared ownership	0.6	<0	1.8	0.0	0.0	0.0	0.6	<0	1.8
d. Joint venture	0.3	<0	0.9	0.0	0.0	0.0	0.3	<0	0.9
e. Owned by integrator or packer (other than your operation)	26.4	16.7	36.1	28.6	<0	73.7	26.5	16.9	36.0
f. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	99.9†			100.0			100.0		
	n	**%**	**Low**	**High**	**n**	**%**	**Low**	**High**	**n**	**%**	**Low**	**High**
Establishments for which 100% are sole ownership	52	63.4	52.8	74.1	4	57.1	7.7	100.0	56	63.3	52.8	73.9

† Total does not sum to 100% because of rounding.

(continued)

Table 6-9. Use of Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

		Small (n = 77)			Large (n = 8)			All Operations (n = 85)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S2.3	What methods are used by your operation for receiving or purchasing pigs (% of head)?									
	a. Auction barns	5.0	0.3	9.7	0.0	0.0	0.0	4.9	0.3	9.5
	b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	c. Dealers or brokers	8.8	2.4	15.2	0.0	0.0	0.0	8.7	2.4	15.0
	d. Direct trade	12.8	5.4	20.2	0.0	0.0	0.0	12.6	5.3	19.9
	e. Procurement or marketing contract	13.2	5.6	20.9	37.1	<0	80.0	13.6	6.0	21.2
	f. Production contract with packer or integrator	16.9	8.3	25.4	25.0	<0	63.7	17.0	8.6	25.4
	g. Production contract with weaner or feeder pig producer	18.2	9.4	27.0	12.5	<0	42.1	18.1	9.4	26.8
	h. Forward contract	1.3	<0	3.9	0.4	<0	1.3	1.3	<0	3.8
	i. Marketing agreement	11.0	4.0	18.1	0.0	0.0	0.0	10.9	4.0	17.8
	j. Internal transfer	8.8	2.4	15.2	25.0	<0	63.7	9.1	2.8	15.4
	k. Other	2.6	<0	6.2	0.0	0.0	0.0	2.6	<0	6.1
	l. Receive through co-op *(write-in response)*	1.3	<0	3.9	0.0	0.0	0.0	1.3	<0	3.8
	Total	99.9†			100.0			100.1†		
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
	Establishments for which 100% are cash or spot market purchases	20	25.6	15.7	35.5	0	—	—	—	20	25.6	15.7	35.5

† Total does not sum to 100% because of rounding.

(continued)

Table 6-9. Use of Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.4* During the past year, what types of pricing methods were used by your operation for purchasing pigs?												
1. Individually negotiated pricing	20	30.3	18.9	41.7	3	42.9	0.0	92.3	23	30.5	19.3	41.7
2. Public auction	6	9.1	2.0	16.2	0	0.0	NA	NA	6	9.0	2.0	16.0
3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	31	47.0	34.6	59.3	3	42.9	0.0	92.3	34	46.9	34.7	59.1
5. Internal transfer	7	10.6	3.0	18.2	3	42.9	0.0	92.3	10	11.1	3.6	18.6
6. Production contract terms	D	27.3	16.2	38.3	D	14.3	0.0	49.2	19	27.1	16.2	37.9
7. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
8. Co-op shares *(write-in response)*	D	3.0	0.0	7.3	0	0.0	NA	NA	D	3.0	0.0	7.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-9. Use of Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.5*	For pigs purchased by your operation during the past year using formula pricing, what was the base price of the formula?												
	1. USDA live quote	5	16.7	2.5	30.8	0	0.0	NA	NA	5	16.4	2.5	30.4
	2. Chicago Mercantile Exchange (CME) lean hog futures	D	60.0	41.4	78.6	D	66.7	0.0	100.0	20	60.1	41.8	78.4
	3. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	4. Cost of production	D	16.7	2.5	30.8	D	66.7	0.0	100.0	7	17.4	3.4	31.3
	5. Other market price	D	6.7	0.0	16.1	0	0.0	NA	NA	D	6.6	0.0	15.9
	6. Other	D	3.3	0.0	10.2	0	0.0	NA	NA	D	3.3	0.0	10.0

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S2.6*	What percentage of pigs purchased during the past year were purchased using a slide?	57	37.0	24.4	49.6	5	10.0	<0	37.8	62	36.7	24.3	49.1
S2.7	For what percentage of pigs purchased during the past year did the buyer (your operation) pay for transportation?	57	43.4	30.7	56.1	5	20.0	<0	75.5	62	43.1	30.6	55.7
S2.8	What percentage of pigs purchased during the past year were under a written agreement (versus oral)?	57	30.7	18.5	42.9	5	100.0	100.0	100.0	62	31.6	19.5	43.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-10. Terms of Procurement or Marketing Contracts for Pork Producers, by Size (Small = 206, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S3.1 With how many pork producers did your operation maintain procurement or marketing contracts for purchasing pigs during the past year?												
1. One	(results suppressed)				(results suppressed)				11	90.3	68.6	100.0
2. Two									D	9.7	0.0	31.4
3. Three to five									0	0.0	NA	NA
4. Six to ten									0	0.0	NA	NA
5. More than ten									0	0.0	NA	NA
Total										100.0		

	Small (n = 9)			Large (n = 2)			All Operations (n = 11)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S3.2 For pigs purchased under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?									
a. Less than 6 months	(results suppressed)			(results suppressed)			21.5	<0	53.8
b. 6 to 11 months							0.0	0.0	0.0
c. 1 to 2 years							0.0	0.0	0.0
d. 3 to 5 years							12.3	<0	36.9
e. 6 to 10 years							12.3	<0	36.9
f. More than 10 years or evergreen							53.9	15.3	92.4
Total							100.0		

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 6-10. Terms of Procurement or Marketing Contracts for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S3.3* Which of the following terms were specified in the procurement or marketing contracts used by your operation during the past year?												
1. Number of pigs to be delivered each specified time period	(results suppressed)				(results suppressed)				9	70.8	37.7	100.0
2. Average weight of pigs									7	51.4	15.3	87.5
3. Quality of pigs									10	80.5	51.7	100.0
4. Producer must sell 100 percent of production to your operation									D	9.7	0.0	31.4
5. Minimum guaranteed price for pigs									4	38.9	3.5	74.3
6. Includes a ledger account									0	0.0	NA	NA
7. Includes a price window									D	19.5	0.0	48.3
8. Specifications for production facilities									D	9.7	0.0	31.4
9. Breeding/genetics used by producer									6	50.0	13.8	86.2
10. Feeding programs used by producer									4	38.9	3.5	74.3
11. Producer must be Pork Quality Assurance (PQA) certified									6	50.0	13.8	86.2
12. Allows your operation to inspect and monitor production facilities									4	30.5	0.0	63.8
13. Includes definition of viable or acceptable pig									8	61.1	25.7	96.5
14. Price adjustment for single or multiple source pigs									0	0.0	NA	NA
15. None of the above									D	9.7	0.0	31.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-11. Terms of Production Contracts for Pork Producers, by Size (Small = 206, Large = 23)

		Small (n = 33)			Large (n = 4)			All Operations (n = 37)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S4.1	What types of contracts did your operation have during the past year for the production of pigs or hogs?									
	a. Farrow to wean	10.6	0.0	21.2	21.0	<0	77.7	10.8	0.3	21.2
	b. Farrow to feeder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	c. Farrow to finish	1.5	<0	4.6	0.0	0.0	0.0	1.5	<0	4.5
	d. Wean to feeder	5.6	<0	12.6	9.0	<0	25.7	5.6	<0	12.5
	e. Wean to finish	25.0	9.6	40.4	2.5	<0	10.5	24.6	9.6	39.7
	f. Feeder to finish	57.3	40.2	74.4	67.5	3.4	<0	57.5	40.7	74.2
	g. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	100.0			100.0			100.0		
		n	%	Lower Upper	n	%	Lower Upper	n	%	Lower Upper
S4.2[a]	What was the length of the feeder-to-finish production contracts used by your operation during the past year?									
	1. One batch of pigs or hogs at a time	D	31.8	10.7 53.0	D	16.7	0.0 59.5	8	31.3	11.1 51.4
	2. Less than 1 year	0	0.0	NA NA	0	0.0	NA NA	0	0.0	NA NA
	3. 1 to 2 years	D	9.1	0.0 22.1	D	16.7	0.0 59.5	3	9.4	0.0 21.9
	4. 3 to 5 years	D	36.4	14.5 58.2	D	16.7	0.0 59.5	9	35.6	14.8 56.4
	5. 6 to 10 years	D	22.7	3.7 41.7	D	33.3	0.0 87.5	7	23.1	4.9 41.3
	6. More than 10 years	D	4.5	0.0 14.0	D	16.7	0.0 59.5	D	5.0	0.0 14.1

D = Results suppressed.
NA = Confidence interval not calculable.
[a] Results suppressed for all segments except feeder to finish.

(continued)

Table 6-11. Terms of Production Contracts for Pork Producers, by Size (Small = 206, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.3[a]	What was the compensation formula for feeder-to-finish production contracts used by your operation during the past year?												
1.	Payment per square foot of housing for each specified time period	8	38.1	15.4	60.7	3	60.0	0.0	100.0	11	38.8	17.1	60.6
2.	Payment per pig or hog delivered	D	47.6	24.3	70.9	D	20.0	0.0	75.5	11	46.7	24.4	69.1
3.	Payment per pound of weight gain	D	28.6	7.5	49.6	D	20.0	0.0	75.5	7	28.3	8.1	48.5
4.	Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
S4.4[a]	What type of efficiency adjustments were used as part of the compensation formula for feeder-to-finish production contracts used by your operation during the past year?												
1.	Feed conversion efficiency	D	76.9	50.4	100.0	D	66.7	0.0	100.0	12	76.6	51.2	100.0
2.	Livability/survivability	D	46.2	14.8	77.5	D	66.7	0.0	100.0	8	46.8	16.8	76.8
3.	Preferred weight category	5	38.5	7.9	69.1	0	0.0	NA	NA	5	37.2	8.1	66.4
4.	Comparison between your operation's performance and other growers' performance	4	30.8	1.7	59.8	0	0.0	NA	NA	4	29.8	2.1	57.5
5.	Comparison between your operation's performance and a fixed standard	D	7.7	0.0	24.5	D	33.3	0.0	100.0	D	8.5	0.0	24.6
6.	Pigs weaned per sow	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7.	Back fat measurement within target range	D	15.4	0.0	38.1	0	0.0	NA	NA	D	14.9	0.0	36.5
8.	Quality defects (for example, abscesses or injuries)	D	7.7	0.0	24.5	0	0.0	NA	NA	D	7.4	0.0	23.4
9.	Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

Note: Question 4.4 only applies to respondents that use efficiency adjustments.

(continued)

D = Results suppressed.

NA = Confidence interval not calculable.

[a] Results suppressed for all segments except feeder to finish.

Table 6-11. Terms of Production Contracts for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.5[a] Which of the following terms were specified in the feeder-to-finish production contracts used by your operation during the past year?												
1. Specifies minimum number of batches of pigs or hogs for each specified time period	4	26.7	1.3	52.0	0	0.0	NA	NA	4	25.7	1.7	49.7
2. Specifies genetics of pigs or hogs	D	13.3	0.0	32.8	0	0.0	NA	NA	D	12.8	0.0	31.3
3. Offers minimum guaranteed payment for each batch	9	60.0	31.9	88.1	3	75.0	0.0	100.0	12	60.5	33.9	87.2
4. Specifies that insurance premiums for pig or hog mortality are paid by grower	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
5. Requires mandatory facilities/equipment upgrades	D	6.7	0.0	21.0	0	0.0	NA	NA	D	6.4	0.0	20.0
6. Offers payment incentives for facilities/equipment upgrades	0	0.0	NA	NA	D	25.0	0.0	100.0	D	0.9	0.0	2.8
7. Offers subsidized financing for facilities/equipment upgrades	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
8. Requires mandatory arbitration for conflict resolution	D	6.7	0.0	21.0	D	25.0	0.0	100.0	D	7.3	0.0	21.0
9. Allows contractor to change compensation formula without grower's consent	D	6.7	0.0	21.0	D	25.0	0.0	100.0	D	7.3	0.0	21.0
10. Includes provision for dead on arrival, condemned, lightweight, or culled pigs or hogs	D	40.0	11.9	68.1	D	50.0	0.0	100.0	8	40.4	13.7	67.1
11. Includes definition of viable or acceptable pig	D	13.3	0.0	32.8	D	50.0	0.0	100.0	4	14.7	0.0	33.3
12. Other	0	0.0	NA	NA	D	25.0	0.0	100.0	D	0.9	0.0	2.8

D = Results suppressed.
NA = Confidence interval not calculable.
[a] Results suppressed for all segments except feeder to finish.

Table 6-12. Reasons for Using Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.1* What are the three most important reasons why your operation only uses the cash or spot market for purchasing pigs?	(results suppressed)				(results suppressed)							
1. Can purchase pigs at lower prices									11	45.6	24.2	66.9
2. Reduces risk exposure									6	21.3	3.9	38.7
3. Reduces costs of activities for buying pigs									4	16.6	0.6	32.6
4. Reduces price variability for pigs									D	8.3	0.0	20.1
5. Reduces potential liability and litigation concerns									0	0.0	NA	NA
6. Increases supply chain information									0	0.0	NA	NA
7. Secures higher quality pigs									5	17.2	1.2	33.1
8. Facilitates or increases market access									D	4.1	0.0	12.7
9. Allows for adjusting operations quickly in response to changes in market conditions									8	33.1	12.9	53.4
10. Does not require identifying and recruiting long-term contracting partners									D	4.1	0.0	12.7
11. Does not require managing complex and costly contracts									3	12.4	0.0	26.6
12. Eliminates possible negative public perceptions about use of contracts									0	0.0	NA	NA
13. Allows for independence, complete control, and flexibility of own business									18	71.0	51.5	90.5
14. Enhances ability to benefit from favorable market conditions									8	33.1	12.9	53.4
15. Other									D	4.1	0.0	12.7

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-12. Reasons for Using Purchase Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.2* What are the three most important reasons why your operation uses alternative purchase methods for purchasing pigs?												
1. Can purchase pigs at lower prices	3	15.8	0.0	33.8	0	0.0	NA	NA	3	15.2	0.0	32.4
2. Reduces risk exposure	D	63.2	39.3	87.0	D	20.0	0.0	75.5	13	61.6	38.8	84.4
3. Reduces costs of activities for buying pigs	D	15.8	0.0	33.8	D	20.0	0.0	75.5	4	15.9	0.0	33.2
4. Reduces price variability for pigs	10	52.6	27.9	77.4	3	60.0	0.0	100.0	13	52.9	29.3	76.5
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Secures higher quality pigs	8	42.1	17.7	66.6	4	80.0	24.5	100.0	12	43.5	20.1	66.8
8. Facilitates or increases market access	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
9. Allows for food safety and biosecurity assurances	0	0.0	NA	NA	D	20.0	0.0	75.5	D	0.7	0.0	2.2
10. Allows for product traceability	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
11. Improves week-to-week supply management	D	10.5	0.0	25.7	D	40.0	0.0	100.0	4	11.6	0.0	26.2
12. Improves efficiency of operations due to animal uniformity	D	42.1	17.7	66.6	D	40.0	0.0	100.0	10	42.0	18.7	65.4
13. Reduces investment requirements for facilities and equipment	3	15.8	0.0	33.8	0	0.0	NA	NA	3	15.2	0.0	32.4
14. Reduces operating capital requirements	D	15.8	0.0	33.8	D	20.0	0.0	75.5	4	15.9	0.0	33.2
15. Enhances access to credit	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
16. Other	3	15.8	0.0	33.8	0	0.0	NA	NA	3	15.2	0.0	32.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23)

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S6.1a	How many weaned pigs did your operation sell or ship during the past year?	18	10,835.9	4,057.2	17,614.7	7	62,812.7	<0	132,801.7	25	13,543.7	6,529.7	20,557.6
S6.1b	How many feeder pigs did your operation sell or ship during the past year?	30	4,397.4	1,187.7	7,607.1	7	45,382.1	<0	135,467.8	37	5,705.7	1,806.3	9,605.1
S6.1c	How many market hogs did your operation sell or ship during the past year?	182	4,252.2	3,274.2	5,230.2	16	171,109.5	34,014.2	308,204.8	198	6,299.8	4,468.1	8,131.4

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small (n = 189)			Large (n = 23)			All Operations (n = 212)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S6.2 What methods for selling or shipping pigs and hogs were used by your operation during the last year (% of head)?									
a. Auction barns	4.7	1.9	7.4	0.2	<0	0.7	4.6	1.9	7.3
b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	9.0	5.0	13.0	10.0	<0	22.4	9.0	5.1	13.0
d. Direct trade	48.1	41.2	54.9	12.7	1.0	24.3	47.5	40.7	54.2
e. Procurement or marketing contract	8.8	4.8	12.7	17.0	2.2	31.7	8.9	5.0	12.7
f. Production contract	7.1	3.5	10.8	21.7	3.5	40.0	7.4	3.8	11.0
g. Forward contract	2.5	0.9	4.1	4.3	<0	13.4	2.6	1.0	4.2
h. Marketing agreement	15.4	10.3	20.5	29.7	10.5	49.0	15.6	10.7	20.6
i. Internal transfer	1.9	0.1	3.8	4.3	<0	13.4	2.0	0.1	3.8
j. Other	0.9	<0	2.2	0.0	0.0	0.0	0.9	<0	2.1
k. Sold through co-op *(write-in response)*	1.6	<0	3.4	0.0	0.0	0.0	1.6	<0	3.3
Total	100.0			99.9†			100.1†		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market sales	109	57.7	50.6	64.8	4	17.4	0.6	34.2	113	57.0	50.0	64.0

† Total does not sum to 100% because of rounding.

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.3* What types of pricing methods were used by your operation for selling pigs and hogs during the last year?												
1. Individually negotiated pricing	75	48.7	40.7	56.7	6	40.0	11.9	68.1	81	48.6	40.7	56.5
2. Public auction	D	13.6	8.2	19.1	D	6.7	0.0	21.0	22	13.5	8.1	18.9
3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	81	52.6	44.6	60.6	11	73.3	48.0	98.7	92	52.9	45.0	60.7
5. Internal transfer	D	0.6	0.0	1.9	0	0.0	NA	NA	D	0.6	0.0	1.9
6. Production contract terms	3	1.9	0.0	4.2	4	26.7	1.3	52.0	7	2.3	0.1	4.5
7. Other	D	0.6	0.0	1.9	0	0.0	NA	NA	D	0.6	0.0	1.9

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.4a* For weaned pigs sold by your operation during the past year using formula pricing, what was the base price of the formula?	(results suppressed)				(results suppressed)							
1. Individual or multiple packing plant average price									D	17.7	0.0	43.9
2. USDA live quote									D	8.9	0.0	28.4
3. USDA dressed or carcass quote									0	0.0	NA	NA
4. Auction prices									4	35.5	2.8	68.1
5. Chicago Mercantile Exchange (CME) lean hog futures									6	38.0	5.3	70.6
6. Subscription service price (for example, Urner Barry)									0	0.0	NA	NA
7. Corn or soybean meal futures									D	8.9	0.0	28.4
8. Cost of production									0	0.0	NA	NA
9. Retail price									0	0.0	NA	NA
10. Other market price									0	0.0	NA	NA
11. Other									D	8.9	0.0	28.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.4b* For feeder pigs sold by your operation during the past year using formula pricing, what was the base price of the formula?	(results suppressed)				(results suppressed)							
1. Individual or multiple packing plant average price									0	0.0	NA	NA
2. USDA live quote									5	32.4	6.4	58.4
3. USDA dressed or carcass quote									D	13.0	0.0	31.7
4. Auction prices									9	58.4	31.4	85.3
5. Chicago Mercantile Exchange (CME) lean hog futures									D	1.8	0.0	3.8
6. Subscription service price (for example, Urner Barry)									0	0.0	NA	NA
7. Corn or soybean meal futures									D	6.5	0.0	20.2
8. Cost of production									0	0.0	NA	NA
9. Retail price									D	7.4	0.0	21.3
10. Other market price									0	0.0	NA	NA
11. Other									D	6.5	0.0	20.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.4c* For market hogs sold by your operation during the past year using formula pricing, what was the base price of the formula?												
1. Individual or multiple packing plant average price	46	50.5	40.1	61.0	3	23.1	0.0	49.6	49	50.0	39.7	60.3
2. USDA live quote	16	17.6	9.6	25.6	4	30.8	1.7	59.8	20	17.8	10.0	25.7
3. USDA dressed or carcass quote	27	29.7	20.1	39.2	6	46.2	14.8	77.5	33	30.0	20.6	39.4
4. Auction prices	6	6.6	1.4	11.8	0	0.0	NA	NA	6	6.5	1.4	11.5
5. Chicago Mercantile Exchange (CME) lean hog futures	D	12.1	5.3	18.9	D	15.4	0.0	38.1	13	12.2	5.5	18.8
6. Subscription service price (for example, Urner Barry)	D	1.1	0.0	3.3	0	0.0	NA	NA	D	1.1	0.0	3.2
7. Corn or soybean meal futures	D	2.2	0.0	5.3	0	0.0	NA	NA	D	2.2	0.0	5.2
8. Cost of production	D	3.3	0.0	7.0	D	15.4	0.0	38.1	5	3.5	0.0	7.2
9. Retail price	D	2.2	0.0	5.3	D	7.7	0.0	24.5	3	2.3	0.0	5.3
10. Other market price	D	2.2	0.0	5.3	0	0.0	NA	NA	D	2.2	0.0	5.2
11. Other	D	1.1	0.0	3.3	0	0.0	NA	NA	D	1.1	0.0	3.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-13. Use of Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.5* What types of valuation methods were used by your operation for selling market hogs during the last year?												
1. Liveweight	52	35.6	27.8	43.5	4	30.8	1.7	59.8	56	35.6	27.8	43.3
2. Carcass weight not dependent on merit	D	4.8	1.3	8.3	D	7.7	0.0	24.5	8	4.8	1.4	8.3
3. Carcass weight dependent on merit	102	69.9	62.3	77.4	12	92.3	75.5	100.0	114	70.1	62.7	77.6
4. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

	Small				Large				All Operations			
	n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S6.6 What percentage of pigs and hogs sold during the past year were sold using a slide?	153	27.5	20.5	34.5	16	55.9	28.8	83.1	169	27.9	21.1	34.8
S6.7 For what percentage of pigs and hogs sold during the past year did the seller (your operation) pay for transportation?	154	67.6	60.3	74.9	16	45.9	19.5	72.4	170	67.3	60.1	74.5
S6.8 What percentage of pigs and hogs sold during the past year were under a written agreement (versus oral)?	154	16.8	11.2	22.5	16	61.2	37.2	85.2	170	17.5	11.9	23.1

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-14. Terms of Procurement or Marketing Contracts for Pork Producers, by Size (Small = 206, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.1 With how many buyers did your operation maintain procurement or marketing contracts during the past year?												
1. One	11	73.3	48.0	98.7	3	75.0	0.0	100.0	14	73.4	49.3	97.5
2. Two	3	20.0	0.0	42.9	0	0.0	NA	NA	3	19.3	0.0	41.0
3. Three to five	D	6.7	0.0	21.0	D	25.0	0.0	100.0	D	7.3	0.0	21.0
4. Six to ten	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
5. More than ten	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6. Total		100.0				100.0				100.0		

	Small (n = 14)			Large (n = 4)			All Operations (n = 18)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S7.2 For pigs and hogs sold under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?									
a. Less than 6 months	9.5	<0	25.4	0.0	0.0	0.0	9.1	<0	24.1
b. 6 to 11 months	0.0	0.0	0.0	52.5	<0	>100	2.0	<0	4.3
c. 1 to 2 years	42.9	13.2	72.5	25.0	<0	>100	42.2	14.1	70.2
d. 3 to 5 years	21.4	<0	46.0	22.5	<0	94.1	21.5	<0	44.7
e. 6 to 10 years	7.1	<0	22.6	0.0	0.0	0.0	6.9	<0	21.4
f. More than 10 years or evergreen	19.1	<0	41.4	0.0	0.0	0.0	18.3	<0	39.4
Total	100.0			100.0			100.0		

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 6-14. Terms of Procurement or Marketing Contracts for Pork Producers, by Size (Small = 206, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.3*	Which of the following terms were specified in the procurement or marketing contracts used by your operation during the past year?												
	1. Number of pigs or hogs to be delivered each specified time period	12	85.7	64.7	100.0	4	100.0	100.0	100.0	16	86.3	66.5	100.0
	2. Average weight of pigs or hogs	D	42.9	13.2	72.5	D	50.0	0.0	100.0	8	43.1	15.1	71.2
	3. Quality of pigs or hogs	D	50.0	20.0	80.0	D	50.0	0.0	100.0	9	50.0	21.6	78.4
	4. Yield percentage of market hogs	D	21.4	0.0	46.0	D	25.0	0.0	100.0	4	21.6	0.0	44.8
	5. Producer must sell 100 percent of production to your operation	3	21.4	0.0	46.0	0	0.0	NA	NA	3	20.6	0.0	43.8
	6. Minimum guaranteed price for pigs or hogs	D	35.7	7.0	64.4	D	25.0	0.0	100.0	6	35.3	8.1	62.5
	7. Includes a ledger account	D	7.1	0.0	22.6	0	0.0	NA	NA	D	6.9	0.0	21.4
	8. Includes a price window	D	21.4	0.0	46.0	D	25.0	0.0	100.0	4	21.6	0.0	44.8
	9. Specifications for production facilities	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	10. Breeding/genetics used by producer	D	14.3	0.0	35.3	0	0.0	NA	NA	D	13.7	0.0	33.5
	11. Feeding programs used by producer	D	7.1	0.0	22.6	0	0.0	NA	NA	D	6.9	0.0	21.4
	12. PSE requirements	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	13. Producer must be Pork Quality Assurance (PQA) certified	10	71.4	44.4	98.5	4	100.0	100.0	100.0	14	72.5	47.0	98.1
	14. Allows packer to inspect and monitor production facilities	D	14.3	0.0	35.3	D	25.0	0.0	100.0	3	14.7	0.0	34.6
	15. Allows producer to visit and monitor packing facilities	D	7.1	0.0	22.6	D	25.0	0.0	100.0	D	7.8	0.0	22.5
	16. Allows packer to change carcass pricing grid without producer's consent	D	50.0	20.0	80.0	D	50.0	0.0	100.0	9	50.0	21.6	78.4
	17. Includes definition of viable or acceptable pig or hog	7	50.0	20.0	80.0	3	75.0	0.0	100.0	10	51.0	22.6	79.3
	18. Price adjustment for single or multiple sources of pigs or hogs	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	19. None of the above	D	7.1	0.0	22.6	0	0.0	NA	NA	D	6.9	0.0	21.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-15. Reasons for Using Sales Methods for Pork Producers, by Size (Small = 206, Large = 23)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S8.1* What are the three most important reasons why your operation only uses the cash or spot market for selling pigs and hogs?												
1. Can sell pigs and hogs at higher prices	34	35.1	25.4	44.7	3	100.0	100.0	100.0	37	35.3	25.7	45.0
2. Reduces risk exposure	D	11.3	4.9	17.8	D	33.3	0.0	100.0	12	11.4	5.0	17.8
3. Reduces costs of activities for selling pigs and hogs	20	20.6	12.4	28.8	0	0.0	NA	NA	20	20.5	12.4	28.7
4. Reduces price variability for pigs and hogs	3	3.1	0.0	6.6	0	0.0	NA	NA	3	3.1	0.0	6.6
5. Reduces potential liability and litigation concerns	3	3.1	0.0	6.6	0	0.0	NA	NA	3	3.1	0.0	6.6
6. Increases supply chain information	0	0.0	NA	NA	D	33.3	0.0	100.0	D	0.1	0.0	0.4
7. Allows for sale of higher quality pigs	D	9.3	3.4	15.2	D	66.7	0.0	100.0	11	9.5	3.7	15.4
8. Facilitates or increases market access	14	14.4	7.3	21.6	0	0.0	NA	NA	14	14.4	7.3	21.5
9. Allows for adjusting operations quickly in response to changes in market conditions	D	19.6	11.5	27.6	D	33.3	0.0	100.0	20	19.6	11.6	27.7
10. Does not require identifying and recruiting long-term contracting partners	D	16.5	9.0	24.0	D	33.3	0.0	100.0	17	16.6	9.1	24.1
11. Does not require managing complex and costly contracts	24	24.7	16.0	33.5	0	0.0	NA	NA	24	24.6	15.9	33.3
12. Eliminates possible negative public perceptions about use of contracts	D	2.1	0.0	4.9	0	0.0	NA	NA	D	2.1	0.0	4.9
13. Allows for independence, complete control, and flexibility of own business	78	80.4	72.4	88.5	0	0.0	NA	NA	78	80.1	72.1	88.1
14. Enhances ability to benefit from favorable market conditions	40	41.2	31.3	51.2	0	0.0	NA	NA	40	41.1	31.1	51.0
15. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
16. No other choice *(write-in response)*	D	1.0	0.0	3.1	0	0.0	NA	NA	D	1.0	0.0	3.1
17. Can easily sell small number of animals *(write-in response)*	7	7.2	2.0	12.5	0	0.0	NA	NA	7	7.2	2.0	12.4
18. Convenience *(write-in response)*	3	3.1	0.0	6.6	0	0.0	NA	NA	3	3.1	0.0	6.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-15. Reasons for Using Sales Methods for Pork Producers, by Size (Small = 206, Large = 23) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S8.2*	What are the three most important reasons why your operation uses alternative sales methods for selling pigs and hogs?												
1.	Can sell pigs and hogs at higher prices	4	22.2	0.9	43.5	0	0.0	NA	NA	4	21.4	1.2	41.6
2.	Reduces risk exposure	D	77.8	56.5	99.1	D	40.0	0.0	100.0	16	76.4	56.1	96.6
3.	Reduces costs of activities for selling pigs and hogs	D	22.2	0.9	43.5	D	40.0	0.0	100.0	6	22.9	2.6	43.2
4.	Reduces price variability for pigs and hogs	D	44.4	19.0	69.9	D	40.0	0.0	100.0	10	44.3	20.1	68.5
5.	Reduces potential liability and litigation concerns	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6.	Increases supply chain information	D	5.6	0.0	17.3	D	20.0	0.0	75.5	D	6.1	0.0	17.3
7.	Allows for sale of higher quality pigs	D	11.1	0.0	27.2	0	0.0	NA	NA	D	10.7	0.0	25.9
8.	Facilitates or increases market access	3	16.7	0.0	35.7	3	60.0	0.0	100.0	6	18.3	0.1	36.5
9.	Increases flexibility in responding to consumer demand	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
10.	Allows for product branding in retail sales	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
11.	Allows for food safety and biosecurity assurances	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
12.	Allows for product traceability	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
13.	Improves week-to-week production management	D	16.7	0.0	35.7	D	20.0	0.0	75.5	4	16.8	0.0	34.9
14.	Secures a buyer for pigs and hogs	D	38.9	13.9	63.8	D	40.0	0.0	100.0	9	38.9	15.2	62.7
15.	Provides detailed carcass data	D	16.7	0.0	35.7	D	20.0	0.0	75.5	4	16.8	0.0	34.9
16.	Enhances access to credit	D	11.1	0.0	27.2	D	20.0	0.0	75.5	3	11.4	0.0	26.8
17.	Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

6.3 LAMB PRODUCERS

Table 6-16 provides weighted tabulations for all survey questions for lamb producers (n = 302). Tables 6-17 through 6-22 provide weighted tabulations for selected questions by size (n = 267 for small lamb producers and n = 35 for large lamb producers).

6.3.1 Characteristics of Lamb Producer Operations

Most operations identified themselves as lamb producers (i.e., lambing operations) (94%) and some as lamb feeder or feedlot operations (22%). Thus, some lamb producers also conduct feeding operations. For operations that reported having lambs in inventory on January 1, 2005, two-thirds had fewer than 100 lambs, and 17% had more than 500 lambs. (See Table 6-16, Questions 1.2 and 8.3.)

The majority of lamb producers can be characterized as independent businesses that do not participate in alliances, marketing agreements, or certification programs.

The majority of lamb producers can be characterized as independent businesses that do not participate in alliances, marketing agreements, or certification programs. For example, 88% of producers did not participate in any type of certification program. For the 12% of producers who did participate in alliances, a variety of alliances were used. (See Table 6-16, Questions 1.3 and 1.4.)

Producers identified an average of four auctions operating within a 200-mile radius of their location. The majority of the auctions closest to the operation have sales at least weekly. (See Table 6-16, Questions 8.4 and 8.5.)

For most operations, the owner completed the questionnaire. Of these, the majority of respondents were over 45 years of age. Nearly one-half have a college degree. Almost 86% of operations reported gross lamb sales of less than $99,999, and almost 96% had total gross lamb sales of less than $499,999. Approximately 79% of operations reported total gross farm sales of less than $99,999, 16% reported gross farm sales between $100,000 and $999,999, and 5% reported gross farm sales of more than $999,999. For operations in which the owner completed the questionnaire, almost 55% of their household income came from off-farm sources. (See Table 6-16, Questions 8.6 through 8.11.)

6.3.2 Methods for Purchasing or Receiving Lambs by Lamb Producers

Relatively few of the operations surveyed purchased lambs. This is because the respondents were lambing operations or feeders that self-produce their feeder lambs or only custom feed. Operations that purchased lambs bought an average of 10,368 lambs during the past year. More than half of these operations purchased fewer than 500 lambs during the past year. (See Table 6-16, Question 2.1.)

Nearly 85% of the lambs received were owned solely by the operation, 8% were under partner arrangements, and 7% were not purchased but delivered to the operation for custom feeding.[8] For 74% of operations, all of their lambs were owned solely by the operation during the past year. Operations' ownership arrangements were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 6-16, Question 2.2.)

Most lambs were purchased through spot market transactions. The most frequently cited pricing methods were individually negotiated pricing and public auction.

For 83% of the operations that received lambs, all of the lambs received were from spot market transactions. During the past year, 49% of lamb purchases were through direct trade, 26% through auctions, and 13% through dealers/brokers. Five percent were delivered for custom feeding, and 6% of purchases were conducted using formula pricing or marketing agreements. As in the cattle industry, there appears to be a slight trend away from auction markets and a slightly increased use of other types of cash market transactions such as direct trade. (See Table 6-16, Question 2.3.)

For operations that purchased lambs, several pricing methods were employed. The most frequently cited pricing methods were individually negotiated pricing (78% of operations) and public auction (53%).[9] Less than 8% of operations used formula pricing. (See Table 6-16, Questions 2.4 and 2.5.)

Lamb buyers paid transportation costs in 71% of the purchase transactions. Few lambs were purchased under a written agreement (8% of the total number of lambs sold). For lambs purchased under a preexisting agreement, the agreement was

[8] These values were computed as the mean percentage of head weighted by the number of eligible operations. Other reported means were computed similarly (i.e., weighted by the number of eligible operations).

[9] Respondents could select multiple responses.

typically less than 6 months. Nearly 73% of lambs purchased were scheduled for delivery within 2 weeks; another 14% were scheduled for delivery 3 to 4 weeks in advance. (See Table 6-1, Questions 3.1 through 3.4.)

Producers that used only spot market transactions were asked to identify the three most important reasons for using the spot market. The three most frequently selected choices emphasize the business philosophy of the manager. Sixty-three percent identified "Allows for independence, complete control, and flexibility of own business" as an important reason for using the spot market; 50% chose "Secures higher quality lambs," and 32% chose "Allows for adjusting operations quickly in response to changes in market conditions." Because the number of lamb producers that use AMAs is very small, we cannot characterize their reasons for using AMAs. (See Table 6-16, Questions 4.1 and 4.2.)

6.3.3 Methods for Selling or Shipping Lambs by Lamb Producers

Most lambs were sold through spot market transactions. Producers' methods for selling lambs were very similar 3 years ago and are not expected to change much within the next 3 years.

During the past year, operations that sold feeder lambs sold an average of 561 feeder lambs. Operations that sold slaughter lambs sold an average of 137 slaughter lambs weighing less than 105 pounds, and 2,218 slaughter lambs weighing 105 pounds or more. About 60% or more of operations sold fewer than 100 head. More than 41% of the lambs sold were sent through auction markets, 31% through direct trade, and 11% through a dealer or broker. About 16% were sold or shipped through some type of AMA. During the past year, nearly 78% of operations sold all of their lambs through spot market transactions. Producers' methods for selling lambs were very similar 3 years ago and are not expected to change much within the next 3 years. (See Table 6-16, Questions 5.1 and 5.2.)

Two pricing methods dominate lamb sales. Lamb prices were primarily determined through public auctions (57% of operations) or individual negotiations (51%). For operations using formula pricing with a grid, most prices were based on an individual or multiple-plant average price (39%). USDA-reported prices, retail prices, and other market prices also were used as bases for pricing formulas. For operations that sell slaughter lambs, the most frequently cited valuation methods were liveweight (75%), followed by per-head valuation (24%).

Producers expect no change in valuation methods in the next 3 years. (See Table 6-16, Questions 5.3 through 5.5.)

For more than one-half of lambs sold during the past year, the seller reported paying transportation costs. Less than 7% of lambs were sold under a written agreement. For lambs sold under a preexisting agreement, the agreement was typically less than 6 months. Most deliveries (66%) occurred within 7 days, and 16% were delivered within 8 to 14 days. (See Table 6-16, Questions 6.1 through 6.4.)

As with purchasing lambs, the most frequently cited reason for using only cash markets to sell lambs was that it "Allows for independence, complete control, and flexibility of own business" (61%), followed by "Can sell lambs at higher prices" (44%) and then "Reduces costs of activities for selling lambs" (33%). The most cited reason for using AMAs to sell lambs was "Can sell lambs at higher prices" (67%), followed by "Secures a buyer for lambs" (46%), and then "Reduces risk exposure" (41%). Note that producers using only the cash market and those using AMAs both identified selling lambs at higher prices as a reason for using their respective methods. (See Table 6-16, Questions 7.1 and 7.2.)

6.3.4 Lamb Producers' Marketing Practices, by Size of Operation

During the past year, large producers purchased, on average, almost seven times more lambs than small producers purchased (36,500 versus 5,400). Almost 77% of small producers solely owned all of their lambs, compared with 57% of large producers. For large producers, 59% of lambs were solely owned, 14% were owned under a partner arrangement, and 26% were delivered for custom feeding. (See Table 6-17, Questions S2.1 and S2.2.)

Nearly 85% of small producers and 71% of large producers purchased all of their lambs through spot market transactions. Small producers had a greater reliance on auctions than large producers.

Nearly 85% of small producers and 71% of large producers purchased all of their lambs through spot market transactions. Small producers had a greater reliance on auctions than large producers. For large producers, 28% of lambs were delivered for custom feeding and the rest were purchased through spot market transactions. Both small and large producers primarily used individually negotiated pricing and public auctions to price lambs. (See Table 6-17, Questions S2.3 and S2.4.)

Small producers paid to transport more of their lambs compared with large producers (73% versus 56% of transactions). Few small producers (7% of transactions) and large producers (14% of transactions) used written agreements. For lambs purchased under a contract, most were under an agreement of less than 6 months. Small producers scheduled 75% of purchased lambs to be delivered in less than 2 weeks, while large producers scheduled 63% in this time frame. Large producers scheduled 29% of purchased lambs to be delivered between 5 and 12 weeks in advance; small producers scheduled 11% in this time frame. (See Table 6-18.)

Both large and small producers reported similar reasons for only using the spot market for purchasing lambs, with "Allows for independence, complete control, and flexibility of own business," as the most frequently cited reason. Because the number of producers in each size category who use AMAs is very small, we cannot compare their reasons for using AMAs. (See Table 6-19.)

For selling lambs, small producers had a much greater reliance on the spot market compared with large producers. Nearly 81% of small producers and 36% of large producers sold all their lambs through spot market transactions during the past year.

For selling lambs, small producers had a much greater reliance on the spot market compared with large producers. Nearly 81% of small producers and 36% of large producers sold all their lambs through spot market transactions during the past year. Large producers sold 44% of their lambs through the spot market, 25% through forward contracts, and 11% through marketing agreements. Eleven percent of lambs were custom fed. (See Table 6-20, Question S5.2.)

Small producers (60% of operations) were more likely than large producers (15%) to use public auctions to price lambs. Individual negotiation was frequently used by small producers (51%) and large producers (61%) to price lambs. (See Table 6-20, Question S5.3.)

For operations that sell slaughter lambs, liveweight was the most frequently cited valuation method among small producers (76%) and large producers (53%). More than one-half of large producers sold lambs on a carcass weight basis with grid pricing, compared with only 5% of small producers. (See Table 6-20, Question S5.5.)

Small producers paid to transport more of their lambs compared with large producers (54% versus 32% of transactions). Use of a written agreement was more prevalent for large producers than for small producers (25% versus 5% of transactions). For large producers, most contracts were for

less than 6 months. As with purchases, large producers scheduled deliveries farther in advance than did small producers; 69% of lambs sold by small producers were scheduled for delivery within 7 days. About one-third of lambs sold by large producers were scheduled for delivery within 7 days, 16% within 8 to 14 days, and 32% more than 1 month in advance. (See Table 6-21.)

Small and large producers had similar reasons for only using the cash market for selling lambs. For both small and large producers, the most frequently cited reason was "Allows for independent, complete control, and flexibility of own business." Small and large producers had somewhat different reasons for using AMAs for selling lambs. Seventy-two percent of small producers versus 53% of large producers mainly used AMAs to sell lambs at higher prices. Sixty-five percent of large producers versus 32% of small producers mainly used AMAs to reduce risk exposure. (See Table 6-22.)

6.3.5 Lamb Producer Survey Summary

Most operations described themselves as lamb producers and nearly one-fourth also operated feedlots. The majority of operations can be characterized as independent businesses that do not participate in alliances, marketing agreements, or certification programs. About 83% of operations received all of their lambs through spot market transactions. The use of AMAs for purchasing lambs was not widespread among small or large producers. However, custom feeding was generally more common among large producers than among small producers. Small and large producers value the cash market because they believe it allows for greater independence and secures higher quality lambs.

Small and large lamb producers value the cash market because they believe it allows for greater independence and secures higher quality lambs.

The use of the cash market for selling lambs was more widespread among small producers than among large producers. Nearly 81% of small producers and 36% of large producers sold all their lambs through spot market transactions during the past year. Small and large producers had differing reasons for using AMAs. Small producers believe that AMAs allow them to sell lambs at higher prices and large producers believe that AMAs reduce risk exposure.

Compared with small producers, large producers were less likely to incur transportation costs, used written contracts more often, and scheduled delivery more than 2 weeks ahead of time for lamb purchases and sales.

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302)

	n	%	Lower	Upper
1.2* Which of the following describes your operation during the past year?				
1. Lamb producer	282	93.6	90.8	96.4
2. Lamb feeder or feedlot	69	22.3	17.5	27.0
3. Other	4	1.4	0.0	2.8
4. Wool producer *(write-in response)*	3	1.0	0.0	2.2
5. Seed stock producer *(write-in response)*	7	2.4	0.6	4.2
1.3* What types of certification programs did your operation participate in during the past year?				
1. None	243	87.5	83.7	91.4
2. Kosher certification	5	1.7	0.2	3.2
3. Halal certification	3	1.0	0.0	2.1
4. Organic certification	3	1.1	0.0	2.4
5. Animal welfare certification	D	0.2	0.0	0.7
6. Third-party certification of breed or livestock quality	8	2.7	0.8	4.6
7. Own-company certification of breed or livestock quality	11	3.5	1.4	5.6
8. Buyer certification of breed or livestock quality	4	1.2	0.0	2.4
9. Other	5	1.4	0.1	2.7
10. Scrapie-free certification program *(write-in response)*	9	3.2	1.1	5.3
1.4a What types of alliances did your operation participate in during the past year for the receipt and/or sale of lambs?				
– Operations participating in an alliance	38	11.5	8.0	15.0
– Respondents with one alliance	28	74.7	59.9	89.5
– Respondents with two alliances	6	13.2	2.7	23.7
– Respondents with three alliances	4	12.1	0.6	23.6

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible operations
Mean = estimated mean weighted by the number of eligible operations
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	n	%	Lower	Upper
1.4b For producers that participate in alliances, what types of alliances did your operation participate in during the past year for the receipt and/or sale of lambs?				
1. Seed stock supplier only	5	11.0	1.7	20.3
2. Feed company only	D	4.4	0.0	10.6
3. Producer only	12	24.6	12.0	37.2
4. Feedlot only	5	10.1	1.3	18.9
5. Packer/processor/breaker only	6	8.7	2.0	15.4
6. Retailer only	D	2.2	0.0	6.6
7. Other only	8	17.6	6.4	28.8
8. Producer and seed stock supplier	D	3.5	0.0	8.6
9. Packer/processor/breaker and feedlot	D	4.4	0.0	10.6
10. Other and retailer	D	2.2	0.0	6.6
11. Producer, packer/processor/breaker, and food service	D	1.3	0.0	3.9
12. Producer, feedlot, and food service	D	1.3	0.0	3.9
13. Producer, feedlot, and packer/processor/breaker	3	3.9	0.0	8.1
14. Producer, feedlot, packer/processor/breaker, and other	D	1.3	0.0	3.9
15. Producer, feedlot, packer/processor/breaker, and retailer	D	2.2	0.0	6.6
16. Producer, feedlot, packer/processor/breaker, food service, and retail	D	1.3	0.0	3.9
Total		100.0		

D = Results suppressed.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		n	Mean	Lower	Upper
2.1	How many lambs did your operation receive or purchase during the past year?	33	10,368.4	3,616.8	17,119.9
		n	**%**	**Lower**	**Upper**
	1–99	13	42.4	24.4	60.3
	100–499	4	13.5	0.6	26.3
	500–1,999	5	14.1	1.5	26.6
	2,000–9,999	4	12.1	0.0	24.2
	10,000 or more	7	18.0	5.1	31.0
	Total		100.1†		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	3 Years Ago (n = 25)			During Past Year (n = 29)			Expected in 3 Years (n = 24)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2 For all lambs received or purchased by your operation, what were the ownership arrangements (% of head)?									
a. Sole ownership by your operation	83.9	70.3	97.6	84.5	72.4	96.6	83.2	68.9	97.5
b. Partner arrangement	8.0	<0	18.0	7.8	<0	17.0	8.3	<0	19.6
c. Shared ownership	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
d. Joint venture	0.5	<0	1.4	0.5	<0	1.2	0.6	<0	1.5
e. Delivered for custom feeding	7.6	<0	16.1	7.2	<0	15.0	7.9	<0	16.9
f. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			100.0			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are sole ownership	18	72.6	53.2	91.9	21	74.1	57.0	91.2	18	77.8	60.4	95.3

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	3 Years Ago (n = 26)			During Past Year (n = 33)			Expected in 3 Years (n = 30)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
2.3 What methods are used by your operation for receiving or purchasing lambs (% of head)?									
a. Auction barns	26.1	12.4	39.8	21.6	9.5	33.6	21.5	10.0	33.0
b. Video/electronic auctions	4.2	<0	12.8	4.1	<0	11.1	3.6	<0	11.1
c. Dealers or brokers	13.7	1.8	25.5	13.3	2.3	24.3	11.9	1.7	22.0
d. Direct trade	43.6	25.6	61.6	49.0	32.6	65.3	50.9	33.5	68.2
e. Forward contract	4.2	<0	12.8	3.3	<0	10.1	3.6	<0	11.1
f. Marketing agreement	4.2	<0	12.8	3.3	<0	10.1	3.6	<0	11.1
g. Internal transfer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
h. Delivered for custom feeding	4.1	<0	10.3	5.4	<0	11.1	4.9	<0	10.4
i. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.1†			100.0			100.0		
	n	%	Lower Upper	n	%	Lower Upper	n	%	Lower Upper
Operations for which 100% are cash or spot market purchases	22	85.0	70.0 100.0	27	82.8	69.1 96.5	25	84.8	71.3 98.3

† Total does not sum to 100% because of rounding.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.4* What types of pricing methods are used by your operation for purchasing lambs?								
1. Individually negotiated pricing	30	78.1	64.0	92.3	26	81.1	66.3	95.8
2. Public auction	20	52.9	35.8	69.9	17	52.0	33.3	70.7
3. Sealed bid	D	1.7	0.0	5.2	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	3	7.5	0.0	16.3	3	8.8	0.0	19.2
5. Internal transfer	D	1.7	0.0	5.2	0	0.0	NA	NA
6. Delivered for custom feeding	5	10.9	1.3	20.4	5	12.8	1.7	23.8
7. Other	D	1.7	0.0	5.2	D	2.0	0.0	6.1

D = Results suppressed.

(continued)

NA = Confidence interval not calculable.

* Respondents could select multiple responses.

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		n	%	Lower	Upper
2.5*	For lambs purchased by your operation during the past year using formula pricing, what was the base price of the formula?				
	1. USDA live quote	3	45.5	0.0	97.8
	2. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA
	3. Cost of production	D	24.1	0.0	63.1
	4. Other market price	D	15.2	0.0	54.2
	5. Other	D	15.2	0.0	54.2
	6. Auction price *(write-in response)*	3	39.3	0.0	88.6
		n	**Mean**	**Lower**	**Upper**
2.6	For lambs purchased using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (pounds)	3	78.1	43.7	112.5
	b. Maximum target weight (pounds)	3	108.1	73.7	142.5
	c. First slide premium below target weight (cents per pound)	3	25.4	21.9	28.8
	d. First slide discount above target weight (cents per pound)	3	25.4	21.9	28.8
3.1	For what percentage of lambs purchased during the past year did the buyer (your operation) pay for transportation?	33	70.6	55.2	86.1
3.2	What percentage of lambs purchased during the past year were under a written agreement (versus oral)?	32	8.0	<0	16.9
			Mean (n = 28)	**Lower**	**Upper**
3.3	For lambs purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?				
	a. Purchases not under agreement or contract		88.3	77.0	99.5
	b. Less than 6 months		7.6	<0	15.9
	c. 6 to 11 months		0.2	<0	0.6
	d. 1 to 2 years		0.0	0.0	0.0
	e. 3 to 5 years		0.0	0.0	0.0
	f. 6 to 10 years		0.0	0.0	0.0
	g. More than 10 years or evergreen		3.9	<0	12.0
	Total		100.0		

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		Mean (n = 32)	Lower	Upper
3.4	For lambs purchased during the past year, how far in advance of delivery was the delivery scheduled (% of head)?			
	a. Less than 2 weeks	72.9	57.2	88.5
	b. 3 to 4 weeks	13.8	2.0	25.6
	c. 5 to 8 weeks	4.9	<0	11.4
	d. 9 to 12 weeks	8.4	<0	18.3
	e. 13 to 16 weeks	0.0	0.0	0.0
	f. More than 16 weeks	0.0	0.0	0.0
	Total	100.0		

		n	%	Lower	Upper
4.1*	What are the three most important reasons why your operation only uses the cash or spot market for purchasing lambs?				
	1. Can purchase lambs at lower prices	9	27.8	11.7	43.9
	2. Reduces risk exposure	7	21.6	6.8	36.5
	3. Reduces costs of activities for buying lambs	4	12.4	0.4	24.3
	4. Reduces price variability for lambs	4	11.1	0.0	22.3
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality lambs	17	50.0	32.0	68.0
	8. Facilitates or increases market access	3	9.3	0.0	19.8
	9. Allows for adjusting operations quickly in response to changes in market conditions	11	31.5	14.8	48.1
	10. Does not require identifying and recruiting long-term contracting partners	D	6.2	0.0	14.9
	11. Does not require managing complex and costly contracts	6	18.5	4.5	32.6
	12. Eliminates possible negative public perceptions about use of contracts	D	3.1	0.0	9.4
	13. Allows for independence, complete control, and flexibility of own business	22	62.9	45.7	80.1
	14. Enhances ability to benefit from favorable market conditions	9	25.3	9.8	40.7
	15. Other	D	1.8	0.0	5.5

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	n	%	Lower	Upper
4.2* What are the three most important reasons why your operation uses alternative purchase methods for purchasing lambs?				
1. Can purchase lambs at lower prices	0	0.0	NA	NA
2. Reduces risk exposure	D	37.1	37.1	37.1
3. Reduces costs of activities for buying lambs	0	0.0	NA	NA
4. Reduces price variability for lambs	0	0.0	NA	NA
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
6. Increases supply chain information	0	0.0	NA	NA
7. Secures higher quality lambs	D	31.4	0.0	100.0
8. Facilitates or increases market access	0	0.0	NA	NA
9. Allows for food safety and biosecurity assurances	D	31.4	0.0	100.0
10. Allows for product traceability	D	62.9	62.9	62.9
11. Improves week-to-week supply management	D	31.4	0.0	100.0
12. Improves efficiency of operations due to animal uniformity	0	0.0	NA	NA
13. Reduces investment requirements for facilities and equipment	D	37.1	37.1	37.1
14. Reduces operating capital requirements	D	37.1	37.1	37.1
15. Enhances access to credit	0	0.0	NA	NA
16. Other	D	31.4	0.0	100.0
	n	**Mean**	**Lower**	**Upper**
5.1a How many feeder lambs did your operation sell or ship during the past year?	121	561.4	345.1	777.7
	n	**%**	**Lower**	**Upper**
1–99	66	58.0	49.4	66.6
100–499	26	23.1	15.4	30.9
500–1,999	14	9.9	4.8	15.0
2,000 or more	15	9.0	5.1	12.8
Total		100.0		
	n	**Mean**	**Lower**	**Upper**
5.1b How many slaughter lambs (less than 105 pounds liveweight) did your operation sell or ship during the past year?	112	137.3	69.2	205.4
	n	**%**	**Lower**	**Upper**
1–99	89	80.9	73.8	88.0
100–499	17	14.8	8.1	21.4
500–9,999	6	4.4	0.9	7.8
10,000 or more	0	0.0	NA	NA
Total		100.1†		

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	n	Mean	Lower	Upper
5.1c How many slaughter lambs (105 pounds liveweight or more) did your operation sell or ship during the past year?	154	2,217.9	781.4	3,654.5
	n	**%**	**Lower**	**Upper**
1–99	100	67.4	60.1	74.6
100–499	19	12.7	7.3	18.1
500–1,999	14	8.4	4.1	12.8
2,000–9,999	15	8.3	4.2	12.4
10,000 or more	6	3.3	0.6	5.9
Total		100.1†		

NA = Confidence interval not calculable.

† Total does not sum to 100% because of rounding.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	3 Years Ago (n = 271)			During Past Year (n = 278)			Expected in 3 Years (n = 256)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
5.2 What methods for selling or shipping lambs are used by your operation (% of head)?									
a. Auction barns	42.1	36.5	47.6	41.3	35.8	46.8	38.7	33.0	44.3
b. Video/electronic auctions	0.7	<0	1.6	0.7	<0	1.5	0.6	<0	1.5
c. Dealers or brokers	11.0	7.5	14.5	10.9	7.3	14.4	10.3	6.8	13.9
d. Direct trade	30.8	25.5	36.1	31.3	26.0	36.5	32.4	27.0	37.7
e. Forward contract	3.4	1.6	5.3	4.3	2.3	6.3	4.9	2.7	7.2
f. Marketing agreement	2.6	0.8	4.5	2.6	0.9	4.3	2.9	0.9	4.8
g. Packer fed/owned	0.4	<0	1.2	0.4	<0	1.2	0.5	<0	1.3
h. Internal transfer	0.2	<0	0.7	0.7	<0	1.6	0.4	<0	0.9
i. Custom fed, not marketed by your operation	1.4	0.3	2.4	1.3	0.3	2.4	1.7	0.5	2.9
j. Custom slaughtered for your operation	6.5	3.8	9.3	5.4	2.9	7.9	6.9	4.0	9.8
k. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l. Co-operative *(write-in response)*	0.8	<0	1.9	1.2	<0	2.5	0.8	<0	1.8
Total	99.9†			100.1†			100.1†		
	n	%	Lower Upper	n	%	Lower Upper	n	%	Lower Upper
Establishments for which 100% are cash or spot market sales	207	78.3	73.6 83.1	210	77.5	72.8 82.3	185	74.3	69.1 79.5

† Total does not sum to 100% because of rounding.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
5.3* What types of pricing methods are used by your operation for selling lambs?								
1. Individually negotiated pricing	151	51.3	45.5	57.1	139	53.4	47.2	59.5
2. Public auction	161	57.1	51.4	62.7	141	56.0	50.0	62.0
3. Sealed bid	9	2.8	0.9	4.6	10	3.5	1.3	5.8
4. Formula pricing (using another price as the base)	27	8.7	5.5	11.9	22	7.9	4.6	11.1
5. Internal transfer	3	0.8	0.0	1.7	D	0.5	0.0	1.1
6. Custom fed, not marketed by your operation	10	2.7	1.0	4.4	12	3.7	1.6	5.8
7. Custom slaughtered for your operation	34	11.8	8.0	15.5	37	14.4	10.1	18.8
8. Other	3	1.1	0.0	2.3	D	0.8	0.0	1.9
9. Co-operative *(write-in response)*	3	0.9	0.0	2.0	3	1.0	0.0	2.3
	With Grid				**Without Grid**			
	n	%	Lower	Upper	n	%	Lower	Upper
5.4* For lambs sold by your operation during the past year using formula pricing, what was the base price of the formula?								
1. Individual or multiple packing plant average price	8	39.1	15.0	63.2	8	29.9	11.0	48.9
2. USDA live quote	3	15.0	0.0	32.8	7	22.8	6.9	38.6
3. USDA dressed or carcass quote	6	22.8	6.3	39.4	5	19.7	3.3	36.1
4. USDA boxed lamb price	0	0.0	NA	NA	D	7.9	0.0	19.1
5. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA	D	3.9	0.0	12.1
6. Cost of production	0	0.0	NA	NA	D	3.9	0.0	12.1
7. Retail price	4	20.7	0.5	41.0	4	14.2	0.0	28.4
8. Other market price	D	11.5	0.0	27.8	D	7.9	0.0	19.1
9. Other	D	3.4	0.0	10.6	0	0.0	NA	NA
10. Auction price *(write-in response)*	D	5.8	0.0	17.9	3	11.8	0.0	25.2
11. Co-op grid *(write-in response)*	D	3.4	0.0	10.6	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
5.5* What types of valuation methods are used by your operation for selling slaughter lambs?								
1. Per head	35	23.9	16.9	30.9	28	23.3	15.6	31.0
2. Liveweight	110	74.7	67.7	81.8	91	75.2	67.4	83.0
3. Carcass weight, not dependent on grid value	22	14.3	8.6	19.9	19	15.0	8.6	21.4
4. Carcass weight, dependent on grid value	14	7.5	3.8	11.2	12	8.4	3.8	13.0
5. Other	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		n	Mean	Lower	Upper
5.6	For feeder lambs sold using a slide during the past year, what were the most common terms of the slide?				
	a. Minimum target weight (pounds)	7	84.1	73.7	94.4
	b. Maximum target weight (pounds)	13	94.7	87.9	101.6
	c. First slide premium below target weight (cents per pound)	7	28.7	<0	65.0
	d. First slide discount above target weight (cents per pound)	13	24.9	5.3	44.5
6.1	For what percentage of lambs sold during the past year did the seller (your operation) pay for transportation?	206	52.4	45.8	58.9
6.2	What percentage of lambs sold during the past year were under a written agreement (versus oral)?	207	6.8	3.6	10.0
			Mean (n = 182)	**Lower**	**Upper**
6.3	For lambs sold during the past year, what was the length of the agreement or contract (oral or written) (% of head)?				
	a. Sales not under agreement or contract		82.6	77.5	87.7
	b. Less than 6 months		10.9	6.9	15.0
	c. 6 to 11 months		3.3	0.8	5.9
	d. 1 to 2 years		0.6	<0	1.6
	e. 3 to 5 years		1.6	0.0	3.2
	f. 6 to 10 years		0.0	0.0	0.0
	g. More than 10 years or evergreen		1.0	<0	2.2
	Total		100.0		
			Mean (n = 197)	**Lower**	**Upper**
6.4	For lambs sold during the past year, how far in advance of delivery was the delivery scheduled (% of head)?				
	a. Less than 7 days		65.6	59.2	71.9
	b. 8 to 14 days		16.4	11.4	21.3
	c. 15 to 21 days		3.1	0.9	5.2
	d. 22 to 30 days		6.7	3.3	10.2
	e. 1 to 2 months		4.8	2.0	7.7
	f. More than 2 months		3.4	1.3	5.5
	Total		100.0		

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	n	%	Lower	Upper
7.1* What are the three most important reasons why your operation only uses the cash or spot market for selling lambs?				
1. Can sell lambs at higher prices	94	44.3	37.5	51.1
2. Reduces risk exposure	32	15.1	10.2	20.0
3. Reduces costs of activities for selling lambs	70	33.3	26.8	39.7
4. Reduces price variability for lambs	16	7.7	4.1	11.4
5. Reduces potential liability and litigation concerns	12	5.8	2.6	9.0
6. Increases supply chain information	D	1.0	0.0	2.3
7. Allows for sale of higher quality lambs	28	13.5	8.9	18.2
8. Facilitates or increases market access	23	11.1	6.8	15.4
9. Allows for adjusting operations quickly in response to changes in market conditions	35	15.9	11.0	20.9
10. Does not require identifying and recruiting long-term contracting partners	35	16.5	11.5	21.6
11. Does not require managing complex and costly contracts	35	16.3	11.3	21.4
12. Eliminates possible negative public perceptions about use of contracts	D	0.5	0.0	1.4
13. Allows for independence, complete control, and flexibility of own business	130	60.7	54.1	67.4
14. Enhances ability to benefit from favorable market conditions	70	32.7	26.3	39.1
15. Other	3	1.5	0.0	3.1
16. No other choice *(write-in response)*	4	1.9	0.0	3.8
17. Can easily sell small number of animals *(write-in response)*	3	1.5	0.0	3.1
18. Convenience *(write-in response)*	5	2.4	0.3	4.5
7.2* What are the three most important reasons why your operation uses alternative sales methods for selling lambs?				
1. Can sell lambs at higher prices	27	66.5	51.5	81.6
2. Reduces risk exposure	19	41.4	26.0	56.7
3. Reduces costs of activities for selling lambs	7	16.5	4.4	28.6
4. Reduces price variability for lambs	8	19.3	6.3	32.3
5. Reduces potential liability and litigation concerns	D	1.7	0.0	5.1
6. Increases supply chain information	0	0.0	NA	NA
7. Allows for sale of higher quality lambs	15	37.0	21.1	52.8
8. Facilitates or increases market access	4	10.2	0.1	20.4
9. Increases flexibility in responding to consumer demand	4	9.1	0.0	18.3
10. Allows for product branding in retail sales	3	8.6	0.0	18.1
11. Allows for food safety and biosecurity assurances	D	5.7	0.0	13.7
12. Allows for product traceability	D	2.9	0.0	8.6
13. Improves week-to-week production management	D	2.9	0.0	8.6
14. Secures a buyer for lambs	19	46.0	29.7	62.4
15. Provides detailed carcass data	3	6.2	0.0	13.6
16. Enhances access to credit	D	3.4	0.0	8.0
17. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		n	Mean	Lower	Upper
8.1	Approximately how many people (including yourself and family members) were employed for livestock production at your operation during the past year?				
	a. Full time	167	2.9	2.5	3.2
	b. Part time	141	1.9	1.7	2.1
	c. Seasonal	54	2.9	2.2	3.7
8.2	What is the total acreage of your operation used for livestock production?	294	11,238.9	5,609.4	16,868.4
		n	**Mean**	**Lower**	**Upper**
8.3a	How many lambs were on your operation on January 1, 2005?	209	962.3	342.9	1,581.8
		n	**%**	**Lower**	**Upper**
	1–99	132	66.5	60.3	72.6
	100–499	33	16.5	11.3	21.6
	500–1,999	18	7.7	4.2	11.3
	2,000–9,999	20	7.1	4.3	9.9
	10,000 or more	6	2.2	0.4	4.1
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
8.3b	How many ewes were on your operation on January 1, 2005?	283	478.7	390.9	566.5
		n	**%**	**Lower**	**Upper**
	1–99	176	64.8	59.3	70.2
	100–499	51	18.7	14.1	23.4
	500–1,999	27	9.4	6.0	12.8
	2,000 or more	29	7.1	5.2	9.0
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
8.3c	How many rams were on your operation on January 1, 2005?	270	15.6	12.5	18.7
		n	**%**	**Lower**	**Upper**
	1–99	253	95.6	93.8	97.4
	100–499	17	4.4	2.6	6.2
	500 or more	0	0.0	NA	NA
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
8.4	How many auctions operate for selling lambs within 200 miles of your operation?				
	a. Number of auctions operating 3 years ago	257	4.2	3.7	4.7
	b. Number of auctions currently operating	256	4.0	3.6	4.5

NA = Confidence interval not calculable.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

	3 Years Ago				Currently			
	n	%	Lower	Upper	n	%	Lower	Upper
8.5* For the auction located closest to your operation, how often does it operate for selling lambs?								
1. Monthly	26	11.7	7.4	15.9	34	14.6	10.0	19.2
2. Every 2 weeks	26	11.8	7.5	16.2	29	12.6	8.2	16.9
3. Weekly	158	71.0	65.0	77.1	156	66.7	60.6	72.9
4. 2 times per week	11	5.0	2.1	7.9	11	4.7	2.0	7.5
5. 3 to 5 times per week	D	0.5	0.0	1.4	D	0.9	0	2.1
6. Daily	0	0.0	NA	NA	0	0.0	NA	NA
7. Other	0	0.0	NA	NA	D	0.4	0.0	1.3
8. Less than monthly *(write-in response)*	3	1.4	0.0	3.0	5	2.2	0.3	4.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-16. Weighted Responses for the Lamb Producer Survey (n = 302) (continued)

		n	%	Lower	Upper
8.6	What were your operation's approximate total gross sales for lambs during the past year?				
	1. Under $99,999	244	85.8	82.4	89.2
	2. $100,000 to $499,999	35	9.8	6.8	12.9
	3. $500,000 to $999,999	6	1.4	0.3	2.5
	4. $1,000,000 to $2,499,999	6	1.8	0.3	3.3
	5. $2,500,000 to $4,999,999	0	0.0	NA	NA
	6. $5,000,000 or more	4	1.1	0.0	2.3
	Total		99.9†		
8.7	What were your operation's approximate total gross sales for all farm outputs during the past year?				
	1. Under $99,999	224	78.7	74.5	82.9
	2. $100,000 to $499,999	38	12.3	8.5	16.0
	3. $500,000 to $999,999	19	4.5	2.7	6.4
	4. $1,000,000 to $4,999,999	12	3.4	1.4	5.3
	5. $5,000,000 or more	4	1.1	0.0	2.3
	Total		100.0		
8.8	Which of the following best describes your position with this operation?				
	1. Owner	271	91.6	88.6	94.6
	2. Manager	17	4.8	2.5	7.1
	3. Family member (not owner or manager)	9	2.9	1.0	4.8
	4. Other hired employee	D	0.2	0.0	0.6
	5. Other	D	0.6	0.0	1.4
	Total		100.1†		
8.9	If owner, what is your age?				
	1. Less than 25	D	0.2	0.0	0.7
	2. 26 to 35	D	0.8	0.0	1.8
	3. 36 to 45	16	5.8	3.0	8.6
	4. 46 to 55	72	26.1	20.8	31.4
	5. 56 to 65	84	31.2	25.6	36.8
	6. Older than 65	96	35.9	30.1	41.7
	Total		100.0		
8.10	If owner, what is your education level?				
	1. Less than high school graduate	10	3.7	1.4	6.0
	2. High school graduate/GED	48	18.1	13.4	22.8
	3. Some college or technical school, no degree	80	29.4	23.9	35.0
	4. College graduate	89	32.6	26.9	38.2
	5. Post-graduate	43	16.2	11.7	20.7
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
8.11	If owner, what percentage of your total annual household income comes from off-farm sources?	266	54.9	50.2	59.6

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

Table 6-17. Use of Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35)

		Small (n = 25)			Large (n = 8)			All Operations (n = 33)		
		Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.1	How many lambs did your operation receive or purchase during the past year?	5,422.8	29.4	10,816.1	36,520.1	<0	73,330.0	10,368.4	3,616.8	17,119.9
		Small (n = 22)			**Large (n = 7)**			**All Operations (n = 29)**		
		Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.2	For all lambs received or purchased by your operation during the past year, what were the ownership arrangements (% of head)?									
	a. Sole ownership by your operation	89.4	77.0	>100	58.6	10.7	>100	84.5	72.4	96.6
	b. Partner arrangement	6.6	<0	16.2	14.3	<0	49.2	7.8	<0	17.0
	c. Shared ownership	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	d. Joint venture	0.4	<0	1.2	0.7	<0	2.5	0.5	<0	1.2
	e. Delivered for custom feeding	3.6	<0	10.2	26.4	<0	68.4	7.2	<0	15.0
	f. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	100.0			100.0			100.0		
		n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
	Operations for which 100% are sole ownership	17	77.3	58.3	96.3	4	57.1	7.7	100.0	21	74.1	57.0	91.2

(continued)

Table 6-17. Use of Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small (n = 26)			Large (n = 7)			All Operations (n = 33)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S2.3 What methods were used by your operation during the past year for receiving or purchasing lambs (% of head)?									
a. Auction barns	24.2	10.2	38.2	5.0	<0	15.3	21.6	9.5	33.6
b. Video/electronic auctions	4.8	<0	12.9	0.0	0.0	0.0	4.1	<0	11.1
c. Dealers or brokers	13.2	1.1	25.2	14.3	<0	49.2	13.3	2.3	24.3
d. Direct trade	48.4	30.3	66.5	52.9	6.1	99.6	49.0	32.6	65.3
e. Forward contract	3.8	<0	11.8	0.0	0.0	0.0	3.3	<0	10.1
f. Marketing agreement	3.8	<0	11.8	0.0	0.0	0.0	3.3	<0	10.1
g. Internal transfer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
h. Delivered for custom feeding	1.8	<0	5.0	27.9	<0	71.9	5.4	<0	11.1
i. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			100.1†			100.0		

	Small (n = 26)				Large (n = 7)				All Operations (n = 33)			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Operations for which 100% are cash or spot market purchases	22	84.6	69.8	99.5	5	71.4	26.3	100.0	27	82.8	69.1	96.5

† Total does not sum to 100% because of rounding.

(continued)

Table 6-17. Use of Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.4* What types of pricing methods were used by your operation during the past year for purchasing lambs?												
1. Individually negotiated pricing	23	76.7	60.6	92.7	7	87.5	57.9	100.0	30	78.1	64.0	92.3
2. Public auction	16	53.3	34.4	72.3	4	50.0	5.3	94.7	20	52.9	35.8	69.9
3. Sealed bid	0	0.0	NA	NA	D	12.5	0.0	42.1	D	1.7	0.0	5.2
4. Formula pricing (using another price as the base)	D	6.7	0.0	16.1	D	12.5	0.0	42.1	3	7.5	0.0	16.3
5. Internal transfer	0	0.0	NA	NA	D	12.5	0.0	42.1	D	1.7	0.0	5.2
6. Delivered for custom feeding	D	6.7	0.0	16.1	D	37.5	0.0	80.8	5	10.9	1.3	20.4
7. Other	0	0.0	NA	NA	D	12.5	0.0	42.1	D	1.7	0.0	5.2
S2.5* For lambs purchased by your operation during the past year using formula pricing, what was the base price of the formula?	(results suppressed)				(results suppressed)							
1. USDA live quote									3	45.5	0.0	97.8
2. Subscription service price (for example, Urner Barry)									0	0.0	NA	NA
3. Cost of production									D	24.1	0.0	63.1
4. Other market price									D	15.2	0.0	54.2
5. Other									D	15.2	0.0	54.2
6. Auction price *(write-in response)*									3	39.3	0.0	88.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-18. Terms of Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35)

		Small			Large			All Operations		
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S3.1	For what percentage of lambs purchased during the past year did the buyer (your operation) pay for transportation?	26	73.0	55.9	90.1	7	55.7	11.7	99.7	33	70.6	55.2	86.1
S3.2	What percentage of lambs purchased during the past year were under a written agreement (versus oral)?	25	7.0	<0	16.2	7	14.3	<0	49.2	32	8.0	<0	16.9
		Small (n = 22)			Large (n = 6)			All Operations (n = 28)		
			Mean	Lower	Upper		Mean	Lower	Upper		Mean	Lower	Upper
S3.3	For lambs purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?												
	a. Purchases not under agreement or contract		88.3	75.7	>100		88.3	58.3	>100		88.3	77.0	99.5
	b. Less than 6 months		7.0	<0	15.9		11.7	<0	41.7		7.6	<0	15.9
	c. 6 to 11 months		0.2	<0	0.7		0.0	0.0	0.0		0.2	<0	0.6
	d. 1 to 2 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	e. 3 to 5 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	f. 6 to 10 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	g. More than 10 years or evergreen		4.5	<0	14.0		0.0	0.0	0.0		3.9	<0	12.0
	Total		100.0				100.0				100.0		

(continued)

Table 6-18. Terms of Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small (n = 25)			Large (n = 7)			All Operations (n = 32)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S3.4 For lambs purchased during the past year, how far in advance of delivery was the delivery scheduled (% of head)?									
a. Less than 2 weeks	74.5	57.2	91.8	62.9	18.3	>100	72.9	57.2	88.5
b. 3 to 4 weeks	14.7	1.1	28.3	8.6	<0	29.5	13.8	2.0	25.6
c. 5 to 8 weeks	3.4	<0	9.3	14.3	<0	49.2	4.9	<0	11.4
d. 9 to 12 weeks	7.4	<0	18.0	14.3	<0	49.2	8.4	<0	18.3
e. 13 to 16 weeks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f. More than 16 weeks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			100.1†			100.0		

† Total does not sum to 100% because of rounding.

Table 6-19. Reasons for Using Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.1* What are the three most important reasons why your operation only uses the cash or spot market for purchasing lambs?												
1. Can purchase lambs at lower prices	9	30.0	12.6	47.4	0	0.0	NA	NA	9	27.8	11.7	43.9
2. Reduces risk exposure	7	23.3	7.3	39.4	0	0.0	NA	NA	7	21.6	6.8	36.5
3. Reduces costs of activities for buying lambs	4	13.3	0.4	26.2	0	0.0	NA	NA	4	12.4	0.4	24.3
4. Reduces price variability for lambs	D	10.0	0.0	21.4	D	25.0	0.0	100.0	4	11.1	0.0	22.3
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Secures higher quality lambs	D	50.0	31.0	69.0	D	50.0	0.0	100.0	17	50.0	32.0	68.0
8. Facilitates or increases market access	3	10.0	0.0	21.4	0	0.0	NA	NA	3	9.3	0.0	19.8
9. Allows for adjusting operations quickly in response to changes in market conditions	D	30.0	12.6	47.4	D	50.0	0.0	100.0	11	31.5	14.8	48.1
10. Does not require identifying and recruiting long-term contracting partners	D	6.7	0.0	16.1	0	0.0	NA	NA	D	6.2	0.0	14.9
11. Does not require managing complex and costly contracts	6	20.0	4.8	35.2	0	0.0	NA	NA	6	18.5	4.5	32.6
12. Eliminates possible negative public perceptions about use of contracts	D	3.3	0.0	10.2	0	0.0	NA	NA	D	3.1	0.0	9.4
13. Allows for independence, complete control, and flexibility of own business	18	60.0	41.4	78.6	4	100.0	100.0	100.0	22	62.9	45.7	80.1
14. Enhances ability to benefit from favorable market conditions	D	23.3	7.3	39.4	D	50.0	0.0	100.0	9	25.3	9.8	40.7
15. Other	0	0.0	NA	NA	D	25.0	0.0	100.0	D	1.8	0.0	5.5

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-19. Reasons for Using Purchase Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.2* What are the three most important reasons why your operation uses alternative purchase methods for purchasing lambs?	(results suppressed)				(results suppressed)							
1. Can purchase lambs at lower prices									0	0.0	NA	NA
2. Reduces risk exposure									D	37.1	37.1	37.1
3. Reduces costs of activities for buying lambs									0	0.0	NA	NA
4. Reduces price variability for lambs									0	0.0	NA	NA
5. Reduces potential liability and litigation concerns									0	0.0	NA	NA
6. Increases supply chain information									0	0.0	NA	NA
7. Secures higher quality lambs									D	31.4	0.0	100.0
8. Facilitates or increases market access									0	0.0	0.0	0.0
9. Allows for food safety and biosecurity assurances									D	31.4	0.0	100.0
10. Allows for product traceability									D	62.9	62.9	62.9
11. Improves week-to-week supply management									D	31.4	0.0	100.0
12. Improves efficiency of operations due to animal uniformity									0	0.0	NA	NA
13. Reduces investment requirements for facilities and equipment									D	37.1	37.1	37.1
14. Reduces operating capital requirements									D	37.1	37.1	37.1
15. Enhances access to credit									0	0.0	NA	NA
16. Other									D	31.4	0.0	100.0

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35)

		Small				Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S5.1a	How many feeder lambs did your operation sell or ship during the past year?	100	289.1	71.3	506.8	21	2,755.70	1,828.60	3,682.70	121	561.4	345.1	777.7
S5.1b	How many slaughter lambs (less than 105 pounds liveweight) did your operation sell or ship during the past year?	106	74.7	46.5	102.9	6	2,008.20	<0	4,508.30	112	137.3	69.2	205.4
S5.1c	How many slaughter lambs (105 pounds liveweight or more) did your operation sell or ship during the past year?	136	1,251.2	192.8	2,309.6	18	14,577.5	<0	30,031.2	154	2,217.9	781.4	3,654.5

(continued)

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small (n = 245)			Large (n = 33)			All Operations (n = 278)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S5.2 What methods for selling or shipping lambs were used by your operation during the past year (% of head)?									
a. Auction barns	44.2	38.3	50.2	3.9	<0	10.1	41.3	35.8	46.8
b. Video/electronic auctions	0.5	<0	1.3	2.7	<0	8.3	0.7	<0	1.5
c. Dealers or brokers	10.9	7.2	14.6	10.6	0.0	21.2	10.9	7.3	14.4
d. Direct trade	31.6	26.1	37.1	27.1	12.3	41.9	31.3	26.0	36.5
e. Forward contract	2.6	0.8	4.5	25.2	10.6	39.7	4.3	2.3	6.3
f. Marketing agreement	1.9	0.3	3.6	11.2	0.6	21.8	2.6	0.9	4.3
g. Packer fed/owned	0.4	<0	1.3	0.0	0.0	0.0	0.4	<0	1.2
h. Internal transfer	0.4	<0	1.2	4.2	<0	10.7	0.7	<0	1.6
i. Custom fed, not marketed by your operation	0.5	<0	1.4	11.1	1.0	21.3	1.3	0.3	2.4
j. Custom slaughtered for your operation	5.6	3.0	8.2	3.1	<0	9.3	5.4	2.9	7.9
k. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l. Co-operative *(write-in response)*	1.2	<0	2.6	0.9	<0	2.8	1.2	<0	2.5
Total	99.8†			100.0			100.1†		

	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Establishments for which 100% are cash or spot market sales	198	80.8	75.9	85.8	12	36.4	19.0	53.7	210	77.5	72.8	82.3

† Total does not sum to 100% because of rounding.

(continued)

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.3* What types of pricing methods were used by your operation during the past year for selling lambs?												
1. Individually negotiated pricing	131	50.6	44.4	56.7	20	60.6	43.0	78.2	151	51.3	45.5	57.1
2. Public auction	156	60.2	54.2	66.2	5	15.2	2.2	28.1	161	57.1	51.4	62.7
3. Sealed bid	6	2.3	0.5	4.2	3	9.1	0.0	19.4	9	2.8	0.9	4.6
4. Formula pricing (using another price as the base)	20	7.7	4.4	11.0	7	21.2	6.5	35.9	27	8.7	5.5	11.9
5. Internal transfer	D	0.4	0.0	1.1	D	6.1	0.0	14.7	3	0.8	0.0	1.7
6. Custom fed, not marketed by your operation	4	1.5	0.0	3.1	6	18.2	4.3	32.1	10	2.7	1.0	4.4
7. Custom slaughtered for your operation	31	12.0	8.0	15.9	3	9.1	0.0	19.4	34	11.8	8.0	15.5
8. Other	3	1.2	0.0	2.5	0	0.0	NA	NA	3	1.1	0.0	2.3
9. Co-operative *(write-in response)*	D	0.8	0.0	1.8	D	3.0	0.0	9.2	3	0.9	0.0	2.0

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.4a*	For lambs sold by your operation during the past year using formula pricing with a grid, what was the base price of the formula?												
	1. Individual or multiple packing plant average price	5	41.7	8.9	74.4	3	33.3	0.0	71.8	8	39.1	15.0	63.2
	2. USDA live quote	D	16.7	0.0	41.4	D	11.1	0.0	36.7	3	15.0	0.0	32.8
	3. USDA dressed or carcass quote	D	8.3	0.0	26.7	D	55.6	15.0	96.1	6	22.8	6.3	39.4
	4. USDA boxed lamb price	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	5. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	6. Cost of production	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	7. Retail price	D	25.0	0.0	53.7	D	11.1	0.0	36.7	4	20.7	0.5	41.0
	8. Other market price	D	16.7	0.0	41.4	0	0.0	NA	NA	D	11.5	0.0	27.8
	9. Other	0	0.0	NA	NA	D	11.1	0.0	36.7	D	3.4	0.0	10.6
	10. Auction price *(write-in response)*	D	8.3	0.0	26.7	0	0.0	NA	NA	D	5.8	0.0	17.9
	11. Co-op grid *(write-in response)*	0	0.0	NA	NA	D	11.1	0.0	36.7	D	3.4	0.0	10.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.4b* For lambs sold by your operation during the past year using formula pricing without a grid, what was the base price of the formula?												
1. Individual or multiple packing plant average price	D	30.4	10.1	50.8	D	25.0	0.0	100.0	8	29.9	11.0	48.9
2. USDA live quote	4	17.4	0.6	34.2	3	75.0	0.0	100.0	7	22.8	6.9	38.6
3. USDA dressed or carcass quote	5	21.7	3.5	40.0	0	0.0	NA	NA	5	19.7	3.3	36.1
4. USDA boxed lamb price	D	8.7	0.0	21.2	0	0.0	NA	NA	D	7.9	0.0	19.1
5. Subscription service price (for example, Urner Barry)	D	4.3	0.0	13.4	0	0.0	NA	NA	D	3.9	0.0	12.1
6. Cost of production	D	4.3	0.0	13.4	0	0.0	NA	NA	D	3.9	0.0	12.1
7. Retail price	D	13.0	0.0	27.9	D	25.0	0.0	100.0	4	14.2	0.0	28.4
8. Other market price	D	8.7	0.0	21.2	0	0.0	NA	NA	D	7.9	0.0	19.1
9. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
10. Auction price *(write-in response)*	3	13.0	0.0	27.9	0	0.0	NA	NA	3	11.8	0.0	25.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-20. Use of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.5* What types of valuation methods were used by your operation during the past year for selling slaughter lambs?												
1. Per head	D	24.6	17.2	32.0	D	13.3	0.0	32.8	35	23.9	16.9	30.9
2. Liveweight	102	76.1	68.8	83.4	8	53.3	24.7	81.9	110	74.7	67.7	81.8
3. Carcass weight, not dependent on grid value	18	13.4	7.6	19.3	4	26.7	1.3	52.0	22	14.3	8.6	19.9
4. Carcass weight, dependent on grid value	6	4.5	0.9	8.0	8	53.3	24.7	81.9	14	7.5	3.8	11.2
5. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 6-21. Terms of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35)

		Small			Large				All Operations			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S6.1	For what percentage of lambs sold during the past year did the seller (your operation) pay for transportation?	179	54.2	47.1	61.2	27	32.3	16.1	48.4	206	52.4	45.8	58.9
S6.2	What percentage of lambs sold during the past year were under a written agreement (versus oral)?	179	5.1	2.0	8.3	28	24.8	8.5	41.1	207	6.8	3.6	10.0
			Small (n = 157)				**Large** (n = 25)				**All Operations** (n = 182)		
S6.3	For lambs sold during the past year, what was the length of the agreement or contract (oral or written) (% of head)?												
	a. Sales not under agreement or contract		86.8	81.6	92.1		37.5	18.5	56.5		82.6	77.5	87.7
	b. Less than 6 months		7.9	3.8	12.0		43.2	24.5	61.9		10.9	6.9	15.0
	c. 6 to 11 months		3.4	0.6	6.2		2.6	<0	8.0		3.3	0.8	5.9
	d. 1 to 2 years		0.6	<0	1.8		0.0	0.0	0.0		0.6	<0	1.6
	e. 3 to 5 years		0.6	<0	1.9		12.0	<0	25.7		1.6	0.0	3.2
	f. 6 to 10 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	g. More than 10 years or evergreen		0.6	<0	1.9		4.7	<0	10.2		1.0	<0	2.2
	Total		99.9†				100.0				100.0		

† Total does not sum to 100% because of rounding.

(continued)

Table 6-21. Terms of Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small (n = 169)			Large (n = 28)			All Operations (n = 197)		
S6.4 For lambs sold during the past year, how far in advance of delivery was the delivery scheduled (% of head)?									
a. Less than 7 days	68.7	62.0	75.5	33.4	15.7	51.1	65.6	59.2	71.9
b. 8 to 14 days	16.4	11.1	21.7	16.4	4.1	28.8	16.4	11.4	21.3
c. 15 to 21 days	2.5	0.3	4.6	9.5	<0	20.5	3.1	0.9	5.2
d. 22 to 30 days	6.6	2.9	10.2	8.4	<0	18.7	6.7	3.3	10.2
e. 1 to 2 months	4.2	1.2	7.1	11.6	0.4	22.9	4.8	2.0	7.7
f. More than 2 months	1.7	<0	3.5	20.7	5.7	35.6	3.4	1.3	5.5
Total	100.1†			100.0			100.0		

† Total does not sum to 100% because of rounding.

Table 6-22. Reasons for Using Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35)

		Small				Large				All Operations			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.1*	What are the three most important reasons why your operation only uses the cash or spot market for selling lambs?												
1.	Can sell lambs at higher prices	88	44.2	37.3	51.2	6	46.2	14.8	77.5	94	44.3	37.5	51.1
2.	Reduces risk exposure	D	15.1	10.1	20.1	D	15.4	0.0	38.1	32	15.1	10.2	20.0
3.	Reduces costs of activities for selling lambs	67	33.7	27.0	40.3	3	23.1	0.0	49.6	70	33.3	26.8	39.7
4.	Reduces price variability for lambs	16	8.0	4.2	11.9	0	0.0	NA	NA	16	7.7	4.1	11.4
5.	Reduces potential liability and litigation concerns	12	6.0	2.7	9.4	0	0.0	NA	NA	12	5.8	2.6	9.0
6.	Increases supply chain information	D	1.0	0.0	2.4	0	0.0	NA	NA	D	1.0	0.0	2.3
7.	Allows for sale of higher quality lambs	28	14.1	9.2	18.9	0	0.0	NA	NA	28	13.5	8.9	18.2
8.	Facilitates or increases market access	23	11.6	7.1	16.0	0	0.0	NA	NA	23	11.1	6.8	15.4
9.	Allows for adjusting operations quickly in response to changes in market conditions	30	15.1	10.1	20.1	5	38.5	7.9	69.1	35	15.9	11.0	20.9
10.	Does not require identifying and recruiting long-term contracting partners	D	16.6	11.4	21.8	D	15.4	0.0	38.1	35	16.5	11.5	21.6
11.	Does not require managing complex and costly contracts	32	16.1	10.9	21.2	3	23.1	0.0	49.6	35	16.3	11.3	21.4
12.	Eliminates possible negative public perceptions about use of contracts	D	0.5	0.0	1.5	0	0.0	NA	NA	D	0.5	0.0	1.4
13.	Allows for independence, complete control, and flexibility of own business	119	59.8	52.9	66.7	11	84.6	61.9	100.0	130	60.7	54.1	67.4
14.	Enhances ability to benefit from favorable market conditions	64	32.2	25.6	38.7	6	46.2	14.8	77.5	70	32.7	26.3	39.1
15.	Other	3	1.5	0.0	3.2	0	0.0	NA	NA	3	1.5	0.0	3.1
16.	No other choice *(write-in response)*	4	2.0	0.0	4.0	0	0.0	NA	NA	4	1.9	0.0	3.8
17.	Can easily sell small number of animals *(write-in response)*	3	1.5	0.0	3.2	0	0.0	NA	NA	3	1.5	0.0	3.1
18.	Convenience *(write-in response)*	5	2.5	0.3	4.7	0	0.0	NA	NA	5	2.4	0.3	4.5

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 6-22. Reasons for Using Sales Methods for Lamb Producers, by Size (Small = 267, Large = 35) (continued)

	Small				Large				All Operations			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.2* What are the three most important reasons why your operation uses alternative sales methods for selling lambs?												
1. Can sell lambs at higher prices	18	72.0	53.1	90.9	9	52.9	26.5	79.4	27	66.5	51.5	81.6
2. Reduces risk exposure	8	32.0	12.3	51.7	11	64.7	39.4	90.0	19	41.4	26.0	56.7
3. Reduces costs of activities for selling lambs	4	16.0	0.6	31.4	3	17.6	0.0	37.9	7	16.5	4.4	28.6
4. Reduces price variability for lambs	5	20.0	3.1	36.9	3	17.6	0.0	37.9	8	19.3	6.3	32.3
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA	D	5.9	0.0	18.4	D	1.7	0.0	5.1
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Allows for sale of higher quality lambs	10	40.0	19.4	60.6	5	29.4	5.3	53.6	15	37.0	21.1	52.8
8. Facilitates or increases market access	D	12.0	0.0	25.7	D	5.9	0.0	18.4	4	10.2	0.1	20.4
9. Increases flexibility in responding to consumer demand	D	8.0	0.0	19.4	D	11.8	0.0	28.8	4	9.1	0.0	18.3
10. Allows for product branding in retail sales	3	12.0	0.0	25.7	0	0.0	NA	NA	3	8.6	0.0	18.1
11. Allows for food safety and biosecurity assurances	D	8.0	0.0	19.4	0	0.0	NA	NA	D	5.7	0.0	13.7
12. Allows for product traceability	D	4.0	0.0	12.3	0	0.0	NA	NA	D	2.9	0.0	8.6
13. Improves week-to-week production management	D	4.0	0.0	12.3					D	2.9	0.0	8.6
14. Secures a buyer for lambs	12	48.0	27.0	69.0	7	41.2	15.1	67.3	19	46.0	29.7	62.4
15. Provides detailed carcass data	D	4.0	0.0	12.3	D	11.8	0.0	28.8	3	6.2	0.0	13.6
16. Enhances access to credit	0	0.0	NA	NA	D	11.8	0.0	28.8	D	3.4	0.0	8.0
17. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

7 Survey Results: Meat Packers

This section presents the weighted tabulations for beef packers, pork packers, and lamb packers. We provide tables with weighted tabulations for all survey questions, tables with weighted tabulations for selected questions by size (small versus large) for beef packers and pork packers (results are not provided by size for lamb packers because of the small number of respondents), and a brief summary of the key findings from the survey.

For weighted proportions, the tables provide the number of respondents (n), the estimated proportion weighted by the number of eligible plants (%), and the corresponding 95% confidence interval (lower and upper) for each response item. For questions for which respondents could select only one response, the sum of the responses equals 100%. For questions for which respondents could select more than one response, the total may sum to more than 100%. These questions are noted with an asterisk (*).

For weighted means, the tables provide the number of respondents used in the mean calculation (n), the estimated mean weighted by the number of eligible plants (mean), and the corresponding 95% confidence interval (lower and upper).

In reporting the survey findings for beef and pork packers, we make comparisons between small and large plants and changes in marketing practices between 3 years ago, the past year, and the next 3 years. These comparisons are based on the magnitude of the point estimates and not on statistical testing. The confidence intervals provided in the tables can be used to make comparisons between survey estimates. That is,

overlapping confidence intervals suggest that the difference between the corresponding point estimates is not statistically significant.

7.1 BEEF PACKERS

Table 7-1 provides weighted tabulations for all survey questions for beef packers (n = 64). The survey response rate by beef packers was low, but the results provide useful information about use of AMAs in the industry. Tables 7-2 through 7-7 provide weighted tabulations for selected questions by size (n = 34 for small beef packers and n = 30 for large beef packers).

7.1.1 Characteristics of Beef Packing Plants

During the past year, 67% of beef packers purchased fewer than 1,000 steers, and 88% purchased fewer than 500,000 steers. About 66% of beef packers purchased fewer than 1,000 heifers, and 92% purchased fewer than 500,000 heifers. During calendar year 2002 (prior to the ban on importation of cattle from Canada), less than 1% of the fed cattle purchased for slaughter were imported from Canada. Relatively few plants custom slaughter. Of the plants that performed custom slaughter in the past year, 60% custom slaughtered fewer than 500 fed cattle. (See Table 7-1, Questions 1.4, 1.5, and 8.8.)

More than one-half of beef packers also slaughtered other beef cattle, dairy cattle, hogs, and/or lambs, in addition to fed beef cattle (including fed Holsteins). More than 80% of plants conducted slaughter, fabrication, and further processing activities. The maximum slaughter capacity averaged 4,700 head per week, with an average slaughter speed line of 114 head per hour. The maximum processing capacity averaged 3.2 million pounds of beef product per week. (See Table 7-1, Questions 1.2, 1.3, 8.4, 8.5, and 8.6.)

Of the fed cattle slaughtered during the past year, 24% (percentage of total head) were classified as heavy weight carcasses, 13% were classified as light weight carcasses, and 63% were standard weight carcasses.[1] On average, carcasses weighing more than 854 pounds were considered heavy weight,

[1] These values were computed as the mean percentage of head weighted by the number of eligible plants. Other reported means were computed similarly (i.e., weighted by the number of eligible plants).

and light weight carcasses weighed less than 578 pounds. (See Table 7-1, Question 1.8.)

According to USDA data on industry averages, the largest number of beef carcasses is Yield Grade 3. However, of the fed cattle slaughtered during the past year in the plants surveyed, 8% were Yield Grade 1, 27% were Yield Grade 2, 20% were Yield Grade 3, 8% were Yield Grade 4 or 5, and 37% had no yield grade. Of the fed cattle slaughtered during the past year, 3% were USDA Prime, 39% were USDA Choice, 12% were USDA Select, 8% were USDA standard, and 38% had an other or no quality grade (No-Roll). In contrast, USDA data suggest the industry average had more carcasses graded as Select and fewer graded as No-Roll. (See Table 7-1, Questions 1.6 and 1.7.)

Most plants (78%) are small, independently owned businesses and are not part of a company that owns another slaughter or processing plant. Additionally, more than half are not part of a company that owns other upstream or downstream businesses. (See Table 7-1, Questions 1.10 and 8.7.)

Many beef packing plants did not participate in any type of certification program or alliances.

Nearly 60% of plants did not participate in any type of certification program. For plants that participated in a certification program last year, the most frequently cited programs were CAB and own-company certification programs. Nearly one-fourth of plants identified themselves as participating in an alliance, with most participating in only one alliance. For plants participating in alliances, more than 44% of plants participated in alliances with feedlot operators only, and 19% participated in alliances that included three or more other stages of production. (See Table 7-1, Questions 1.9 and 1.11.)

About 45% of plants reported total gross sales for fresh, frozen, and processed beef products of less than $500,000, and 75% reported total gross sales of less than $5 million. About 74% of plants reported total gross sales for beef by-products of less than $500,000, and 79% reported total gross sales of less than $5 million. For total gross sales for all products, 41% of plants reported sales of less than $500,000, and 69% reported sales of less than $5 million. Thirteen percent of plants had total gross sales of more than $500 million. (See Table 7-1, Questions 8.10 and 8.11.)

During the past year, 32% of total beef product sales were for carcasses or sides; 30% were for primal or subprimal cuts; 14% were for ground beef (including trimmings); and more than 20% were either for portion cuts, case-ready cuts, or processed cuts. Of the beef products sold during the past year, 4% were branded. (See Table 7-1, Questions 1.12 and 1.13.)

7.1.2 Methods for Purchasing or Receiving Fed Cattle by Beef Packers

Of the fed cattle received during the past year, more than 86% were owned solely by the operation. For 76% of plants, all of their fed cattle were owned solely by the operation during the past year. Plants' ownership arrangements were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 7-1, Question 2.1.)

Beef packers used a variety of methods to receive fed cattle. However, nearly 60% of plants used only spot market transactions for purchases of cattle during the past year.

Beef packers used a variety of methods to receive fed cattle. However, nearly 60% of plants used only spot market transactions for purchases of cattle during the past year. Of these spot market transactions, 44% of purchases of fed cattle were through direct trade, 19% through auctions, and 11% through dealers/brokers. More than one-fourth of purchases were through AMAs (i.e., marketing agreement, forward contract, packer-fed owned, or other). Plants' purchase methods were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 7-1, Question 2.2.)

The most frequently cited pricing methods were individually negotiated pricing (73%), public auction (44%), and formula pricing (37%).[2] Plants that used formula pricing used many sources for the base price of the formula. The sources used most often as the base for grid pricing included CME cattle futures, individual or multiple-plant average price, USDA dressed or carcass quote, and USDA live quote. For formula pricing without a grid, CME cattle futures and USDA dressed or carcass quote were used most often as the base. The most frequently cited valuation methods for fed cattle purchases were carcass weight without grid pricing (69%) and liveweight (61%). Little change is expected in valuation methods in the next 3 years. (See Table 7-1, Questions 2.3 through 2.6.)

Buyers paid transportation costs in 31% of transactions. There were few cattle purchased using a written contract (7% of

[2] Respondents could select multiple responses.

transactions). When contracts or agreements were used, they were either short term (less than 6 months), which were likely based on market conditions and perception of the need for risk management, or long term (more than 10 years or evergreen), which were likely based on strategic business decisions. More than 93% of cattle purchased were scheduled for delivery within 2 weeks, and another 3% were scheduled for delivery 2 to 4 weeks in advance. (See Table 7-1, Questions 3.1 through 3.4.)

Of the fed cattle purchased during the last year, plants provided information back to the feeder or finisher on 26% of the total head purchased. Of plants that provided information, 93% provided information on carcass weight for individual animals. More than 60% provided information on USDA carcass quality grade, USDA carcass yield grade, or price paid for individual animals. Almost 80% provided information at the request of the seller for no charge. Plants provided information as a result of use of marketing agreements (47% of plants), alliances (36%), and forward contracts (36%). (See Table 7-1, Questions 3.5 through 3.7.)

Procuring fed cattle in cash markets allows those plants to respond to market conditions and to take advantage of market opportunities. However, cash procurement also allows plants to focus on their own operations without concerns about strategic partner behavior or issues of working with a strategic partner.

Plants that used only spot market transactions to purchase cattle were asked to identify the three most important reasons for using the spot market. More than 51% identified “Allows for independence, complete control, and flexibility of own business” as an important reason. About 44% chose “Secures higher quality fed cattle,” and more than 38% chose “Allows for adjusting operations quickly in response to changes in market conditions.” The main reason for using only the spot or cash market appears to be opportunistic. Procuring fed cattle in cash markets allows those plants to respond to market conditions and to take advantage of market opportunities. However, cash procurement also allows plants to focus on their own operations without concerns about strategic partner behavior or issues of working with a strategic partner. Furthermore, some respondents perceived that cattle can be purchased more cheaply in the cash market and that high-quality cattle can be obtained. (See Table 7-1, Question 4.1.)

Plants using AMAs were asked to identify their reasons for choosing an alternative to the cash market. Almost 58% chose “Improves week-to-week supply management.” Fifty-four percent of plants chose “Secures higher quality calves and

cattle," and 46% chose "Allows for product branding in retail stores." Thus, it appears that AMAs allow plants to focus on operational efficiency improvements. Also, AMAs appear to be important for economic plant management and to be quality-improving and demand-satisfying arrangements. However, respondents did not indicate that AMAs allow plants to pay reduced prices or decrease price risk. (See Table 7-1, Question 4.2.)

7.1.3 Methods for Selling or Transferring Beef Product by Beef Packers

Beef packers sell their products to a variety of buyers/recipients through a variety of methods. Thirty-five percent of total beef product dollar sales were to retail establishments, 22% were direct sales to consumers, 17% were to meat processors or food manufacturers, 15% were to wholesalers or distributors, and 10% were to other types of buyers. (See Table 7-1, Question 5.1.)

Almost 84% of beef products were sold through spot market transactions, 10% through AMAs (forward contracts or marketing agreements), and 4% through internal transfers.

Almost 84% of beef products were sold through spot market transactions, 10% through AMAs (forward contracts or marketing agreements), and 4% through internal transfers. All or nearly all plants used the cash market when selling, regardless of the type of buyer or recipient. Use of forward contracts and marketing agreements was more common for beef packers selling to food service establishments. Most beef packers selling to foreign buyers used marketing agreements. Beef packers transferring beef products to processors and manufacturers were doing so through internal transfers to other establishments owned by the company. (See Table 7-1, Questions 5.2 and 5.3.)

The most frequently cited methods for pricing beef products were price lists, individually negotiated pricing, and formula pricing. The type of pricing method used varied depending on the type of buyer or recipient. For sales to processors/ manufacturers and wholesalers/distributors, most plants used individually negotiated pricing, with price lists used to a lesser extent. For sales to retail establishments, most plants used price lists, with individually negotiated pricing used to a lesser extent. For sales to food service establishments, nearly all plants used price lists, and about one-half used individually negotiated pricing and/or formula pricing. For sales to foreign buyers, all plants used individually negotiated pricing, and

about half also used price lists. The USDA publicly reported price was most often used as the base price for formula pricing. About 17% to 38% of plants used volume discounts, depending on the type of buyer. Use of exclusive dealings was most common when selling to food service establishments (28% of plants). Fewer plants used two-part pricing and bundling. (See Table 7-1, Questions 5.4 through 5.7.)

On average, 32% of plants reported paying transportation costs for beef products sold. Less than 7% of the beef products sold were under a written agreement. Most agreements, both written and oral, were for less than 1 month. Delivery was also scheduled short term; 67% of deliveries were scheduled less than 7 days in advance. (See Table 7-1, Questions 6.1 through 6.4.)

For plants that only used spot market methods, the three most frequently cited reasons for doing so were (1) “Allows for independence, complete control, and flexibility of own business” (61%), (2) “Allows for adjusting operations quickly in response to changes in market conditions” (37%), and (3) “Does not require managing complex and costly contracts” (31%). Most reasons for using the spot market appear to be opportunistic or entrepreneurial. Selling beef products in cash markets allows plants to respond to market conditions and to take advantage of market opportunities. Furthermore, cash market procurement allows businesses to focus on their own operations, without concern about strategic partner management or behavior. To some extent, there appears to be a perception that the cash market allows for sales at higher prices and higher quality products. (See Table 7-1, Question 7.1.)

For plants that used alternatives to the cash or spot market, the most frequently cited reason for doing so was that it “Increases flexibility in responding to consumer demand” (72%). About 44% to 58% also chose “Reduces risk of exposure,” “Reduces price variability for beef products,” and “Improves week-to-week production management” as important reasons for using AMAs to sell beef products. It appears that plants use AMAs to satisfy consumer needs, but AMAs also allow plants to reduce risk and to focus on operational efficiency. (See Table 7-1, Question 7.2.)

7.1.4 Beef Packers' Marketing Practices, by Size of Plant

Most large beef packers only slaughtered fed cattle, while small beef packers slaughtered other livestock, such as other beef cattle, dairy cattle, hogs, and lambs. Custom slaughter was more common among small packers than among large packers. Further processing activities were more common among small packers than among large packers (85% versus 67%). Compared with small packers, large packers were more likely to participate in certification programs (90% versus 25%). Among large packers, 87% participated in the CAB certification program, and 53% participated in company programs that certify breed or livestock. Likewise, large packers were more likely to participate in an alliance (77% or larger packers versus 9% of small packers). Large packers also were more likely to be integrated.[3]

Ownership methods for fed cattle purchased for slaughter were similar for small and large plants. Most small (87%) and large (84%) plants were sole owners of fed cattle, and 5% or less of both small and large plants were shared owners of fed cattle. (See Table 7-2, Question S2.1.)

Purchasing practices for fed cattle differed by size of plant. About 78% of small plants purchased all of their fed cattle on the spot market compared with only 10% of large plants.

Purchasing practices for fed cattle differed by size of plant. About 78% of small plants purchased all of their fed cattle on the spot market compared with only 10% of large plants. Large plants used a variety of AMAs, with 11% of purchases through forward contracts and 20% thorough marketing agreements. (See Table 7-2, Question S2.2.)

Small packers priced cattle purchased using individually negotiated pricing (68% of plants) and public auctions (42%). Large plants also used individually negotiated pricing (90%) and public auctions (50%), but they had a greater reliance on formula pricing (93%).[4] Most small packers used carcass weight without a grid or liveweight as a valuation method. Large packers used these and carcass weight with a grid as valuation methods. (See Table 7-2, Questions S2.3, S2.4, and S2.6.)

Large plants paid to transport more of the fed cattle purchased compared with small plants (50% versus 25% of transactions). One-fourth of large plants' purchase transactions were under a

[3] We do not present results by size for these questions in the tables.
[4] Respondents could select multiple responses.

written agreement, compared with only 2% of small plants' transactions. For fed cattle purchased under contract, most small and large plants specified an agreement of less than 6 months. Both large and small plants scheduled approximately 93% of purchased fed cattle to be delivered in less than 2 weeks. Large plants were more likely than small plants to provide information back to the feeder or finisher (49% versus 18% of plants). (See Table 7-3.)

Because of the small number of respondents, we cannot compare plants' reasons for using only the cash market for purchasing fed cattle by size of plant. No small plants responding to the survey used AMAs to purchase fed cattle. The three most frequently cited reasons given by large plants for using AMAs to purchase fed cattle were "Improves week-to-week supply management," "Secures higher quality fed cattle," and "Allows for product branding in retail sales." (See Table 7-4.)

Small plants primarily sold their beef products to retail establishments (37% of total sales), and 29% of their sales were direct to consumers. Large plants sold beef products to a variety of buyers or recipients. Of large plants' total beef product dollar sales, 30% were to retail establishments, 27% were to wholesalers or distributors, 19% were to meat processors or food manufacturers, 9% were to food service establishments, 3% were to foreign buyers, and 12% were internal transfers. (See Table 7-5, Question S5.1.)

Compared with large plants, small plants had a greater reliance on spot market methods for selling beef products.

Compared with large plants, small plants had a greater reliance on spot market methods for selling beef products. Eighty-eight percent of small plants sold all of their beef products using spot market methods, while only 19% of large plants sold all of their beef products using spot market methods. For large plants, 61% of sales were spot market transactions, 15% were through marketing agreements, 10% were through forward contracts, and 14% were internal transfers. (See Table 7-5, Question S5.2.)

Both small and large plants primarily used price lists and individually negotiated pricing to price their beef products. Use of formula pricing and internal transfers were more common among large plants than among small plants. Large plants most often used USDA publicly reported prices as the base price for formula pricing. (See Table 7-5, Questions S5.5 and S5.6.)

Large plants were more likely than small plants to pay transportation costs for beef products sold (67% versus 22% of total beef meat sales). Few small or large plants used written contracts (7% of total beef sales). Large plants had longer contract lengths compared with small plants. Large plants also had longer delivery schedules, with 17% of sales delivered within 3 days, 24% of sales delivered between 4 and 6 days, and 59% of sales delivered a week or more ahead. (See Table 7-6.)

Because of the small number of respondents, we suppressed packers' stated reasons for using the spot market or AMAs. Thus, we cannot compare plants' stated reasons for use of sales methods by size of plant. (See Table 7-7.)

7.1.5 Beef Packer Survey Summary

The majority of plants within the beef packing industry are small plants; however, these small businesses purchased a relatively small portion of the fed cattle in the industry. Many beef packing plants did not participate in any type of certification program or alliance; however, large plants were more likely than small plants to participate in such programs.

Many beef packers relied on spot market transactions for purchasing fed cattle. Small plants were more likely to use spot market transactions to purchase fed cattle than were large plants. For large plants, the most common types of AMAs were marketing agreements and forward contracts. Plants employed a variety of methods for pricing fed cattle, including individually negotiated pricing, formula pricing, and public auctions. Most purchases were not under a written agreement and were delivered within 7 days. Plants that only used cash markets for purchasing fed cattle did so because it allows for independence, control, and flexibility over business operations. Plants that used AMAs did so to improve operational efficiency. Furthermore, it appears AMAs were important for plant management and helped improve quality and satisfy buyers' requirements.

Most beef product sales were through the cash or spot market, with small plants having a much greater reliance than large plants on the cash market. Plants used price lists, individually negotiated pricing, and formula pricing to price beef products. Most sales were not under a written agreement and were

delivered within 3 days. Plants that only used cash markets to sell beef products did so because of the flexibility and simplicity of using the cash market. Plants that used AMAs did so to satisfy consumer demand, reduce risk, and improve operational efficiency.

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64)

		n	%	Lower	Upper
1.2*	What types of livestock did your plant slaughter during the past year?				
	1. Fed beef cattle (including fed Holsteins)	64	100.0	100.0	100.0
	2. Other beef cattle	33	67.5	56.8	78.3
	3. Dairy cattle	26	51.6	38.1	65.0
	4. Hogs	28	63.8	53.5	74.0
	5. Lambs or sheep	24	54.6	42.4	66.9
	6. Other	0	0.0	NA	NA
	7. Goats	8	16.7	5.7	27.7
	8. Buffalo, elk, or deer	7	15.9	5.0	26.8
1.3	Which of the following best describes your plant's operations during the past year?				
	1. Only conducted slaughter operations	3	2.3	0.0	4.8
	2. Conducted slaughter and fabrication operations, but no further processing activities	12	16.7	6.5	26.8
	3. Conducted slaughter operations, fabrication operations, and further processing activities	49	81.1	70.8	91.4
	Total		100.1†		

		n	Mean	Lower	Upper
1.4a	How many steers were purchased by your plant during the past year?	59	114,181.6	84,663.7	143,699.6

	n	%	Lower	Upper
1–999	26	66.8	58.2	75.4
1,000–9,999	4	8.6	0.0	17.3
10,000–99,999	5	4.2	0.7	7.8
100,000–499,999	10	8.5	4.0	13.0
500,000–1,999,999	14	11.9	7.2	16.6
2,000,000 or more	0	0.0	NA	NA
Total		100.0		

NA = Confidence interval not calculable. (continued)
* Respondents could select multiple responses.
† Total does not sum to 100% because of rounding.

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible plants
Mean = estimated mean weighted by the number of eligible plants
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	n	Mean	Lower	Upper
1.4b How many heifers were purchased by your plant during the past year?	47	96,539.2	68,299.5	124,778.9
	n	**%**	**Lower**	**Upper**
1–999	19	65.7	58.7	72.6
1,000–9,999	4	6.9	0.0	14.8
10,000–99,999	5	5.7	1.0	10.4
100,000–499,999	12	13.7	7.7	19.8
500,000–999,999	7	8.0	2.7	13.3
1,000,000 or more	0	0.0	NA	NA
Total		100.0		
	n	**Mean**	**Lower**	**Upper**
1.4c How many mixed steers/heifers were purchased by your plant during the past year?	5	57,616.2	20,547.5	94,684.9
	n	**%**	**Lower**	**Upper**
1–999	0	0.0	NA	NA
1,000–99,999	5	100.0	100.0	100.0
100,000 or more	0	0.0	NA	NA
Total		100.0		
	n	**Mean**	**Lower**	**Upper**
1.4d How many other cattle were purchased by your plant during the past year?	21	4,441.1	<0	10,006.1
	n	**%**	**Lower**	**Upper**
1–499	11	61.0	36.1	86.0
500–999	4	14.6	0.0	31.9
1,000 or more	6	24.4	2.2	46.5
Total		100.0		
	n	**Mean**	**Lower**	**Upper**
1.5 How many fed cattle were custom slaughtered by your plant during the past year?	39	1,329.0	82.4	2,575.5
	n	**%**	**Lower**	**Upper**
1–499	22	60.2	43.6	76.8
500–999	9	24.3	9.5	39.1
1,000–99,999	8	15.5	4.0	27.1
100,000 or more	0	0.0	NA	NA
Total		100.0		

NA = Confidence interval not calculable.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	Percentage of Total Head (n = 43)			Percentage of Total Weight (n = 32)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.6 What was the carcass yield grade for fed cattle slaughtered by your plant during the past year?						
a. Yield grade 1	8.2	1.3	15.1	9.7	<0	19.8
b. Yield grade 2	26.8	16.3	37.4	25.3	12.4	38.2
c. Yield grade 3	20.1	13.5	26.7	15.6	9.8	21.4
d. Yield grade 4	6.9	0.9	12.8	7.5	<0	15.7
e. Yield grade 5	0.7	0.0	1.5	0.3	0.1	0.5
f. Other yield grade or no yield grade	37.2	20.8	53.7	41.7	22.3	61.1
Total	99.9†			100.1†		

	Percentage of Total Head (n = 47)			Percentage of Total Weight (n = 34)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.7 What was the carcass quality grade for fed cattle slaughtered by your plant during the past year?						
a. Prime	2.5	0.7	4.2	0.8	0.5	1.1
b. Choice	39.1	27.0	51.2	37.2	21.9	52.5
c. Select	12.2	7.9	16.4	11.1	4.0	18.3
d. Standard	7.9	1.8	14.0	8.3	<0	17.0
e. Other quality grade or no quality grade	38.4	22.7	54.1	42.5	23.5	61.5
Total	100.1†			99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	Weight Range (pounds)				Percentage of Total Head (n = 44)			Percentage of Total Weight (n = 30)		
	n	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
1.8 What was the carcass weight classification for fed cattle slaughtered by your plant during the past year?										
a. Standard weight carcasses	—	—	—	—	63.4	51.0	75.9	62.3	46.1	78.5
b. Heavy weight carcasses	49	854.3	787.0	921.5	23.8	13.8	33.7	25.4	12.0	38.7
c. Light weight carcasses	44	577.5	521.7	633.2	12.8	6.4	19.1	12.3	3.7	21.0
Total					100.0			100.0		

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
1.9*	What types of certification programs did your plant participate in during the past year?				
	1. None	24	58.0	45.3	70.7
	2. Kosher certification	3	2.6	0.0	5.5
	3. Halal certification	3	4.4	0.0	10.2
	4. Organic certification	6	12.3	2.0	22.5
	5. USDA Process Verified certification	10	12.2	3.7	20.8
	6. ISO certification	0	0.0	NA	NA
	7. Certified Angus Beef	27	25.3	19.1	31.5
	8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	9	11.4	3.0	19.8
	9. Own-company certification of breed or livestock quality	17	16.6	9.4	23.8
	10. Buyer certification of breed or livestock quality	D	2.6	0.0	7.9
	11. Other	D	2.6	0.0	7.9
1.10*	What levels of production were owned by the same company that owns your plant during the past year?				
	1. None	28	52.4	38.4	66.5
	2. Seed stock supplier	0	0.0	NA	NA
	3. Feed company	5	3.9	0.7	7.2
	4. Cow calf operation	D	4.8	0.0	11.4
	5. Feedlot	12	14.3	5.3	23.2
	6. Food manufacturer or meat processor	28	33.3	21.2	45.3
	7. Restaurant, hotel, or other food service	0	0.0	NA	NA
	8. Grocery store, meat market, or other retailer	8	19.1	7.2	31.0
	9. Exporter	9	7.1	3.1	11.1
	10. Other	0	0.0	NA	NA
1.11a	What types of alliances did your plant participate in during the past year for purchasing fed cattle and/or selling beef products?				
	– Plants participating in an alliance	26	24.1	15.7	32.6
	– Respondents with one alliance	10	37.5	12.7	62.3
	– Respondents with two alliances	4	25.1	3.7	46.5
	– Respondents with three alliances	4	12.5	0.5	24.4
	– Respondents with four alliances	D	3.1	0.0	9.6
	– Respondents with five alliances	7	21.8	7.3	36.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
1.11b	For beef packers that participated in alliances, what types of alliances did your plant participate in during the past year for purchasing fed cattle and/or selling beef products?				
	1. Seed stock supplier only	D	1.3	0.0	3.8
	2. Feedlot only	29	44.3	30.6	58.0
	3. Other packer only	12	15.2	7.2	23.1
	4. Retailer only	4	10.2	0.2	20.2
	5. Feedlot, cow-calf operation	3	3.8	0.0	8.1
	6. Retailer and food service	5	6.3	0.9	11.8
	7. Seed stock supplier, cow-calf operation, and feedlot	13	16.4	8.2	24.6
	8. Seed stock supplier, feed company, cow-calf operation, and feedlot	D	2.5	0.0	6.1
	Total		100.0		
			Mean (n = 52)	**Lower**	**Upper**
1.12	What was your plant's percentage of total beef product dollar sales during the past year, by product category?				
	a. Carcass or side		32.4	20.4	44.4
	b. Primal cuts		8.5	2.7	14.4
	c. Subprimal cuts		21.7	16.8	26.6
	d. Ground, including trimmings		14.1	8.0	20.1
	e. Portion cuts		4.5	<0	9.8
	f. Case ready		3.7	<0	8.6
	g. Processed, ready-to-eat		4.9	<0	10.8
	h. Processed, not-ready-to-eat		7.5	<0	15.1
	i. Other		2.6	<0	7.8
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
1.13	What percentage of beef product sold by your plant during the past year was branded?	58	4.4	0.2	8.5

D = Results suppressed.

† Total does not sum to 100% because of rounding.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	3 Years Ago (n = 48)			During Past Year (n = 49)			Expected in 3 Years (n = 47)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.1 For all fed cattle purchased or received by your operation, what were the ownership arrangements (% of head)?									
a. Sole ownership by your plant	83.1	71.1	95.1	86.4	76.0	96.8	85.8	74.6	96.9
b. Joint venture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Shared ownership	7.8	<0	16.4	4.7	<0	10.8	4.8	<0	11.4
d. Other	9.1	0.0	18.3	8.9	0.0	17.8	9.4	0.0	18.9
Total	100.0			100.0			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are sole ownership	34	75.5	62.0	89.1	35	76.3	63.1	89.4	34	77.9	65.0	90.8

	3 Years Ago (n = 57)			During Past Year (n = 57)			Expected in 3 Years (n = 55)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2 What methods are used by your plant for purchasing fed cattle (% of head)?									
a. Auction barns	22.4	10.6	34.2	19.1	7.9	30.3	19.2	7.2	31.1
b. Video/electronic auctions	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	10.3	1.3	19.3	11.0	1.6	20.5	9.7	0.2	19.2
d. Direct trade	40.9	27.2	54.7	44.0	30.2	57.8	42.1	28.1	56.1
e. Forward contract	2.7	0.6	4.9	3.1	0.8	5.3	3.2	1.0	5.3
f. Marketing agreement	13.5	6.0	21.1	10.7	3.0	18.3	12.7	4.4	21.0
g. Packer fed/owned	6.5	<0	14.1	8.5	<0	17.4	9.3	<0	18.9
h. Other	3.6	<0	9.3	3.6	<0	9.3	3.8	<0	9.9
Total	99.9†			100.0			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Operations for which 100% are cash or spot market sales	24	61.4	49.9	72.8	24	59.6	47.2	71.9	22	57.3	44.3	70.2

† Total does not sum to 100% because of rounding.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.3* What types of pricing methods are used by your plant for purchasing fed cattle?								
1. Individually negotiated pricing	48	73.1	59.9	86.4	46	73.5	60.0	86.9
2. Public auction	28	43.9	29.5	58.3	24	35.9	22.0	49.7
3. Sealed bid	3	2.4	0.0	5.1	3	2.5	0.0	5.4
4. Formula pricing (using another price as the base)	34	37.3	26.1	48.5	35	40.1	28.5	51.6
5. Internal transfer	14	17.9	7.7	28.1	13	17.9	7.3	28.6
6. Other	D	2.4	0.0	7.3	D	2.6	0.0	7.7
	Grid Pricing				**Without Grid Pricing**			
	n	%	Lower	Upper	n	%	Lower	Upper
2.4* For fed cattle purchased by your plant during the past year using formula pricing, what was the base price of the formula?								
1. Individual or multiple plant average price	16	50.0	32.5	67.4	3	12.5	0.0	27.7
2. Individual or multiple plant average cost of production	6	18.7	4.5	32.9	6	14.3	1.1	27.4
3. USDA live quote	13	40.6	23.2	58.0	9	19.6	5.8	33.4
4. USDA dressed or carcass quote	12	43.8	26.8	60.8	8	28.6	9.1	48.1
5. USDA boxed beef price	6	25.1	11.8	38.3	5	8.9	1.6	16.2
6. Chicago Mercantile Exchange (CME) cattle futures	18	56.2	39.2	73.2	16	32.0	18.2	45.9
7. Retail price	5	15.6	2.4	28.9	7	19.6	3.2	36.0
8. Subscription service price (for example, Cattle Fax, Urner Barry)	11	34.3	17.3	51.4	7	12.4	4.3	20.6
9. Other market price	0	0.0	NA	NA	D	10.8	0.0	25.4
10. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
2.5*	For fed cattle received during the past year from another business unit owned by the same company, what was the source of the internal transfer price?				
	1. Price paid for purchased fed cattle	5	61.3	45.0	77.6
	2. Reported market price	8	55.5	14.8	96.2
	3. Measure of internal production cost with a profit margin	0	0.0	NA	NA
	4. Measure of internal production cost without a profit margin	0	0.0	NA	NA
	5. Other	0	0.0	NA	NA

NA = Confidence interval not calculable. (continued)
* Respondents could select multiple responses.

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.6* What types of valuation methods are used by your plant for purchasing fed cattle?								
1. Liveweight	40	61.0	46.2	75.9	38	60.7	45.5	76.0
2. Carcass weight, not dependent on grid value	40	68.5	54.0	83.0	37	65.7	50.5	80.8
3. Carcass weight, dependent on grid value	27	26.7	20.1	33.3	28	29.3	22.5	36.0
4. Other	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	Mean	Lower	Upper
3.1	For what percentage of fed cattle purchased during the past year did the buyer (your plant) pay for transportation?	60	30.8	18.8	42.9
3.2	What percentage of fed cattle purchased during the past year were under a written agreement (versus oral)?	61	7.2	4.1	10.4

		Mean (n = 57)	Lower	Upper
3.3	For fed cattle purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?			
	a. Purchases not under agreement or contract	79.3	68.3	90.2
	b. Less than 6 months	7.2	0.5	13.9
	c. 6 to 11 months	1.7	0.1	3.3
	d. 1 to 2 years	4.0	<0	9.7
	e. 3 to 5 years	2.7	<0	8.1
	f. 6 to 10 years	0.4	<0	0.9
	g. More than 10 years or evergreen	4.7	<0	10.3
	Total	100.0		

		Mean (n = 59)	Lower	Upper
3.4	For fed cattle purchased during the past year, how far in advance of slaughter was the delivery scheduled (% of head)?			
	a. Less than 7 days	76.4	65.1	87.7
	b. 8 to 14 days	16.8	7.3	26.3
	c. 15 to 21 days	1.5	<0	4.1
	d. 22 to 30 days	1.3	<0	3.9
	e. 1 to 2 months	0.0	0.0	0.0
	f. More than 2 months	4.0	<0	9.4
	Total	100.0		

		n	Mean	Lower	Upper
3.5	For what percentage of fed cattle purchased during the past year did your plant provide information back to the feeder or finisher?	59	25.6	15.2	36.0

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
3.6*	Under what conditions did your plant provide information back to the feeder or finisher?				
	1. Requested by seller, no charge	30	79.2	62.2	96.3
	2. Requested by seller, for a set fee	10	26.4	8.6	44.2
	3. Cash or spot market purchases	3	5.6	0.0	12.0
	4. Forward contract	19	35.7	25.8	45.7
	5. Marketing agreement	25	47.0	39.8	54.2
	6. Alliance	19	35.7	25.8	45.7
	7. Joint venture	D	1.9	0.0	5.7
	8. Shared ownership	12	22.6	12.3	32.9
	9. Other	D	5.7	0.0	17.2
3.7*	What types of information did your plant provide back to the feeder or finisher?				
	1. USDA carcass quality grade for individual animals	31	65.9	49.2	82.7
	2. USDA carcass yield grade for individual animals	30	60.6	45.7	75.4
	3. Carcass weight for individual animals	36	92.8	81.3	100.0
	4. Price paid for individual carcasses	22	60.7	41.6	79.8
	5. USDA carcass quality grade by lot	27	48.0	43.0	53.0
	6. USDA carcass yield grade by lot	27	48.0	43.0	53.0
	7. Carcass weight by lot	27	48.0	43.0	53.0
	8. Average dressing percentage by lot	28	53.4	41.4	65.4
	9. Other	D	1.8	0.0	5.4
	10. Price paid by similar weight range *(write-in response)*	10	17.8	8.4	27.2
	11. Vision machine yield grade, ribeye area, backfat *(write-in response)*	6	10.7	2.7	18.7

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
4.1*	What are the three most important reasons why your plant only uses the cash or spot market for purchasing fed cattle?				
	1. Can purchase fed cattle at lower prices	7	27.1	8.0	46.3
	2. Reduces risk exposure	3	12.9	0.0	27.5
	3. Reduces costs of activities for buying fed cattle	4	17.1	0.6	33.7
	4. Reduces price variability for fed cattle	D	8.6	0.0	20.9
	5. Reduces potential liability and litigation concerns	D	1.4	1.4	1.4
	6. Increases supply chain information	D	4.3	0.0	13.2
	7. Secures higher quality fed cattle	11	44.3	22.7	65.9
	8. Allows for market access	3	12.9	0.0	27.5
	9. Allows for adjusting operations quickly in response to changes in market conditions	9	38.6	17.3	59.8
	10. Does not require identifying and recruiting long-term contracting partners	3	12.9	0.0	27.5
	11. Does not require managing complex and costly contracts	4	17.1	0.6	33.7
	12. Eliminates possible negative public perceptions about use of contracts	D	4.3	0.0	13.2
	13. Allows for independence, complete control, and flexibility of own business	12	51.4	29.7	73.2
	14. Enhances ability to benefit from favorable market conditions	5	21.4	3.5	39.4
	15. Other	0	0.0	NA	NA
	16. Can easily purchase small quantity of fed cattle *(write-in response)*	D	4.3	0.0	13.2
4.2*	What are the three most important reasons why your plant uses alternative purchase methods for purchasing fed cattle?				
	1. Can purchase fed cattle at lower prices	0	0.0	NA	NA
	2. Reduces risk exposure	0	0.0	NA	NA
	3. Reduces costs of activities for buying fed cattle	9	34.6	15.0	54.2
	4. Reduces price variability for fed cattle	0	0.0	NA	NA
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality fed cattle	14	53.8	33.3	74.4
	8. Allows for market access	11	42.3	22.0	62.7
	9. Increases flexibility in responding to consumer demand	5	19.2	3.0	35.5
	10. Allows for product branding in retail sales	12	46.2	25.6	66.7
	11. Allows for food safety and biosecurity assurances	0	0.0	NA	NA
	12. Allows for product traceability	D	3.8	0.0	11.8
	13. Improves week-to-week supply management	15	57.7	37.3	78.0
	14. Improves efficiency of operations due to animal uniformity	11	42.3	22.0	62.7
	15. Enhances access to credit	0	0.0	NA	NA
	16. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	Mean (n = 56)	Lower	Upper
5.1 What was your plant's percentage of total beef product dollar sales during the past year by type of buyer or recipient?			
a. Meat processors or food manufacturers	17.2	8.3	26.1
b. Wholesalers or distributors	15.2	8.7	21.7
c. Retail establishments	35.2	24.0	46.4
d. Food service establishments	6.7	1.5	11.9
e. Foreign buyers	0.7	0.5	1.0
f. Other	0.1	0.0	0.1
g. Directly to consumer *(write-in response)*	22.2	9.7	34.7
h. Intercompany transfer *(write-in response)*	2.7	<0	5.6
Total	100.0		

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	3 Years Ago (n = 53)			During Past Year (n = 52)			Expected in 3 Years (n = 50)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
5.2 What sales methods are used by your plant for selling beef products (% of dollar sales)?									
a. Cash or spot market (less than 3 weeks forward)	85.2	76.8	93.6	83.6	74.9	92.3	81.4	72.0	90.8
b. Forward contract	4.7	<0	10.5	5.5	<0	11.5	6.8	0.5	13.1
c. Marketing agreement	3.5	2.2	4.8	4.2	2.7	5.7	4.4	2.9	5.9
d. Internal company transfer	3.7	0.7	6.7	3.7	0.6	6.8	4.3	1.0	7.6
e. Other	2.9	<0	8.6	2.9	<0	8.9	3.1	<0	9.2
Total	100.0			99.9†			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market sales	28	70.6	60.3	80.9	27	69.7	59.1	80.3	26	69.5	58.5	80.5

† Total does not sum to 100% because of rounding.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		Processors / Manufacturers				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.3*	What sales methods did your plant use during the past year for selling beef products to different types of recipients?												
	1. Cash or spot market (less than 3 weeks forward)	32	100.0	100.0	100.0	30	89.3	74.5	100.0	37	91.5	79.8	100.0
	2. Forward contract	15	31.1	20.9	41.4	8	14.2	6.1	22.4	20	33.7	20.6	46.7
	3. Marketing agreement	17	35.3	25.6	44.9	6	14.3	1.1	27.4	16	22.4	16.0	28.8
	4. Internal company transfer	13	27.0	16.4	37.5	6	14.3	1.1	27.4	7	9.8	3.4	16.2
	5. Other	0	0.0	NA	NA	D	5.4	0.0	16.3	D	4.2	0.0	12.8
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Cash or spot market (less than 3 weeks forward)	25	100.0	100.0	100.0	9	100.0	100.0	100.0				
	2. Forward contract	18	54.4	44.1	64.7	0	0.0	NA	NA				
	3. Marketing agreement	18	54.4	44.1	64.7	8	88.9	63.3	100.0				
	4. Internal company transfer	0	0.0	NA	NA	0	0.0	NA	NA				
	5. Other	0	0.0	NA	NA	0	0.0	NA	NA				

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		Processors / Manufacturers				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.4*	What types of pricing methods did your plant use during the past year for selling beef products to different types of recipients?												
	1. Price list	23	60.7	40.0	81.4	21	54.6	34.2	75.0	30	60.9	43.6	78.2
	2. Individually negotiated pricing	29	80.3	61.8	98.8	24	67.9	47.1	88.7	20	41.4	24.2	58.6
	3. Formula pricing (using another price as the base)	20	43.0	28.5	57.5	10	22.6	8.0	37.1	18	21.8	17.3	26.4
	4. Sealed bid	D	7.9	0.0	20.5	D	1.9	0.0	5.7	6	7.3	2.0	12.5
	5. Internal transfer	10	19.5	9.7	29.3	6	11.3	3.2	19.3	8	12.2	2.9	21.4
	6. Other	0	0.0	NA	NA	D	5.7	0.0	17.3	D	3.7	0.0	11.1
	7. Online auction *(write-in response)*	5	9.8	1.7	17.9	5	9.4	1.8	17.0	5	6.1	1.1	11.0
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Price list	23	96.9	90.4	100.0	9	56.3	28.9	83.6				
	2. Individually negotiated pricing	13	46.8	22.5	71.2	16	100.0	100.0	100.0				
	3. Formula pricing (using another price as the base)	18	56.1	47.2	65.0	5	31.3	5.7	56.8				
	4. Sealed bid	5	15.6	2.7	28.4	0	0.0	NA	NA				
	5. Internal transfer	0	0.0	NA	NA	0	0.0	NA	NA				
	6. Other	0	0.0	NA	NA	0	0.0	NA	NA				
	7. Online auction *(write-in response)*	5	15.6	2.7	28.4	5	31.3	5.7	56.8				

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
5.5*	For beef products sold by your plant during the past year using formula pricing, what was the base price of the formula?				
	1. Individual or multiple plant average price	6	15.7	4.4	27.1
	2. Individual or multiple plant average cost of production	8	21.0	8.8	33.1
	3. USDA publicly reported price	21	65.7	44.3	87.1
	4. Retail price	10	42.1	17.2	67.1
	5. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA
	6. Other market price	D	7.9	0.0	24.3
	7. Other	D	2.6	0.0	8.0
5.6*	What types of pricing methods does your plant expect to use in 3 years for selling beef products?				
	1. Price list	36	59.2	44.0	74.5
	2. Individually negotiated pricing	35	56.4	41.2	71.7
	3. Formula pricing (using another price as the base)	26	35.1	22.1	48.1
	4. Sealed bid	7	8.3	1.4	15.2
	5. Internal transfer	20	20.3	13.1	27.4
	6. Other	D	2.8	0.0	8.4
	7. Online auction *(write-in response)*	5	4.6	0.8	8.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		Processors / Manufacturers				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.7*	Which of the following marketing practices did your plant use during the past year for the sale of beef products?												
	1. Two-part pricing	0	0.0	NA	NA	D	6.4	0.0	19.5	D	8.5	0.0	20.2
	2. Volume discounts	7	22.9	4.1	41.8	8	16.9	7.2	26.7	9	18.3	4.9	31.6
	3. Exclusive dealings	D	12.6	0.0	29.3	8	16.9	7.2	26.7	6	11.2	0.9	21.6
	4. Bundling	0	0.0	NA	NA	5	10.6	2.0	19.2	5	7.0	1.3	12.7
	5. None of the above	24	70.8	50.2	91.4	18	72.4	55.9	88.9	27	69.0	51.4	86.7

	Food Service Establishments				Foreign Buyers			
	n	%	Lower	Upper	n	%	Lower	Upper
1. Two-part pricing	0	0.0	NA	NA	0	0.0	NA	NA
2. Volume discounts	7	38.0	12.1	63.9	5	22.7	3.9	41.5
3. Exclusive dealings	6	27.6	1.7	53.5	D	4.5	0.0	14.1
4. Bundling	5	17.2	3.0	31.4	0	0.0	NA	NA
5. None of the above	16	62.0	36.1	87.9	14	72.8	52.9	92.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	n	Mean	Lower	Upper
6.1 For what percentage of beef products sold during the past year did the seller (your plant) pay for transportation?	58	32.0	20.5	43.5
6.2 What percentage of beef products sold during the past year were under a written agreement (versus oral)?	58	6.6	<0	13.6

	Mean (n = 53)	Lower	Upper
6.3 For beef products sold during the past year, what was the length of the agreement or contract (oral or written) (% of dollar sales)?			
a. Sales not under agreement or contract	89.8	80.3	99.2
b. Less than 1 month	8.2	<0	17.3
c. 1 to 2 months	0.6	0.1	1.1
d. 3 to 5 months	0.1	0.0	0.3
e. 6 to 11 months	0.7	0.1	1.3
f. 1 to 2 years	0.2	0.0	0.4
g. 3 to 5 years	0.0	0.0	0.0
h. 6 to 10 years	0.0	0.0	0.0
i. More than 10 years or evergreen	0.4	<0	1.1
Total	100.0		

	Mean (n = 52)	Lower	Upper
6.4 For beef products sold during the past year, how far in advance of delivery was the delivery scheduled (% of dollar sales)?			
a. Less than 3 days	48.1	34.8	61.4
b. 4 to 6 days	18.7	10.1	27.2
c. 1 to 2 weeks	19.3	9.6	29.0
d. 3 to 4 weeks	10.7	1.9	19.5
e. More than 1 month	3.2	1.8	4.6
Total	100.0		

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
7.1*	What are the three most important reasons why your plant only uses the cash or spot market for selling beef products?				
	1. Can sell beef products at higher prices	7	23.0	5.8	40.2
	2. Reduces risk exposure	9	28.4	10.1	46.6
	3. Reduces costs of activities for selling beef products	D	1.3	0.0	4.1
	4. Reduces price variability for beef products	D	4.1	0.0	12.4
	5. Reduces potential liability and litigation concerns	D	5.4	0.0	14.2
	6. Increases supply chain information	0	0.0	NA	NA
	7. Allows for sale of higher quality beef products	5	20.3	3.4	37.1
	8. Allows for market access	6	24.3	6.4	42.3
	9. Allows for adjusting operations quickly in response to changes in market conditions	9	36.5	16.6	56.5
	10. Does not require identifying and recruiting long-term contracting partners	4	13.5	0.0	27.6
	11. Does not require managing complex and costly contracts	9	31.1	12.0	50.2
	12. Eliminates possible negative public perceptions about use of contracts	3	6.7	0.0	15.7
	13. Allows for independence, complete control, and flexibility of own business	17	60.8	40.6	81.0
	14. Enhances ability to benefit from favorable market conditions	6	24.3	6.4	42.3
	15. Other	0	0.0	NA	NA
	16. Can easily sell small quantity of beef products *(write-in response)*	D	4.1	0.0	12.4
7.2*	What are the three most important reasons why your plant uses alternative sales methods for selling beef products?				
	1. Can sell beef products at higher prices	D	12.1	0.0	37.3
	2. Reduces risk exposure	12	47.9	29.9	66.0
	3. Reduces costs of activities for selling beef products	0	0.0	NA	NA
	4. Reduces price variability for beef products	11	43.9	25.4	62.4
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Allows for sale of higher quality beef products	D	12.1	0.0	37.3
	8. Allows for market access	D	8.0	0.0	19.5
	9. Increases flexibility in responding to consumer demand	16	72.0	42.4	100.0
	10. Allows for product branding in retail sales	0	0.0	NA	NA
	11. Allows for food safety and biosecurity assurances	0	0.0	NA	NA
	12. Allows for product traceability	0	0.0	NA	NA
	13. Improves week-to-week production management	11	43.9	25.4	62.4
	14. Secures a buyer for beef products	6	24.0	6.6	41.3
	15. Enhances access to credit	0	0.0	NA	NA
	16. Other	D	12.1	0.0	37.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

	n	%	Lower	Upper
8.1 How many days per week did your plant usually slaughter fed cattle?				
1. Less frequently than once a week	7	17.1	5.5	28.7
2. 1 or 2 days per week	18	44.0	30.3	57.6
3. 3 or 4 days per week	8	13.0	3.2	22.8
4. 5 or 6 days per week	28	25.9	18.4	33.4
Total		100.0		
8.2 How many fed cattle slaughter shifts did your plant usually operate per day?				
1. One	46	87.9	83.4	92.4
2. Two	15	12.1	7.6	16.6
3. Three	0	0.0	NA	NA
Total		100.0		
8.3 How many beef processing shifts did your plant usually operate per day?				
1. None	16	22.7	11.0	34.5
2. One	29	64.3	53.0	75.7
3. Two	15	12.1	7.6	16.6
4. Three	D	0.8	0.0	2.4
Total		99.9†		

	n	Mean	Lower	Upper
8.4 What is your plant's maximum slaughter capacity (head per week) for fed cattle?	61	4,700	3,591	5,809
8.5 What is your plant's maximum processing capacity (pounds per week) for beef products?	54	3,232,681	2,271,655	4,193,707
8.6 What was the slaughter line speed (head per hour) for fed cattle?	42	113.5	93.3	133.7

	n	%	Lower	Upper
8.7 How many meat slaughter and processing plants, including this one, are owned by the company that owns your plant?				
1. One	33	77.9	74.7	81.1
2. 2 to 5	11	9.3	4.8	13.9
3. 6 to 10	0	0.0	NA	NA
4. 11 to 20	10	8.5	4.0	13.0
5. 21 or more	5	4.2	0.7	7.8
Total		99.9†		

	n	Mean	Lower	Upper
8.8 What percentage of fed cattle purchased for slaughter during calendar year 2002 (prior to the ban on importation of cattle from Canada) were imported from Canada?	60	0.6	0.2	0.9

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

(continued)

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	Mean	Lower	Upper
8.9	Approximately how many people were employed at your plant during the past year?				
	a. Full time	57	371.2	270.5	471.8
	b. Part time or seasonal	36	6.6	4.5	8.7
		n	**%**	**Lower**	**Upper**
8.10	What were your plant's approximate total gross sales for fresh, frozen, and processed beef products during the past year?				
	1. Under $99,999	9	22.5	9.7	35.4
	2. $100,000 to $499,999	9	22.5	9.7	35.4
	3. $500,000 to $999,999	5	12.5	2.1	23.0
	4. $1,000,000 to $4,999,999	7	17.5	5.7	29.4
	5. $5,000,000 to $19,999,999	5	4.1	0.7	7.6
	6. $20,000,000 to $49,999,999	3	4.2	0.0	9.7
	7. $50,000,000 to $99,999,999	0	0.0	NA	NA
	8. $100,000,000 to $499,999,999	5	4.1	0.7	7.6
	9. $500,000,000 to $999,999,999	3	2.5	0.0	5.2
	10. $1,000,000,000 or more	12	9.9	5.6	14.3
	Total		99.8†		
8.11	What were your plant's approximate total gross sales for beef by-products during the past year?				
	1. Under $99,999	28	68.4	59.1	77.7
	2. $100,000 to $499,999	3	5.7	0.0	12.7
	3. $500,000 to $2,499,999	4	4.9	0.0	10.5
	4. $2,500,000 to $4,999,999	0	0.0	NA	NA
	5. $5,000,000 to $19,999,999	3	4.1	0.0	9.4
	6. $20,000,000 to $49,999,999	5	4.0	0.7	7.4
	7. $50,000,000 to $99,999,999	4	3.2	0.2	6.3
	8. $100,000,000 to $499,999,999	12	9.7	5.4	14.0
	9. $500,000,000 to $999,999,999	0	0.0	NA	NA
	10. $1,000,000,000 or more	0	0.0	NA	NA
	Total		100.0		

NA = Confidence interval not calculable. (continued)
† Total does not sum to 100% because of rounding.

Table 7-1. Weighted Responses for the Beef Packer Survey (n = 64) (continued)

		n	%	Lower	Upper
8.12	What were your plant's approximate total gross sales for all products during the past year?				
	1. Under $99,999	5	11.9	1.9	21.9
	2. $100,000 to $499,999	12	28.6	15.2	42.0
	3. $500,000 to $999,999	4	9.5	0.5	18.6
	4. $1,000,000 to $4,999,999	8	19.1	7.1	31.0
	5. $5,000,000 to $19,999,999	5	8.7	0.4	17.0
	6. $20,000,000 to $49,999,999	6	6.3	0.6	12.1
	7. $50,000,000 to $99,999,999	0	0.0	NA	NA
	8. $100,000,000 to $499,999,999	3	2.4	0.0	5.0
	9. $500,000,000 to $999,999,999	5	3.9	0.7	7.2
	10. $1,000,000,000 or more	12	9.5	5.3	13.6
	Total		99.9†		

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

Table 7-2. Use of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

	Small (n = 26)				Large (n = 23)				All Plants (n = 49)			
		Mean	Lower	Upper		Mean	Lower	Upper		Mean	Lower	Upper
S2.1 For all fed cattle purchased or received by your operation, what were the ownership arrangements during the past year (% of head)?												
a. Sole ownership by your plant		87.1	74.0	>100		84.1	69.3	98.8		86.4	76.0	96.8
b. Joint venture		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
c. Shared ownership		5.2	<0	13.2		3.0	<0	6.1		4.7	<0	10.8
d. Other		7.7	<0	18.7		13.0	<0	27.7		8.9	0.0	17.8
Total		100.0				100.1†				100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are sole ownership	21	80.8	64.5	97.0	14	60.9	39.3	82.4	35	76.3	63.1	89.4

† Total does not sum to 100% because of rounding.

(continued)

Table 7-2. Use of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small (n = 27)			Large (n = 30)			All Plants (n = 57)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S2.2 What methods were used by your plant for purchasing fed cattle during the past year (% of head)?									
a. Auction barns	23.9	8.3	39.4	6.1	<0	13.0	19.1	7.9	30.3
b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	13.9	0.7	27.1	3.3	0.7	5.8	11.0	1.6	20.5
d. Direct trade	40.4	21.5	59.3	53.9	42.7	65.2	44.0	30.2	57.8
e. Forward contract	0.0	0.0	0.0	11.4	2.7	20.0	3.1	0.8	5.3
f. Marketing agreement	7.2	<0	17.5	20.0	12.2	27.9	10.7	3.0	18.3
g. Packer fed/owned	10.9	<0	23.3	2.0	<0	4.2	8.5	<0	17.4
h. Other	3.7	<0	11.3	3.3	<0	10.2	3.6	<0	9.3
Total	100.0			100.0			100.0		
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market purchases	21	77.8	61.0	94.5	3	10.0	0.0	21.4	24	59.6	47.2	71.9

(continued)

Table 7-2. Use of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.3*	What types of pricing methods were used by your plant during the past year for purchasing fed cattle?												
	1. Individually negotiated pricing	21	67.7	50.3	85.2	27	90.0	78.6	100.0	48	73.1	59.9	86.4
	2. Public auction	13	41.9	23.5	60.3	15	50.0	31.0	69.0	28	43.9	29.5	58.3
	3. Sealed bid	0	0.0	NA	NA	3	10.0	0.0	21.4	3	2.4	0.0	5.1
	4. Formula pricing (using another price as the base)	6	19.4	4.6	34.1	28	93.3	83.9	100.0	34	37.3	26.1	48.5
	5. Internal transfer	4	12.9	0.4	25.4	10	33.3	15.4	51.2	14	17.9	7.7	28.1
	6. Other	D	3.2	0.0	9.8	0	0.0	NA	NA	D	2.4	0.0	7.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-2. Use of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.4a* For fed cattle purchased by your plant during the past year using formula pricing with a grid, what was the base price of the formula?	(results suppressed)				(results suppressed)							
1. Individual or multiple plant average price									16	50.0	32.5	67.4
2. Individual or multiple plant average cost of production									6	18.7	4.5	32.9
3. USDA live quote									13	40.6	23.2	58.0
4. USDA dressed or carcass quote									12	43.8	26.8	60.8
5. USDA boxed beef price									6	25.1	11.8	38.3
6. Chicago Mercantile Exchange (CME) cattle futures									18	56.2	39.2	73.2
7. Retail price									5	15.6	2.4	28.9
8. Subscription service price (for example, Cattle Fax, Urner Barry)									11	34.3	17.3	51.4
9. Other market price									0	0.0	NA	NA
10. Other									0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 7-2. Use of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.4b*	For fed cattle purchased by your plant during the past year using formula pricing without a grid, what was the base price of the formula?												
	1. Individual or multiple plant average price	D	18.2	0.0	45.4	D	4.3	0.0	13.4	3	12.5	0.0	27.7
	2. Individual or multiple plant average cost of production	D	9.1	0.0	29.3	D	21.7	3.5	40.0	6	14.3	1.1	27.4
	3. USDA live quote	D	9.1	0.0	29.3	D	34.8	13.7	55.8	9	19.6	5.8	33.4
	4. USDA dressed or carcass quote	4	36.4	2.5	70.3	4	17.4	0.6	34.2	8	28.6	9.1	48.1
	5. USDA boxed beef price	0	0.0	NA	NA	5	21.7	3.5	40.0	5	8.9	1.6	16.2
	6. Chicago Mercantile Exchange (CME) cattle futures	D	9.1	0.0	29.3	D	65.2	44.2	86.3	16	32.0	18.2	45.9
	7. Retail price	D	18.2	0.0	45.4	D	21.7	3.5	40.0	7	19.6	3.2	36.0
	8. Subscription service price (for example, Cattle Fax, Urner Barry)	0	0.0	NA	NA	7	30.4	10.1	50.8	7	12.4	4.3	20.6
	9. Other market price	D	18.2	0.0	45.4	0	0.0	NA	NA	D	10.8	0.0	25.4
	10. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
S2.6*	What types of valuation methods were used by your plant for purchasing fed cattle during the past year?												
	1. Liveweight	13	50.0	29.4	70.6	27	90.0	78.6	100.0	40	61.0	46.2	75.9
	2. Carcass weight, not dependent on grid value	17	65.4	45.8	85.0	23	76.7	60.6	92.7	40	68.5	54.0	83.0
	3. Carcass weight, dependent on grid value	D	3.8	0.0	11.8	D	86.7	73.8	99.6	27	26.7	20.1	33.3
	4. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-3. Terms of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

		Small			Large			All Plants		
	n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S3.1 For what percentage of fed cattle purchased during the past year did the buyer (your plant) pay for transportation?	30	24.6	8.8	40.5	30	49.6	37.5	61.7	60	30.8	18.8	42.9
S3.2 What percentage of fed cattle purchased during the past year were under a written agreement (versus oral)?	31	1.6	<0	4.9	30	24.9	16.8	32.9	61	7.2	4.1	10.4

	Small (n = 27)			Large (n = 30)			All Plants (n = 57)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S3.3 For fed cattle purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?									
a. Purchases not under agreement or contract	82.0	67.1	97.0	71.8	62.0	81.6	79.3	68.3	90.2
b. Less than 6 months	6.9	<0	16.2	8.2	4.3	12.0	7.2	0.5	13.9
c. 6 to 11 months	0.0	0.0	0.0	6.3	0.1	12.5	1.7	0.1	3.3
d. 1 to 2 years	3.7	<0	11.3	4.8	<0	11.4	4.0	<0	9.7
e. 3 to 5 years	3.7	<0	11.3	0.0	0.0	0.0	2.7	<0	8.1
f. 6 to 10 years	0.0	0.0	0.0	1.4	<0	3.4	0.4	<0	0.9
g. More than 10 years or evergreen	3.7	<0	11.3	7.5	2.7	12.3	4.7	<0	10.3
Total	100.0			100.0			100.0		

(continued)

Table 7-3. Terms of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small (n = 29)			Large (n = 30)			All Plants (n = 59)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S3.4 For fed cattle purchased during the past year, how far in advance of slaughter was the delivery scheduled (% of head)?									
a. Less than 7 days	79.8	64.8	94.9	66.4	55.2	77.6	76.4	65.1	87.7
b. 8 to 14 days	13.3	0.7	25.9	27.1	17.2	37.1	16.8	7.3	26.3
c. 15 to 21 days	1.7	<0	5.3	1.0	<0	2.1	1.5	<0	4.1
d. 22 to 30 days	1.7	<0	5.3	0.0	0.0	0.0	1.3	<0	3.9
e. 1 to 2 months	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f. More than 2 months	3.4	<0	10.5	5.5	<0	12.2	4.0	<0	9.4
Total	99.9†			100.0			100.0		

	Small				Large				All Plants			
	n	**Mean**	**Lower**	**Upper**	**n**	**Mean**	**Lower**	**Upper**	**n**	**Mean**	**Lower**	**Upper**
S3.5 For what percentage of fed cattle purchased during the past year did your plant provide information back to the feeder or finisher?	29	17.6	3.8	31.5	30	48.8	38.7	58.9	59	25.6	15.2	36.0

† Total does not sum to 100% because of rounding.

(continued)

Table 7-3. Terms of Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S3.6* Under what conditions did your plant provide information back to the feeder or finisher?												
1. Requested by seller, no charge	6	75.0	36.3	100.0	24	82.8	68.1	97.4	30	79.2	62.2	96.3
2. Requested by seller, for a set fee	D	25.0	0.0	63.7	D	27.6	10.3	44.9	10	26.4	8.6	44.2
3. Cash or spot market purchases	0	0.0	NA	NA	3	10.3	0.0	22.1	3	5.6	0.0	12.0
4. Forward contract	0	0.0	NA	NA	19	65.5	47.1	83.9	19	35.7	25.8	45.7
5. Marketing agreement	0	0.0	NA	NA	25	86.2	72.9	99.6	25	47.0	39.8	54.2
6. Alliance	0	0.0	NA	NA	19	65.5	47.1	83.9	19	35.7	25.8	45.7
7. Joint venture	0	0.0	NA	NA	D	3.4	0.0	10.5	D	1.9	0.0	5.7
8. Shared ownership	0	0.0	NA	NA	12	41.4	22.3	60.4	12	22.6	12.3	32.9
9. Other	D	12.5	0.0	42.1	0	0.0	NA	NA	D	5.7	0.0	17.2
S3.7* What types of information did your plant provide back to the feeder or finisher?												
1. USDA carcass quality grade for individual animals	3	33.3	0.0	71.8	28	96.6	89.5	100.0	31	65.9	49.2	82.7
2. USDA carcass yield grade for individual animals	D	22.2	0.0	56.1	D	96.6	89.5	100.0	30	60.6	45.7	75.4
3. Carcass weight for individual animals	8	88.9	63.3	100.0	28	96.6	89.5	100.0	36	92.8	81.3	100.0
4. Price paid for individual carcasses	6	66.7	28.2	100.0	16	55.2	35.9	74.4	22	60.7	41.6	79.8
5. USDA carcass quality grade by lot	0	0.0	NA	NA	27	93.1	83.3	100.0	27	48.0	43.0	53.0
6. USDA carcass yield grade by lot	0	0.0	NA	NA	27	93.1	83.3	100.0	27	48.0	43.0	53.0
7. Carcass weight by lot	0	0.0	NA	NA	27	93.1	83.3	100.0	27	48.0	43.0	53.0
8. Average dressing percentage by lot	D	11.1	0.0	36.7	D	93.1	83.3	100.0	28	53.4	41.4	65.4
9. Other	0	0.0	NA	NA	D	3.4	0.0	10.5	D	1.8	0.0	5.4
10. Price paid by similar weight range *(write-in response)*	0	0.0	NA	NA	10	34.5	16.1	52.9	10	17.8	8.4	27.2
11. Vision machine yield grade, ribeye area, backfat *(write-in response)*	0	0.0	NA	NA	6	20.7	5.0	36.4	6	10.7	2.7	18.7

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-4. Reasons for Using Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.1* What are the three most important reasons why your plant only uses the cash or spot market for purchasing fed cattle?	(results suppressed)				(results suppressed)							
1. Can purchase fed cattle at lower prices									7	27.1	8.0	46.3
2. Reduces risk exposure									3	12.9	0.0	27.5
3. Reduces costs of activities for buying fed cattle									4	17.1	0.6	33.7
4. Reduces price variability for fed cattle									D	8.6	0.0	20.9
5. Reduces potential liability and litigation concerns									D	1.4	1.4	1.4
6. Increases supply chain information									D	4.3	0.0	13.2
7. Secures higher quality fed cattle									11	44.3	22.7	65.9
8. Allows for market access									3	12.9	0.0	27.5
9. Allows for adjusting operations quickly in response to changes in market conditions									9	38.6	17.3	59.8
10. Does not require identifying and recruiting long-term contracting partners									3	12.9	0.0	27.5
11. Does not require managing complex and costly contracts									4	17.1	0.6	33.7
12. Eliminates possible negative public perceptions about use of contracts									D	4.3	0.0	13.2
13. Allows for independence, complete control, and flexibility of own business									12	51.4	29.7	73.2
14. Enhances ability to benefit from favorable market conditions									5	21.4	3.5	39.4
15. Other									0	0.0	NA	NA
16. Can easily purchase small quantity of fed cattle *(write-in response)*									D	4.3	0.0	13.2

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-4. Reasons for Using Purchase Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S4.2* What are the three most important reasons why your plant uses alternative purchase methods for purchasing fed cattle?	(n = 0)											
1. Can purchase fed cattle at lower prices					0	0.0	NA	NA	0	0.0	NA	NA
2. Reduces risk exposure					0	0.0	NA	NA	0	0.0	NA	NA
3. Reduces costs of activities for buying fed cattle					9	34.6	15.0	54.2	9	34.6	15.0	54.2
4. Reduces price variability for fed cattle					0	0.0	NA	NA	0	0.0	NA	NA
5. Reduces potential liability and litigation concerns					0	0.0	NA	NA	0	0.0	NA	NA
6. Increases supply chain information					0	0.0	NA	NA	0	0.0	NA	NA
7. Secures higher quality fed cattle					14	53.8	33.3	74.4	14	53.8	33.3	74.4
8. Allows for market access					11	42.3	22.0	62.7	11	42.3	22.0	62.7
9. Increases flexibility in responding to consumer demand					5	19.2	3.0	35.5	5	19.2	3.0	35.5
10. Allows for product branding in retail sales					12	46.2	25.6	66.7	12	46.2	25.6	66.7
11. Allows for food safety and biosecurity assurances					0	0.0	NA	NA	0	0.0	NA	NA
12. Allows for product traceability					D	3.8	0.0	11.8	D	3.8	0.0	11.8
13. Improves week-to-week supply management					15	57.7	37.3	78.0	15	57.7	37.3	78.0
14. Improves efficiency of operations due to animal uniformity					11	42.3	22.0	62.7	11	42.3	22.0	62.7
15. Enhances access to credit					0	0.0	NA	NA	0	0.0	NA	NA
16. Other					0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-5. Use of Sales Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

	Small (n = 29)			Large (n = 27)			All Plants (n = 56)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S5.1 What was your plant's percentage of total beef product dollar sales during the past year by type of buyer or recipient?									
a. Meat processors or food manufacturers	16.7	5.1	28.4	18.9	12.0	25.7	17.2	8.3	26.1
b. Wholesalers or distributors	11.7	3.6	19.9	26.6	17.1	36.0	15.2	8.7	21.7
c. Retail establishments	36.7	21.9	51.6	30.2	22.9	37.5	35.2	24.0	46.4
d. Food service establishments	5.8	<0	12.7	9.5	5.8	13.3	6.7	1.5	11.9
e. Foreign buyers	0.0	0.0	0.0	3.1	2.0	4.3	0.7	0.5	1.0
f. Other	0.0	0.0	0.0	0.2	<0	0.5	0.1	0.0	0.1
g. Directly to consumer *(write-in response)*	29.0	12.3	45.8	0.0	0.0	0.0	22.2	9.7	34.7
h. Intercompany transfer *(write-in response)*	0.0	0.0	0.0	11.5	<0	23.9	2.7	<0	5.6
Total	99.9†			100.0			100.0		

	Small (n = 25)			Large (n = 27)			All Plants (n = 52)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S5.2 What sales methods were used by your plant during the past year for selling beef products (% of dollar sales)?									
a. Cash or spot market (less than 3 weeks forward)	91.6	80.2	>100	61.3	50.1	72.5	83.6	74.9	92.3
b. Forward contract	4.0	<0	12.3	9.7	6.1	13.4	5.5	<0	11.5
c. Marketing agreement	0.4	<0	1.2	14.8	9.5	20.1	4.2	2.7	5.7
d. Internal company transfer	0.0	0.0	0.0	14.2	2.1	26.3	3.7	0.6	6.8
e. Other	4.0	<0	12.3	0.0	0.0	0.0	2.9	<0	8.9
Total	100.0			100.0			99.9†		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market sales	22	88.0	74.3	100.0	5	18.5	2.9	34.2	27	69.7	59.1	80.3

† Total does not sum to 100% because of rounding.

(continued)

Table 7-5. Use of Sales Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.5* For beef products sold by your plant during the past year using formula pricing, what was the base price of the formula?												
1. Individual or multiple plant average price	0	0.0	NA	NA	6	30.0	8.0	52.0	6	15.7	4.4	27.1
2. Individual or multiple plant average cost of production	0	0.0	NA	NA	8	40.0	16.5	63.5	8	21.0	8.8	33.1
3. USDA publicly reported price	D	33.3	0.0	87.5	D	95.0	84.5	100.0	21	65.7	44.3	87.1
4. Retail price	3	50.0	0.0	100.0	7	35.0	12.1	57.9	10	42.1	17.2	67.1
5. Subscription service price (for example, Urner Barry)	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6. Other market price	D	16.7	0.0	59.5	0	0.0	NA	NA	D	7.9	0.0	24.3
7. Other	0	0.0	NA	NA	D	5.0	0.0	15.5	D	2.6	0.0	8.0
S5.6* What types of pricing methods does your plant expect to use in 3 years for selling beef products?												
1. Price list	14	51.9	31.7	72.0	22	81.5	65.8	97.1	36	59.2	44.0	74.5
2. Individually negotiated pricing	13	48.1	28.0	68.3	22	81.5	65.8	97.1	35	56.4	41.2	71.7
3. Formula pricing (using another price as the base)	6	22.2	5.5	39.0	20	74.1	56.4	91.7	26	35.1	22.1	48.1
4. Sealed bid	D	3.7	0.0	11.3	D	22.2	5.5	39.0	7	8.3	1.4	15.2
5. Internal transfer	D	3.7	0.0	11.3	D	70.4	52.0	88.8	20	20.3	13.1	27.4
6. Other	D	3.7	0.0	11.3	0	0.0	NA	NA	D	2.8	0.0	8.4
7. Online auction *(write-in response)*	0	0.0	NA	NA	5	18.5	2.9	34.2	5	4.6	0.8	8.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-6. Terms of Sales Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

		Small				Large				All Plants			
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S6.1	For what percentage of beef products sold during the past year did the seller (your plant) pay for transportation?	31	21.8	7.5	36.1	27	67.4	51.4	83.4	58	32.0	20.5	43.5
S6.2	What percentage of beef products sold during the past year were under a written agreement (versus oral)?	31	6.5	<0	15.6	27	7.0	3.4	10.6	58	6.6	<0	13.6
		Small (n = 27)				Large (n = 26)				All Plants (n = 53)			
			Mean	Lower	Upper		Mean	Lower	Upper		Mean	Lower	Upper
S6.3	For beef products sold during the past year, what was the length of the agreement or contract (oral or written) (% of dollar sales)?												
	a. Sales not under agreement or contract		88.9	76.2	>100		92.5	88.8	96.2		89.8	80.3	99.2
	b. Less than 1 month		10.8	<0	23.2		0.0	0.0	0.0		8.2	<0	17.3
	c. 1 to 2 months		0.3	<0	0.9		1.5	0.8	2.2		0.6	0.1	1.1
	d. 3 to 5 months		0.0	0.0	0.0		0.6	0.1	1.1		0.1	0.0	0.3
	e. 6 to 11 months		0.0	0.0	0.0		2.9	0.4	5.3		0.7	0.1	1.3
	f. 1 to 2 years		0.0	0.0	0.0		0.7	<0	1.6		0.2	0.0	0.4
	g. 3 to 5 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	h. 6 to 10 years		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	i. More than 10 years or evergreen		0.0	0.0	0.0		1.8	<0	4.5		0.4	<0	1.1
	Total		100.0				100.0				100.0		

(continued)

Table 7-6. Terms of Sales Methods for Beef Packing Plants, Size (Small = 34, Large = 30) (continued)

		Small (n = 28)			Large (n = 24)			All Plants (n = 52)		
		Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S6.4	For beef products sold during the past year, how far in advance of delivery was the delivery scheduled (% of dollar sales)?									
	a. Less than 3 days	56.9	39.8	74.1	17.1	5.4	28.9	48.1	34.8	61.4
	b. 4 to 6 days	17.3	6.3	28.2	23.6	14.0	33.1	18.7	10.1	27.2
	c. 1 to 2 weeks	15.8	3.4	28.2	31.5	22.3	40.7	19.3	9.6	29.0
	d. 3 to 4 weeks	10.0	<0	21.5	13.2	9.7	16.6	10.7	1.9	19.5
	e. More than 1 month	0.0	0.0	0.0	14.6	8.1	21.1	3.2	1.8	4.6
	Total	100.0			100.0			100.0		

Table 7-7. Reasons for Using Sales Methods for Beef Packing Plants, by Size (Small = 34, Large = 30)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.1* What are the three most important reasons why your plant only uses the cash or spot market for selling beef products?	(results suppressed)				(results suppressed)							
1. Can sell beef products at higher prices									7	23.0	5.8	40.2
2. Reduces risk exposure									9	28.4	10.1	46.6
3. Reduces costs of activities for selling beef products									D	1.3	0.0	4.1
4. Reduces price variability for beef products									D	4.1	0.0	12.4
5. Reduces potential liability and litigation concerns									D	5.4	0.0	14.2
6. Increases supply chain information									0	0.0	NA	NA
7. Allows for sale of higher quality beef products									5	20.3	3.4	37.1
8. Allows for market access									6	24.3	6.4	42.3
9. Allows for adjusting operations quickly in response to changes in market conditions									9	36.5	16.6	56.5
10. Does not require identifying and recruiting long-term contracting partners									4	13.5	0.0	27.6
11. Does not require managing complex and costly contracts									9	31.1	12.0	50.2
12. Eliminates possible negative public perceptions about use of contracts									3	6.7	0.0	15.7
13. Allows for independence, complete control, and flexibility of own business									17	60.8	40.6	81.0
14. Enhances ability to benefit from favorable market conditions									6	24.3	6.4	42.3
15. Other									0	0.0	NA	NA
16. Can easily sell small quantity of beef products *(write-in response)*									D	4.1	0.0	12.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-7. Reasons for Using Sales Methods for Beef Packing Plants, by Size (Small = 34, Large = 30) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S7.2* What are the three most important reasons why your plant uses alternative sales methods for selling beef products?	(results suppressed)				(results suppressed)							
1. Can sell beef products at higher prices									D	12.1	0.0	37.3
2. Reduces risk exposure									12	47.9	29.9	66.0
3. Reduces costs of activities for selling beef products									0	0.0	NA	NA
4. Reduces price variability for beef products									11	43.9	25.4	62.4
5. Reduces potential liability and litigation concerns									0	0.0	NA	NA
6. Increases supply chain information									0	0.0	NA	NA
7. Allows for sale of higher quality beef products									D	12.1	0.0	37.3
8. Allows for market access									D	8.0	0.0	19.5
9. Increases flexibility in responding to consumer demand									16	72.0	42.4	100.0
10. Allows for product branding in retail sales									0	0.0	NA	NA
11. Allows for food safety and biosecurity assurances									0	0.0	NA	NA
12. Allows for product traceability									0	0.0	NA	NA
13. Improves week-to-week production management									11	43.9	25.4	62.4
14. Secures a buyer for beef products									6	24.0	6.6	41.3
15. Enhances access to credit									0	0.0	NA	NA
16. Other									D	12.1	0.0	37.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

7.2 PORK PACKERS

Table 7-8 provides weighted tabulations for all survey questions for pork packers (n = 88).[5] Some results from the pork packer survey appear different from information in other published sources; these differences could be due to the low response rate or other factors (see sidebar). Tables 7-9 through 7-14 provide weighted tabulations for selected questions, by size (n = 53 for small pork packers and n = 35 for large pork packers).

7.2.1 Characteristics of Pork Packing Plants

A number of estimates obtained from the pork packer survey differ substantially from those obtained from other sources. Such differences could be due to small sample sizes, sampling frame error, differences in how the information was collected, and nonresponse bias, even though survey weights were calculated to compensate for some of the incurred bias.

In the past year, 44% of pork packers purchased fewer than 1,000 market hogs (barrows and gilts) for slaughter, and 65% purchased fewer than 10,000 market hogs. Thirteen percent purchased 2 million or more hogs. (See Table 7-8, Question 1.4.)

Most pork packers (81%) conducted slaughter, fabrication, and further processing activities. Some plants slaughtered other livestock, including non-market hogs (57%), beef cattle (63%), and lambs or sheep (45%). Of the plants that performed custom slaughter in the past year, 46% custom slaughtered fewer than 500 head, 44% custom slaughtered 500 to 9,999 head, and 10% custom slaughtered 10,000 to 499,999 head. (See Table 7-8, Questions 1.2, 1.3, and 1.5.)

Note that because of the wide range of pork packing plant sizes, comparing the mix of plants based on averages can be misleading. For example, the maximum slaughter capacity averaged 11,405 head per week, with an average slaughter line speed of 229 head per hour. However, a specialized hog slaughter plant with 2 million head capacity will average more than 38,000 head per week. The line speed in some large plants is more than 1,000 head per hour. The weight range of standard carcasses averaged a minimum of 183 pounds and a maximum of 253 pounds. The maximum processing capacity averaged more than 1.6 million pounds of pork product per week. (See Table 7-8, Questions 1.7 and 9.4 through 9.6.)

Most plants (80%) are small, independently owned businesses and are not part of a company that owns another slaughter or

[5] Volume 4 of the final report provides estimates of some survey questions that use weights benchmarked to external counts obtained from the Pork Check-off Program.

processing plant. Additionally, more than half are not part of a company that owns other upstream or downstream businesses. (See Table 7-8, Questions 1.9 and 9.7.)

Most plants (73%) did not participate in any type of certification program last year. Less than 10% participated in a USDA Processed Verified certification program, and less than 8% participated in an organic certification program. Few (5% to 7%) participated in some type of program that certifies breed or livestock quality. (See Table 7-8, Question 1.8.)

About 55% of plants reported total gross sales for fresh, frozen, and processed pork products of less than $500,000, and 75% reported total gross sales of less than $10 million. About 75% of plants reported total gross sales for pork by-products of less than $500,000, and 87% reported total gross by-product sales of less than $10 million. For total gross sales for all products, 34% of plants reported sales of less than $500,000, and 75% reported sales of less than $10 million. In contrast, 10% of plants had total gross sales of more than $500 million. (See Table 7-8, Questions 9.9 through 9.11.)

Pork packers produce a variety of products. During the past year, 31% of total pork product sales were carcasses; 31% were primal or subprimal cuts; 11% were ground products; and 27% were either portion cuts, case-ready cuts, or processed products. [6] Of the pork products sold during the past year, an average of 14% were branded. (See Table 7-8, Questions 1.10 and 1.11.)

A relatively large percentage (40%) of plants did not use any measures to assess the quality of slaughtered market hogs. Yet other plants did employ quality measures when buying market hogs, including weight standards (39%), backfat (30%), and lean percentage (25%). (See Table 7-8, Question 1.6.)

7.2.2 Methods for Procuring Market Hogs by Pork Packers

Most of the market hogs procured (92%) during the past year were owned solely by the operation. For nearly 90% of plants, all of the market hogs procured for slaughter were owned solely by the operation during the past year. Plants' ownership

[6] These values were computed as the mean percentage of pork product dollar sales weighted by the number of eligible plants. Other reported means were computed similarly (i.e., weighted by the number of eligible plants).

arrangements were similar 3 years ago and are not expected to change within the next 3 years. (See Table 7-8, Question 2.1.)

A variety of methods were employed by plants to procure market hogs, including procurement or marketing contracts, marketing agreements, and production contracts.

A variety of methods were employed by plants to procure market hogs. During the past year, 73% of purchases were on the spot market, 10% of purchases were made through procurement or marketing contracts, 8% of purchases were made through marketing agreements, 2% of purchases were under production contracts, and 6% of purchases were made using other methods. For 65% of plants, all purchases were made on the spot market. These procurement methods differ from the sales methods reported by respondents to the pork producer survey. The producer survey reports fewer hogs sold through the spot market and more through an AMA. Plants' methods for purchasing market hogs were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 7-8, Question 2.2.)

Plants used a variety of pricing methods for purchasing market hogs. Sixty-four percent used individually negotiated pricing, 53% used formula pricing, and 35% used public auctions.[7] Pricing methods are not expected to change much within the next 3 years. For plants that used formula pricing, 46% used USDA dressed or carcass quote, 42% used USDA live quote, 24% used individual or multiple-plant average price, and 22% used CME lean hog futures as formula base prices. The most frequently cited methods for valuation of market hogs were liveweight (79% of plants) and carcass weight dependent on merit (31%). This differs from industry reporting, in which most hogs are purchased on a carcass basis. The CME switched to a carcass-based contract in the mid-1990s, and USDA converted to predominately carcass reports in 2001. Valuation methods are not expected to change much in the next 3 years. (See Table 7-8, Questions 2.3 through 2.6.)

On average, packers paid transportation costs in 33% of all transactions. Almost 19% of market hogs were reportedly purchased under a written agreement. (See Table 7-8, Questions 2.7 and 2.8.)

Thirty-two respondents reported using procurement or marketing contracts to procure market hogs during the past year. The majority of these plants maintained contracts with

[7] Respondents could select multiple responses.

more than 10 producers. A variety of contract lengths were employed, with 27% lasting more than 10 years or being evergreen. Plants specified a variety of terms in their procurement or marketing contracts. The most frequently cited terms included the number of market hogs to be delivered in each specified time period, the quality and average weight of the market hogs purchased, and the ability to inspect and monitor the producers' facilities. (See Table 7-8, Questions 3.1 through 3.3.)

Only 10 respondents reported using production contracts to procure market hogs during the past year. Because of the small number of respondents, we are unable to characterize the terms of these contracts. (See Table 7-8, Questions 4.1 through 4.5.)

For plants that only used spot market transactions, the three most frequently cited reasons for doing so were (1) "Allows for independence, complete control, and flexibility of own business" (60%), (2) "Can purchase market hogs at lower prices" (37%), and (3) "Secures higher quality market hogs" (36%). For plants that used AMAs, the three most frequently cited reasons for doing so were (1) "Improves week-to-week supply management" (62%), (2) "Secures higher quality market hogs" (60%), and (3) "Allows for market access" (40%). Interestingly, plants perceive the ability to secure higher quality market hogs as an advantage of both the spot market and of AMAs. (See Table 6-8, Questions 5.1 and 5.2.)

7.2.3 Methods for Selling and Transferring Pork Products by Pork Packers

Pork packers sell their products to a variety of buyers/recipients through a variety of methods. Forty percent of total pork product dollar sales were to retail establishments, 18% were to meat processors or food manufacturers, 17% were direct sales to consumers, 17% were to wholesalers or distributors, and 9% were to other types of buyers. These results indicate that responses to the survey may not represent how most pork is sold. It is unlikely that 17% of pork product is sold directly to consumers. (See Table 7-8, Question 6.1.)

Almost 82% of pork products were sold through spot market transactions, and 10% were sold through marketing agreements. Other types of sales methods were not widely used.

Almost 82% of pork products were sold through spot market transactions, and 10% were sold through marketing agreements. Other types of sales methods were not widely used. Plants' methods for selling pork products were very similar 3 years ago and are not expected to change within the next 3 years. Sales methods vary somewhat, depending on the type of buyer or recipient. About 95% of plants used the spot market to sell to processors/manufacturers, wholesalers/distributors, and food service establishments. Fewer plants (82% to 85%) used the spot market to sell to retail establishments and foreign buyers. About 30% to 35% of plants used marketing agreements when selling product to retail establishments, food service establishments, and foreign buyers. Fewer plants used marketing agreements when selling to other types of recipients. About 64% of plants used forward contracts when selling to foreign buyers; fewer plants used this method when selling to other types of recipients. (See Table 7-8, Questions 6.2 and 6.3.)

The most frequently cited methods for pricing pork products were price lists, individually negotiated pricing, and formula pricing. The type of pricing method used varied depending on the type of buyer or recipient. For processors and manufacturers, the three methods were used about equally. Wholesalers and distributors most often used price lists and individually negotiated pricing. Retail establishments most often used price lists; food service establishments most often used price lists and individually negotiated pricing; and foreign buyers most often used individually negotiated pricing. For plants that used formula pricing, a USDA publicly reported price was most often used as the base price. About 30% to 40% of plants used volume discounts, depending on the type of buyer. Fewer plants used two-part pricing, exclusive dealings, and bundling. (See Table 7-8, Questions 6.4 through 6.7.)

On average, 44% of plants reported paying transportation costs for pork products sold. Less than 7% of pork product sales were under a written agreement. Most agreements were for less than 1 month. Delivery also was scheduled short term; 82% of deliveries were less than 7 days ahead. (See Table 7-8, Questions 7.1 through 7.4.)

Plants that only used cash markets to sell pork products did so because of the flexibility and simplicity of using the cash market. Plants that used AMAs placed more emphasis on production management and pricing.

Plants that only used cash markets to sell pork products did so because of the flexibility and simplicity of using the cash market. About 53% of plants chose "Allows for independence, complete control, and flexibility of own business" as one of the most important reasons for using only cash markets to sell pork products. Other responses included "Allows for adjusting operations quickly in response to changes in market conditions" (42%) and "Does not require managing complex and costly contracts" (28%). Plants that used AMAs placed more emphasis on production management and pricing. Almost 60% of plants chose "Improves week-to-week production management" as one of the most important reasons for using AMAs to sell pork products. About 51% chose "Can sell pork products at higher prices," and 40% chose "Reduces risk of exposure" as important reasons for using AMAs to sell pork products. (See Table 7-8, Questions 8.1 and 8.2.)

7.2.4 Pork Packers' Marketing Practices, by Size of Plant

Most small plants solely owned the market hogs procured for slaughter, while large plants used a variety of ownership arrangements, including sole ownership, joint ventures, and other methods. (See Table 7-9, Question S2.1.)

Small plants were more likely than large plants to rely on spot market transactions to purchase market hogs.

Small plants were more likely than large plants to rely on spot market transactions to purchase market hogs. About 80% of small plants procured all of their market hogs using spot market transactions, while only 15% of large plants procured all of their market hogs using spot market transactions. Large plants used a variety of marketing arrangements, with the most common method being procurement or marketing contracts; nearly 40% of market hogs were procured using this method. About 2% to 9% of plants employed other types of AMAs (i.e., production contracts, forward contracts, marketing agreements, and packer owned). (See Table 7-9, Question S2.2.)

Individually negotiated pricing was used by 62% of small plants to price market hogs. Large plants used a variety of pricing methods. About 85% of large plants used formula pricing, 71% used individually negotiated pricing, 32% used internal transfer pricing, and 21% used production contract terms to price market hogs. Large plants also used a variety of base prices for formula pricing; the most often used bases among plants using formula pricing were USDA dressed or carcass quote (81% of plants) and CME lean hog futures (55%). Almost 82% of small

plants and 71% of large plants used liveweight to value market hogs. About 77% of large plants also used carcass weight dependent on merit; only 16% of small plants used this method. (See Table 7-9, Questions S2.3, S2.4, and S2.6.)

Small plants were more likely than large plants to pay transportation costs for market hogs procured (39% versus 12% of total head). Large plants were more likely than small plants to use written contracts (59% versus 6% of total head). (See Table 7-9, Questions 2.7 and 2.8.)

Most of the plants that used procurement or marketing contracts to procure market hogs were large plants (29 of the 32 respondents). We cannot compare the terms of these contracts by size of plant because of the small number of responses for small plants. (See Table 7-10.)

Because few large plants used only the spot market to procure market hogs, we cannot compare plants' reasons for using only the spot market by size of plant. Likewise, few small plants used only AMAs to procure market hogs, so we cannot compare plants' reasons for using only AMAs by size of plant. (See Table 7-11.)

Small plants primarily sold their pork products to retail establishments (43% of total sales), and 22% of sales were direct to consumers. Large plants sold pork products to a variety of buyers or recipients. Of large plants' total pork product dollar sales, 34% were to meat processors or food manufacturers, 29% were to retail establishments, 18% were to wholesalers or distributors, 11% were to foreign buyers, and 8% were to food service establishments. (See Table 7-12, Question S6.1.)

Compared with large plants, small plants had a greater reliance on spot market transactions for selling pork products.

Compared with large plants, small plants had a greater reliance on spot market transactions for selling pork products. About 81% of small plants sold all of their pork products using spot market methods, while only 22% of large plants sold all of their pork products using spot market methods. For large plants, 68% of sales were through spot market methods, 17% were through marketing agreements, 7% were through forward contracts, and 8% were through internal transfers. (See Table 7-12, Question S6.2.)

Both small and large plants used price lists, individually negotiated pricing, and formula pricing to price their products.

Small plants had a greater reliance on price lists, while large plants had a greater reliance on individually negotiated pricing and formula pricing. For plants that used formula pricing, both large and small plants used many sources for the base prices. (See Table 7-12, Questions S6.5 and S6.6.)

Large plants were more likely than small plants to pay transportation costs for pork product sold (66% versus 37% of total pork meat sales). Large plants were also more likely than small plants to use written contracts (20% versus 2% of total pork meat sales). For both large and small plants, most agreements were for less than 1 month. For small plants, most deliveries were scheduled within 3 days (60% of pork meat sales). Large plants tended to have longer delivery schedules: 45% of sales were delivered within 3 days, 27% of sales were delivered between 4 and 6 days, and 28% of sales were delivered a week or more ahead. (See Table 7-13.)

Few large plants used only the spot market to sell pork products, so we cannot compare plants' reasons for using the spot market by size of plant. Likewise, because few small plants used AMAs to sell pork products, we cannot compare plants' reasons for using AMAs by size of plant. (See Table 7-14.)

7.2.5 Pork Packer Survey Summary

Some results from the pork packer survey appear different from information in other published sources; these differences could be due to the low response rate or other factors. Many of the pork packers surveyed relied on spot market transactions for purchasing market hogs. Small plants were more likely than large plants to use spot market transactions to purchase market hogs. The most common AMAs employed by large plants were procurement or marketing contracts and marketing agreements. More than half of the plants with procurement or marketing contracts had them with more than 10 producers; these contracts varied in length and specified a variety of terms. Plants employed a variety of pricing methods for purchasing market hogs, including individually negotiated pricing, formula pricing, and public auctions. Liveweight was the most frequently cited valuation method. Plants that only used cash markets for purchasing market hogs said that it allows for independence, control, and flexibility over business operations. Plants that used AMAs did so to improve week-to-

week supply management and secure higher quality market hogs.

Most pork product sales were made through the cash or spot market. Small plants had a greater reliance than large plants on spot market transactions for selling pork products. Both small and large plants used price lists, individually negotiated pricing, and formula pricing to price their products. Most sales were not under a written agreement and were delivered within 3 days. Plants that only used cash markets to sell pork products did so because of the flexibility and simplicity of using the cash market. Plants that used AMAs placed more emphasis on production management and pricing.

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88)

	n	%	Lower	Upper
1.2* What types of livestock did your plant slaughter during the past year?				
1. Market hogs	88	100.0	100.0	100.0
2. Other hogs	44	57.2	46.9	67.6
3. Beef cattle (including fed Holsteins)	44	62.6	54.3	70.9
4. Dairy cattle	22	30.9	20.5	41.3
5. Lambs or sheep	31	44.6	34.3	55.0
6. Other	0	0.0	NA	NA
7. Goats	7	10.1	3.0	17.2
8. Buffalo, elk, or deer	10	14.4	6.2	22.6
9. Ratites	3	4.3	0.0	9.2
10. Other cattle	D	2.1	0.0	5.3
1.3 Which of the following best describes your plant's operations during the past year?				
1. Only conducted slaughter operations	4	5.8	0.2	11.4
2. Conducted slaughter and fabrication operations, but no further processing activities	13	13.5	6.0	20.9
3. Conducted slaughter operations, fabrication operations, and further processing activities	70	80.7	71.8	89.6
Total		100.0		

	n	Mean	Lower	Upper
1.4 How many market hogs (barrows and gilts) were procured by your plant during the past year?	85	532,197.1	378,386.7	686,007.4

	n	%	Lower	Upper
1–499	19	28.1	17.8	38.5
500–999	11	16.3	7.5	25.1
1,000–9,999	14	20.7	11.2	30.3
10,000–99,999	11	12.4	4.9	19.8
100,000–499,999	6	5.7	0.9	10.6
500,000–1,999,999	5	3.5	0.6	6.4
2,000,000 or more	19	13.2	9.2	17.2
Total		99.9†		

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.
† Total does not sum to 100% because of rounding.

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible plants
Mean = estimated mean weighted by the number of eligible plants
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	Mean	Lower	Upper
1.5	How many market hogs (barrows and gilts) were custom slaughtered by your plant during the past year?	54	7,635.8	858.1	14,413.5
		n	**%**	**Lower**	**Upper**
	1–499	23	45.6	31.7	59.6
	500–999	8	16.3	5.7	26.8
	1,000–9,999	16	28.2	15.6	40.8
	10,000–499,999	7	9.9	2.4	17.4
	500,000 or more	0	0.0	NA	NA
	Total		100.0		
		n	**%**	**Lower**	**Upper**
1.6*	Which of the following measures of quality were used for market hogs slaughtered by your plant during the past year?				
	1. None	28	39.4	28.6	50.1
	2. USDA carcass quality grade	8	10.1	3.1	17.2
	3. Lean percentage	29	24.6	16.8	32.4
	4. Backfat	34	30.3	21.5	39.1
	5. Loin eye depth	20	15.3	9.5	21.1
	6. Fat free lean index (FFLI)	D	1.4	0.0	3.3
	7. pH factor	4	2.7	0.1	5.4
	8. Weight standard	41	39.0	29.0	49.0
	9. Other	5	5.8	0.5	11.0
		n	**Mean**	**Lower**	**Upper**
1.7	What carcass weight range for market hogs did your plant use for standard weight carcasses during the past year?				
	a. Minimum carcass weight (pounds)	84	182.6	173.3	191.8
	b. Maximum carcass weight (pounds)	84	253.0	240.0	265.9
		n	**%**	**Lower**	**Upper**
1.8*	What types of certification programs did your plant participate in during the past year?				
	1. None	57	72.5	62.8	82.2
	2. Organic certification	6	7.5	1.3	13.8
	3. USDA Process Verified certification	12	8.6	4.5	12.7
	4. ISO certification	3	2.2	0.0	4.6
	5. Third-party certification of breed or livestock quality (for example, Berkshire Gold)	6	5.1	0.8	9.4
	6. Own-company certification of breed or livestock quality	7	7.5	1.6	13.3
	7. Buyer certification of breed or livestock quality	4	5.3	0.0	10.6
	8. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
1.9*	What levels of production were owned by the same company that owns your plant during the past year?				
	1. None	42	52.8	41.8	63.9
	2. Genetic supplier	5	3.4	0.6	6.3
	3. Feed company	8	6.3	1.9	10.6
	4. Farrow to wean	15	11.1	6.1	16.0
	5. Wean to feeder	18	13.1	8.1	18.2
	6. Feeder to finish	24	19.6	12.6	26.5
	7. Food manufacturer or meat processor	31	29.8	20.3	39.3
	8. Restaurant, hotel, or other food service	D	2.9	0.0	7.0
	9. Grocery store, meat market, or other retailer	17	24.1	14.2	33.9
	10. Exporter	8	5.5	2.1	8.9
	11. Other	0	0.0	NA	NA
			Mean (n = 76)	**Lower**	**Upper**
1.10	What was your plant's percentage of total pork product dollar sales during the past year by product category?				
	a. Carcass or side		31.4	22.0	40.8
	b. Primal cuts		18.8	13.0	24.5
	c. Subprimal cuts		12.1	8.4	15.8
	d. Ground, including trimmings		10.8	6.1	15.5
	e. Portion cuts		2.8	0.7	4.8
	f. Case ready		5.5	2.4	8.6
	g. Processed, ready-to-eat		5.2	2.5	8.0
	h. Processed, not-ready-to-eat		11.5	6.7	16.3
	i. Other		1.9	<0	5.1
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
1.11	What percentage of pork product sold by your plant during the past year was branded?	80	14.4	7.9	20.9

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	3 Years Ago (n = 73)			During Past Year (n = 74)			Expected in 3 Years (n = 73)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.1 For all market hogs procured by your operation, what were the ownership arrangements (% of head)?									
a. Sole ownership by your plant	92.9	88.1	97.7	92.2	87.3	97.1	91.7	86.6	96.7
b. Joint venture	1.5	<0	3.6	2.3	<0	4.8	2.8	0.1	5.5
c. Shared ownership	1.7	<0	5.1	1.7	<0	5.0	1.7	<0	5.1
d. Other	3.9	0.9	6.9	3.8	0.8	6.8	3.9	0.8	6.9
Total	100.0			100.0			100.1†		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are sole ownership	63	91.2	86.0	96.3	62	89.7	84.4	94.9	60	87.8	81.5	94.1

	3 Years Ago (n = 81)			During Past Year (n = 85)			Expected in 3 Years (n = 83)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2 What methods are used by your plant for procuring market hogs (% of head)?									
a. Auction barns	11.9	5.8	18.0	8.8	3.6	14.0	8.0	2.7	13.3
b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Dealers or brokers	21.1	12.4	29.9	22.9	14.1	31.7	22.2	13.3	31.1
d. Direct trade	39.5	29.3	49.8	41.7	31.6	51.8	40.8	30.3	51.2
e. Procurement or marketing contract	9.9	6.3	13.5	10.2	6.8	13.7	10.6	7.1	14.1
f. Production contract	1.9	<0	5.0	2.0	<0	5.1	2.3	<0	5.5
g. Forward contract	1.3	0.3	2.2	1.8	0.8	2.8	1.7	0.8	2.6
h. Marketing agreement	10.4	4.0	16.8	8.2	2.8	13.7	9.3	3.2	15.3
i. Packer owned	4.0	0.3	7.7	4.3	0.5	8.1	5.2	0.7	9.8
j. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			99.9†			100.1†		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market purchases	44	64.0	54.4	73.6	46	64.7	55.7	73.7	44	63.6	54.4	72.9

† Total does not sum to 100% because of rounding.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.3* What types of pricing methods are used by your plant for purchasing market hogs?								
1. Individually negotiated pricing	55	64.1	53.0	75.2	51	61.9	50.5	73.4
2. Public auction	26	34.6	23.6	45.6	23	32.9	21.8	44.0
3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA
4. Formula pricing (using another price as the base)	50	52.5	41.4	63.5	49	53.0	41.8	64.1
5. Internal transfer	14	12.4	5.9	18.8	16	15.2	7.8	22.5
6. Production contract terms	7	5.0	1.6	8.4	7	6.0	1.5	10.6
7. Other	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
2.4*	For market hogs purchased by your plant during the past year using formula pricing, what was the base price of the formula?				
	1. Individual or multiple plant average price	15	23.9	12.1	35.8
	2. Individual or multiple plant average cost of production	D	3.6	0.0	9.1
	3. USDA live quote	19	41.6	28.2	55.0
	4. USDA dressed or carcass quote	32	46.2	33.7	58.7
	5. USDA boxed pork price	5	5.8	1.0	10.6
	6. Chicago Mercantile Exchange (CME) lean hog futures	18	22.2	14.0	30.4
	7. Retail price	D	2.5	0.0	7.4
	8. Subscription service price (for example, Urner Barry)	D	2.5	0.0	7.4
	9. Other market price	0	0.0	NA	NA
	10. Other	D	2.5	0.0	7.4
	11. Corn/soybean meal markets *(write-in response)*	D	2.3	0.0	5.5
	12. Auction price *(write-in response)*	3	7.4	0.0	15.6
2.5*	For market hogs received during the past year from another business unit owned by the same company, what was the source of the internal transfer price?				
	1. Price paid for purchased market hogs	11	54.1	26.7	81.5
	2. Reported market price	9	41.3	15.9	66.7
	3. Measure of internal production cost with a profit margin	D	8.7	0.0	26.9
	4. Measure of internal production cost without a profit margin	0	0.0	NA	NA
	5. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.6* What types of valuation methods are used by your plant for purchasing market hogs?								
1. Liveweight	64	78.9	69.7	88.2	60	75.6	65.8	85.3
2. Carcass weight, not dependent on merit	15	19.0	9.8	28.2	15	19.3	9.9	28.7
3. Carcass weight, dependent on merit	34	31.1	22.3	39.9	35	33.2	23.9	42.4
4. Other	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	n	Mean	Lower	Upper
2.7 For what percentage of market hogs purchased during the past year did the buyer (your plant) pay for transportation?	80	32.3	22.1	42.6
2.8 What percentage of market hogs purchased during the past year were under a written agreement (versus oral)?	81	18.8	12.8	24.9
	n	**%**	**Lower**	**Upper**
3.1 With how many pork producers did your plant maintain procurement or marketing contracts during the past year?				
1. One	D	11.4	0.0	23.0
2. Two	4	13.7	0.0	28.5
3. Three to five	7	18.7	5.8	31.6
4. Six to ten	D	2.7	0.0	8.1
5. More than ten	20	53.5	38.7	68.3
Total		100.0		
		Mean (n = 32)	**Lower**	**Upper**
3.2 For market hogs purchased under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?				
a. Less than 6 months		12.6	<0	26.3
b. 6 to 11 months		14.9	5.7	24.1
c. 1 to 2 years		17.5	2.6	32.5
d. 3 to 5 years		27.0	14.4	39.7
e. 6 to 10 years		1.2	<0	2.5
f. More than 10 years or evergreen		26.8	10.0	43.5
Total		100.0		

D = Results suppressed.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
3.3*	Which of the following terms were specified in the procurement or marketing contracts used by your plant during the past year?				
	1. Number of market hogs to be delivered each specified time period	28	76.3	60.4	92.2
	2. Average weight of market hogs	21	61.5	42.4	80.6
	3. Quality of market hogs	27	76.7	59.5	93.8
	4. Yield percentage of market hogs	9	25.6	8.9	42.2
	5. Producer must sell 100% of production to your plant	14	35.3	21.2	49.4
	6. Minimum guaranteed price for market hogs	12	36.0	17.0	54.9
	7. Includes a ledger account	12	30.3	16.4	44.1
	8. Includes a price window	9	22.7	9.7	35.7
	9. Specifications for production facilities	11	27.8	14.1	41.4
	10. Breeding/genetics used by producer	15	37.8	23.8	51.9
	11. Feeding programs used by producer	11	27.8	14.1	41.4
	12. PSE requirements	D	5.0	0.0	12.2
	13. Producer must be Pork Quality Assurance (PQA) certified	21	53.0	40.4	65.6
	14. Allows packer to inspect and monitor production facilities	23	58.0	46.6	69.4
	15. Allows producer to visit and monitor packing facilities	18	45.4	31.7	59.1
	16. Allows packer to change carcass pricing grid without producer's consent	15	37.8	23.8	51.9
	17. Includes definition of viable or acceptable hog	20	50.5	37.4	63.5
	18. Price adjustment for single or multiple source hogs	5	18.3	2.4	34.2
	19. None of the above	0	0.0	NA	NA

			Mean (n = 10)	**Lower**	**Upper**
4.1	What types of contracts did your plant have during the past year for the production of market hogs (% of head)?				
	a. Farrow to finish		6.7	<0	17.7
	b. Wean to finish		23.3	<0	47.8
	c. Feeder to finish		46.4	19.3	73.4
	d. Other		23.6	13.3	34.0
	Total		100.0		

D = Results suppressed.

NA = Confidence interval not calculable.

* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	Farrow to Finish				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.2* What was the length of the production contracts offered by your plant during the past year?	(results suppressed)				(results suppressed)							
1. One batch of hogs at a time									D	42.9	0.0	92.3
2. Less than 1 year									D	42.9	0.0	92.3
3. 1 to 2 years									D	42.9	0.0	92.3
4. 3 to 5 years									D	71.4	26.3	100.0
5. 6 to 10 years									D	14.3	0.0	49.2
6. More than 10 years or evergreen									D	42.9	0.0	92.3
4.3* What was the compensation formula for production contracts offered by your plant during the past year?	(results suppressed)											
1. Payment per square foot of housing for each specified time period					D	83.3	40.5	100.0	D	85.7	50.8	100.0
2. Payment per hog delivered					D	50.0	0.0	100.0	D	57.1	7.7	100.0
3. Payment per pound of weight gain					D	16.7	0.0	59.5	D	42.9	0.0	92.3
4. Other					0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	Farrow to Finish				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.4* What type of efficiency adjustments were used as part of the compensation formula for production contracts offered by your plant during the past year?	(results suppressed)											
1. Feed conversion efficiency					D	25.0	0.0	100.0	D	57.1	7.7	100.0
2. Livability/survivability					D	50.0	0.0	100.0	D	71.4	26.3	100.0
3. Preferred weight category					D	75.0	0.0	100.0	D	71.4	26.3	100.0
4. Comparison between individual grower's performance and other growers' performance					0	0.0	NA	NA	0	0.0	NA	NA
5. Comparison between individual grower's performance and a fixed standard					0	0.0	NA	NA	0	0.0	NA	NA
6. Pigs weaned per sow					0	0.0	NA	NA	0	0.0	NA	NA
7. Backfat measurement within target range					0	0.0	NA	NA	0	0.0	NA	NA
8. Quality defects (for example, abscesses or injuries)					D	25.0	0.0	100.0	D	14.3	0.0	49.2
9. Other					0	0.0	NA	NA	0	0.0	NA	NA

Note: Question 4.4 only applies to respondents that use efficiency adjustments.

(continued)

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	Farrow to Finish				Wean to Finish				Feeder to Finish			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
4.5* Which of the following terms were specified in the production contracts offered by your plant during the past year?	(results suppressed)											
1. Specifies minimum number of batches of hogs for each specified time period					D	60.0	0.0	100.0	D	66.7	12.5	100.0
2. Specifies genetics of hogs					0	0.0	NA	NA	D	16.7	0.0	59.5
3. Offers minimum guaranteed payment for each batch					D	60.0	0.0	100.0	D	83.3	40.5	100.0
4. Specifies that insurance premiums for hog mortality are paid by grower					0	0.0	NA	NA	0	0.0	NA	NA
5. Requires mandatory facilities/equipment upgrades					0	0.0	NA	NA	0	0.0	NA	NA
6. Offers payment incentives for facilities/equipment upgrades					0	0.0	NA	NA	D	16.7	0.0	59.5
7. Offers subsidized financing for facilities/equipment upgrades					D	20.0	0.0	75.5	D	16.7	0.0	59.5
8. Requires mandatory arbitration for conflict resolution					D	60.0	0.0	100.0	D	50.0	0.0	100.0
9. Allows packer to change compensation formula without grower's consent					0	0.0	NA	NA	D	16.7	0.0	59.5
10. Includes provision for dead on arrival, condemned, lightweight, or culled hogs					D	20.0	0.0	75.5	D	16.7	0.0	59.5
11. Includes definition of viable or acceptable pig					D	100.0	100.0	100.0	D	100.0	100.0	100.0
12. Other					0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
5.1*	What are the three most important reasons why your plant only uses the cash or spot market for procuring market hogs?				
	1. Can purchase market hogs at lower prices	15	37.2	21.5	53.0
	2. Reduces risk exposure	4	8.9	0.0	18.0
	3. Reduces costs of activities for buying market hogs	4	10.3	0.3	20.2
	4. Reduces price variability for market hogs	D	5.1	0.0	12.4
	5. Reduces potential liability and litigation concerns	D	5.1	0.0	12.4
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality market hogs	14	36.0	20.4	51.6
	8. Allows for market access	5	11.5	1.2	21.8
	9. Allows for adjusting operations quickly in response to changes in market conditions	14	33.3	18.0	48.6
	10. Does not require identifying and recruiting long-term contracting partners	10	24.4	10.4	38.3
	11. Does not require managing complex and costly contracts	8	19.2	6.4	32.0
	12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA
	13. Allows for independence, complete control, and flexibility of own business	24	60.4	44.6	76.1
	14. Enhances ability to benefit from favorable market conditions	8	17.8	5.7	30.0
	15. Other	D	2.6	0.0	7.8
	16. Can easily purchase small quantity of market hogs *(write-in response)*	5	7.2	1.1	13.3
5.2*	What are the three most important reasons why your plant uses alternative procurement methods for procuring market hogs?				
	1. Can purchase market hogs at lower prices	0	0.0	NA	NA
	2. Reduces risk exposure	8	22.6	8.5	36.7
	3. Reduces costs of activities for buying market hogs	7	23.0	5.2	40.7
	4. Reduces price variability for market hogs	3	11.7	0.0	26.3
	5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
	6. Increases supply chain information	0	0.0	NA	NA
	7. Secures higher quality market hogs	20	59.7	40.3	79.1
	8. Allows for market access	13	39.9	20.1	59.8
	9. Increases flexibility in responding to consumer demand	D	8.8	0.0	22.4
	10. Allows for product branding in retail sales	D	5.7	0.0	13.7
	11. Allows for food safety and biosecurity assurances	D	5.7	0.0	13.7
	12. Allows for product traceability	4	14.5	0.0	30.1
	13. Improves week-to-week supply management	22	62.2	48.6	75.7
	14. Improves efficiency of operations due to animal uniformity	7	26.2	9.0	43.3
	15. Enhances access to credit	D	6.0	0.0	18.3
	16. Other	D	2.8	0.0	8.6

D = Results suppressed.

NA = Confidence interval not calculable.

* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	Mean (n = 83)	Lower	Upper
6.1 What was your plant's percentage of total pork product dollar sales during the past year by type of buyer or recipient?			
a. Meat processors or food manufacturers	17.7	12.2	23.2
b. Wholesalers or distributors	16.7	11.4	22.1
c. Retail establishments	39.9	30.9	48.9
d. Food service establishments	6.2	3.0	9.4
e. Foreign buyers	2.9	1.5	4.3
f. Other	0.0	0.0	0.1
g. Directly to consumers *(write-in response)*	16.5	8.1	25.0
Total	99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	3 Years Ago (n = 79)				During Past Year (n = 79)				Expected in 3 Years (n = 79)			
		Mean	Lower	Upper		Mean	Lower	Upper		Mean	Lower	Upper
6.2 What sales methods are used by your plant for selling pork products (% of dollar sales)?												
a. Cash or spot market (less than 3 weeks forward)		82.6	74.7	90.4		81.6	73.7	89.5		79.2	71.3	87.1
b. Forward contract		2.4	0.6	4.2		2.9	1.0	4.8		4.1	1.9	6.3
c. Marketing agreement		9.7	3.7	15.6		10.2	4.3	16.2		11.0	5.0	17.0
d. Internal company transfer		5.4	0.7	10.1		5.3	0.5	10.0		5.7	0.9	10.4
e. Other		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total		100.1†				100.0				100.0		
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Establishments for which 100% are cash or spot market sales	45	66.6	57.1	76.0	45	66.6	57.1	76.0	45	66.6	57.1	76.0
	Processors/Manufacturers				Wholesalers/Distributors				Retail Establishments			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
6.3* What sales methods did your plant use during the past year for selling pork products to different types of recipients?												
1. Cash or spot market (less than 3 weeks forward)	40	95.0	89.4	100.0	46	94.2	86.2	100.0	51	81.8	70.9	92.7
2. Forward contract	12	20.0	11.0	29.0	12	19.3	8.8	29.8	13	14.4	7.4	21.3
3. Marketing agreement	10	18.6	7.5	29.7	17	24.5	15.7	33.4	23	29.2	18.7	39.6
4. Internal company transfer	11	18.4	9.5	27.2	D	2.9	0.0	8.7	D	4.3	0.0	10.4
5. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	Food Service Establishments				Foreign Buyers							
	n	%	Lower	Upper	n	%	Lower	Upper				
1. Cash or spot market (less than 3 weeks forward)	38	96.5	91.6	100.0	23	85.4	66.9	100.0				
2. Forward contract	16	28.1	19.4	36.8	17	64.2	41.0	87.4				
3. Marketing agreement	17	29.9	21.4	38.3	9	35.8	12.6	59.0				
4. Internal company transfer	6	10.5	2.8	18.3	0	0.0	NA	NA				
5. Other	0	0.0	NA	NA	0	0.0	NA	NA				

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.
† Total does not sum to 100% because of rounding.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		Processors / Manufacturers				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
6.4*	What types of pricing methods did your plant use during the past year for selling pork products to different types of recipients?												
	1. Price list	17	43.1	27.1	59.1	31	54.1	39.6	68.6	45	69.5	56.7	82.3
	2. Individually negotiated pricing	26	55.6	39.1	72.0	33	63.8	48.9	78.7	26	34.9	23.3	46.4
	3. Formula pricing (using another price as the base)	25	50.4	34.4	66.3	23	36.6	24.0	49.3	31	44.6	31.7	57.6
	4. Sealed bid	5	7.9	1.3	14.6	4	5.1	0.3	9.9	12	12.3	6.9	17.8
	5. Internal transfer	10	15.9	7.5	24.2	0	0.0	NA	NA	6	6.2	1.6	10.7
	6. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Price list	30	71.2	54.9	87.5	11	46.9	29.2	64.6				
	2. Individually negotiated pricing	26	59.8	42.9	76.7	24	92.9	82.8	100.0				
	3. Formula pricing (using another price as the base)	20	40.6	27.0	54.3	13	50.0	26.0	74.0				
	4. Sealed bid	7	12.8	4.3	21.3	0	0.0	NA	NA				
	5. Internal transfer	0	0.0	NA	NA	0	0.0	NA	NA				
	6. Other	0	0.0	NA	NA	0	0.0	NA	NA				

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
6.5*	For pork products sold by your plant during the past year using formula pricing, what was the base price of the formula?				
	1. Individual or multiple plant average price	14	26.3	12.9	39.7
	2. Individual or multiple plant average cost of production	5	8.7	0.6	16.8
	3. USDA publicly reported price	36	62.3	48.9	75.8
	4. Retail price	8	24.2	10.7	37.6
	5. Subscription service price (for example, Urner Barry)	7	14.7	3.4	26.0
	6. Other market price	D	3.0	0.0	9.1
	7. Other	0	0.0	NA	NA
6.6*	What types of pricing methods does your plant expect to use in 3 years for selling pork products?				
	1. Price list	45	58.0	46.3	69.8
	2. Individually negotiated pricing	47	52.7	41.3	64.1
	3. Formula pricing (using another price as the base)	46	48.5	37.8	59.3
	4. Sealed bid	10	8.4	3.4	13.5
	5. Internal transfer	15	13.1	6.9	19.3
	6. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		Processors / Manufacturers				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
6.7*	Which of the following marketing practices did your plant use during the past year for the sale of pork products?												
	1. Two-part pricing	D	7.9	0.0	18.8	11	20.0	8.1	31.9	17	25.9	14.1	37.7
	2. Volume discounts	11	33.0	15.8	50.2	22	43.2	27.7	58.7	22	32.6	20.1	45.0
	3. Exclusive dealings	D	1.9	0.0	5.6	3	8.9	0.0	18.7	9	13.5	4.4	22.6
	4. Bundling	D	1.9	0.0	5.6	9	14.1	5.1	23.1	12	13.1	7.3	18.9
	5. None of the above	24	59.3	41.5	77.1	21	44.9	29.0	60.9	27	50.3	36.3	64.3

		Food Service Establishments				Foreign Buyers			
		n	%	Lower	Upper	n	%	Lower	Upper
	1. Two-part pricing	11	23.5	10.7	36.3	0	0.0	NA	NA
	2. Volume discounts	15	37.8	20.3	55.3	7	28.7	10.4	47.0
	3. Exclusive dealings	4	9.9	0.0	20.5	3	12.3	0.0	26.3
	4. Bundling	10	19.4	9.7	29.1	7	28.7	10.4	47.0
	5. None of the above	16	46.3	27.9	64.6	12	63.1	44.4	81.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

	n	Mean	Lower	Upper
7.1 For what percentage of pork products sold during the past year did the seller (your plant) pay for transportation?	80	43.8	33.4	54.3
7.2 What percentage of pork products sold during the past year were under a written agreement (versus oral)?	78	6.5	3.1	9.9

	Mean (n = 72)	Lower	Upper
7.3 For pork products sold during the past year, what was the length of the agreement or contact (oral or written) (% of dollar sales)?			
a. Sales not under agreement or contract	84.3	76.5	92.1
b. Less than 1 month	7.1	1.5	12.6
c. 1 to 2 months	1.2	0.5	1.9
d. 3 to 5 months	2.1	<0	5.7
e. 6 to 11 months	2.0	<0	5.6
f. 1 to 2 years	2.5	0.1	4.9
g. 3 to 5 years	0.0	0.0	0.0
h. 6 to 10 years	0.0	0.0	0.0
i. More than 10 years or evergreen	0.8	<0	1.8
Total	100.0		

	Mean (n = 78)	Lower	Upper
7.4 For pork products sold during the past year, how far in advance of delivery was the delivery scheduled (% of dollar sales)?			
a. Less than 3 days	56.5	46.3	66.7
b. 4 to 6 days	25.4	16.9	33.9
c. 1 to 2 weeks	10.9	4.9	17.0
d. 3 to 4 weeks	5.5	1.2	9.9
e. More than 1 month	1.6	0.6	2.6
Total	99.9†		

† Total does not sum to 100% because of rounding.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
8.1*	What are the three most important reasons why your plant only uses the cash or spot market for selling pork products?				
	1. Can sell pork products at higher prices	12	25.8	12.3	39.3
	2. Reduces risk exposure	9	17.5	6.3	28.7
	3. Reduces costs of activities for selling pork products	9	21.3	8.5	34.0
	4. Reduces price variability for pork products	D	4.7	0.0	11.4
	5. Reduces potential liability and litigation concerns	D	3.5	0.0	8.7
	6. Increases supply chain information	0	0.0	NA	NA
	7. Allows for sale of higher quality pork products	9	20.0	7.6	32.4
	8. Allows for market access	5	10.6	1.1	20.0
	9. Allows for adjusting operations quickly in response to changes in market conditions	19	42.4	27.0	57.7
	10. Does not require identifying and recruiting long-term contracting partners	9	18.7	6.8	30.7
	11. Does not require managing complex and costly contracts	12	28.3	14.4	42.3
	12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA
	13. Allows for independence, complete control, and flexibility of own business	23	53.1	37.7	68.4
	14. Enhances ability to benefit from favorable market conditions	9	18.7	6.8	30.7
	15. Other	D	2.4	0.0	7.1
	16. Can easily sell small quantity of pork products *(write-in response)*	D	4.7	0.0	11.4
	17. No other choice *(write-in response)*	D	4.7	0.0	11.4
8.2*	What are the three most important reasons why your plant uses alternative sales methods for selling pork products?				
	1. Can sell pork products at higher prices	15	51.4	29.8	73.0
	2. Reduces risk exposure	13	39.5	20.9	58.1
	3. Reduces costs of activities for selling pork products	5	17.1	0.9	33.3
	4. Reduces price variability for pork products	3	11.5	0.0	26.1
	5. Reduces potential liability and litigation concerns	D	5.9	0.0	18.2
	6. Increases supply chain information	3	8.4	0.0	17.9
	7. Allows for sale of higher quality pork products	4	17.5	0.1	34.8
	8. Allows for market access	2	8.7	0.0	22.2
	9. Increases flexibility in responding to consumer demand	5	17.1	0.9	33.3
	10. Allows for product branding in retail sales	8	22.4	9.0	35.8
	11. Allows for food safety and biosecurity assurances	3	14.7	0.0	31.2
	12. Allows for product traceability	D	2.8	0.0	8.5
	13. Improves week-to-week production management	18	59.8	38.6	80.9
	14. Secures a buyer for pork products	5	20.3	2.2	38.4
	15. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
9.1	How many days per week did your plant usually slaughter market hogs?				
	1. Less frequently than once a week	7	10.1	3.0	17.3
	2. 1 or 2 days per week	37	53.6	43.9	63.4
	3. 3 or 4 days per week	5	5.7	0.5	11.0
	4. 5 or 6 days per week	38	30.5	23.5	37.5
	Total		99.9		
9.2	How many market hog slaughter shifts did your plant usually operate per day?				
	1. One	75	93.0	89.3	96.8
	2. Two	10	7.0	3.2	10.7
	3. Three	0	0.0	NA	NA
	Total		100.0		
9.3	How many pork processing shifts did your plant usually operate per day?				
	1. None	24	29.8	19.3	40.4
	2. One	42	56.3	45.8	66.8
	3. Two	20	13.8	9.8	17.8
	4. Three	0	0.0	NA	NA
	Total		99.9		

		n	Mean	Lower	Upper
9.4	What is your plant's maximum slaughter capacity (head per week) for market hogs?	87	11,405.2	7,898.2	14,912.2
9.5	What is your plant's maximum processing capacity (pounds per week) for pork products?	73	1,612,340.3	985,429.8	2,239,250.8
9.6	What was the slaughter line speed (head per hour) for market hogs?	55	229.1	170.9	287.3

		n	%	Lower	Upper
9.7	How many meat slaughter and processing plants, including this one, are owned by the company that owns your plant?				
	1. One	60	80.2	74.0	86.5
	2. 2 to 5	7	7.2	1.6	12.9
	3. 6 to 10	D	1.4	0.0	3.3
	4. 11 to 20	9	6.3	2.7	9.9
	5. 21 or more	7	4.9	1.6	8.2
	Total		100.0		

		n	Mean	Lower	Upper
9.8	Approximately how many people were employed at your plant during the past year?				
	a. Full time	85	292.7	200.5	384.8
	b. Part time or seasonal	47	13.9	3.7	24.2

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 7-8. Weighted Responses for the Pork Packer Survey (n = 88) (continued)

		n	%	Lower	Upper
9.9	What were your plant's approximate total gross sales for fresh, frozen, and processed pork products during the past year?				
	1. Under $99,999	19	28.2	17.6	38.7
	2. $100,000 to $499,999	18	26.6	16.2	37.1
	3. $500,000 to $999,999	3	4.6	0.0	9.7
	4. $1,000,000 to $2,499,999	7	10.7	3.1	18.2
	5. $2,500,000 to $9,999,999	4	5.3	0.0	10.6
	6. $10,000,000 to $19,999,999	4	4.5	0.0	9.2
	7. $20,000,000 to $99,999,999	6	5.1	0.9	9.4
	8. $100,000,000 to $499,999,999	9	6.5	2.8	10.1
	9. $500,000,000 or more	12	8.6	4.7	12.5
	Total		100.1†		
9.10	What were your plant's approximate total gross sales for pork by-products during the past year?				
	1. Under $99,999	42	66.3	58.3	74.3
	2. $100,000 to $499,999	7	8.6	2.0	15.3
	3. $500,000 to $999,999	4	4.7	0.0	9.6
	4. $1,000,000 to $2,499,999	4	3.9	0.0	7.9
	5. $5,000,000 to $9,999,999	5	3.8	0.6	6.9
	6. $20,000,000 to $49,999,999	8	6.0	2.3	9.7
	7. $50,000,000 to $499,999,999	9	6.8	2.9	10.6
	8. $500,000,000 to $999,999,999	0	0.0	NA	NA
	9. 1,000,000,000 or more	0	0.0	NA	NA
	Total		100.1†		
9.11	What were your plant's approximate total gross sales for all products during the past year?				
	1. Under $99,999	9	12.9	4.8	21.0
	2. $100,000 to $499,999	14	21.4	11.6	31.1
	3. $500,000 to $999,999	9	13.7	5.4	22.1
	4. $1,000,000 to $2,499,999	12	18.3	9.0	27.6
	5. $2,500,000 to $4,999,999	3	4.6	0.0	9.7
	6. $5,000,000 to $9,999,999	3	3.8	0.0	8.2
	7. $10,000,000 to $19,999,999	4	4.5	0.0	9.2
	8. $20,000,000 to $49,999,999	3	3.0	0.0	6.6
	9. $50,000,000 to $99,999,999	3	2.2	0.0	4.5
	10. $100,000,000 to $499,999,999	8	5.7	2.2	9.3
	11. $500,000,000 or more	14	10.0	6.0	14.1
	Total		100.1†		

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

Table 7-9. Use of Purchase Methods for Pork Packing Plants, by Size (Small = 53, Large = 35)

		Small (n = 47)			Large (n = 27)			All Plants (n = 74)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S2.1	For all market hogs procured by your operation during the past year, what were the ownership arrangements (% of head)?									
	a. Sole ownership by your plant	97.9	93.6	>100.0	71.1	53.8	88.5	92.2	87.3	97.1
	b. Joint venture	0.0	0.0	0.0	10.7	<0	23.0	2.3	<0	4.8
	c. Shared ownership	2.1	<0	6.4	0.0	0.0	0.1	1.7	<0	5.0
	d. Other	0.0	0.0	0.0	18.1	3.5	32.6	3.8	0.8	6.8
	Total	100.0			99.9†			100.0		
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
	Establishments for which 100% are sole ownership	46	97.9	93.6	100.0	16	59.3	39.5	79.1	62	89.7	84.4	94.9

		Small (n = 51)			Large (n = 34)			All Plants (n = 85)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S2.2	What methods were used by your plant during the past year for procuring market hogs (% of head)?									
	a. Auction barns	11.3	4.4	18.2	0.8	<0	1.8	8.8	3.6	14.0
	b. Video/electronic auctions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	c. Dealers or brokers	25.5	14.2	36.8	14.5	4.6	24.3	22.9	14.1	31.7
	d. Direct trade	48.9	35.7	62.1	18.9	10.6	27.1	41.7	31.6	51.8
	e. Procurement or marketing contract	1.2	<0	3.5	39.1	26.4	51.8	10.2	6.8	13.7
	f. Production contract	2.0	<0	5.9	2.2	<0	5.1	2.0	<0	5.1
	g. Forward contract	0.0	0.0	0.0	7.6	3.3	11.9	1.8	0.8	2.8
	h. Marketing agreement	8.1	1.1	15.2	8.6	3.2	14.0	8.2	2.8	13.7
	i. Packer owned	3.0	<0	7.4	8.4	0.0	16.7	4.3	0.5	8.1
	j. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	100.0			100.1†			99.9†		
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
	Establishments for which 100% are cash or spot market purchases	41	80.4	69.1	91.7	5	14.7	2.2	27.2	46	64.7	55.7	73.7

† Total does not sum to 100% because of rounding.

(continued)

Table 7-9. Use of Purchase Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.3*	What types of pricing methods are used by your plant for purchasing market hogs?												
	1. Individually negotiated pricing	31	62.0	48.1	75.9	24	70.6	54.5	86.7	55	64.1	53.0	75.2
	2. Public auction	20	40.0	25.9	54.1	6	17.6	4.1	31.1	26	34.6	23.6	45.6
	3. Sealed bid	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	4. Formula pricing (using another price as the base)	21	42.0	27.8	56.2	29	85.3	72.8	97.8	50	52.5	41.4	63.5
	5. Internal transfer	3	6.0	0.0	12.8	11	32.4	15.8	48.9	14	12.4	5.9	18.8
	6. Production contract terms	0	0.0	NA	NA	7	20.6	6.3	34.9	7	5.0	1.6	8.4
	7. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
S2.4*	For market hogs purchased by your plant during the past year using formula pricing, what was the base price of the formula?												
	1. Individual or multiple plant average price	5	19.2	3.0	35.5	10	32.3	14.8	49.7	15	23.9	12.1	35.8
	2. Individual or multiple plant average cost of production	D	3.8	0.0	11.8	D	3.2	0.0	9.8	D	3.6	0.0	9.1
	3. USDA live quote	15	57.7	37.3	78.0	4	12.9	0.4	25.4	19	41.6	28.2	55.0
	4. USDA dressed or carcass quote	7	26.9	8.7	45.2	25	80.6	65.9	95.4	32	46.2	33.7	58.7
	5. USDA boxed pork price	0	0.0	NA	NA	5	16.1	2.4	29.8	5	5.8	1.0	10.6
	6. Chicago Mercantile Exchange (CME) lean hog futures	D	3.8	0.0	11.8	D	54.8	36.3	73.4	18	22.2	14.0	30.4
	7. Retail price	D	3.8	0.0	11.8	0	0.0	NA	NA	D	2.5	0.0	7.4
	8. Subscription service price (for example, Urner Barry)	D	3.8	0.0	11.8	0	0.0	NA	NA	D	2.5	0.0	7.4
	9. Other market price	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	10. Other	D	3.8	0.0	11.8	0	0.0	NA	NA	D	2.5	0.0	7.4
	11. Corn/soybean meal markets *(write-in response)*	0	0.0	NA	NA	D	6.5	0.0	15.6	D	2.3	0.0	5.5
	12. Auction price *(write-in response)*	3	11.5	0.0	24.7	0	0.0	NA	NA	3	7.4	0.0	15.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-9. Use of Purchase Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S2.5*	For market hogs received during the past year from another business unit owned by the same company, what was the source of the internal transfer price?												
	1. Price paid for purchased market hogs	D	50.0	0.0	100.0	D	56.3	28.9	83.6	11	54.1	26.7	81.5
	2. Reported market price	D	25.0	0.0	100.0	D	50.0	22.5	77.5	9	41.3	15.9	66.7
	3. Measure of internal production cost with a profit margin	D	25.0	0.0	100.0	0	0.0	NA	NA	D	8.7	0.0	26.9
	4. Measure of internal production cost without a profit margin	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
	5. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
S2.6*	What types of valuation methods are used by your plant for purchasing market hogs?												
	1. Liveweight	40	81.6	70.4	92.9	24	70.6	54.5	86.7	64	78.9	69.7	88.2
	2. Carcass weight, not dependent on merit	10	20.4	8.7	32.1	5	14.7	2.2	27.2	15	19.0	9.8	28.2
	3. Carcass weight, dependent on merit	8	16.3	5.6	27.1	26	76.5	61.4	91.5	34	31.1	22.3	39.9
	4. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S2.7	For what percentage of market hogs purchased during the past year did the buyer (your plant) pay for transportation?	48	38.9	25.5	52.3	32	11.5	3.2	19.8	80	32.3	22.1	42.6
S2.8	What percentage of market hogs purchased during the past year were under a written agreement (versus oral)?	48	5.8	<0	12.5	33	59.1	44.4	73.8	81	18.8	12.8	24.9

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-10. Terms of Procurement or Marketing Contracts for Pork Packing Plants, by Size (Small = 53, Large = 35)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S3.1 With how many pork producers did your plant maintain procurement or marketing contracts during the past year?												
1. One	D	66.7	0.0	100.0	0	0.0	NA	NA	D	11.4	0.0	23.0
2. Two	D	33.3	0.0	100.0	D	9.7	0.0	20.7	4	13.7	0.0	28.5
3. Three to five	0	0.0	NA	NA	7	22.6	7.0	38.2	7	18.7	5.8	31.6
4. Six to ten	0	0.0	NA	NA	D	3.2	0.0	9.8	D	2.7	0.0	8.1
5. More than ten	0	0.0	NA	NA	20	64.5	46.7	82.4	20	53.5	38.7	68.3
Total		100.0				100.0				100.0		

	Small (n = 3)			Large (n = 29)			All Plants (n = 32)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S3.2 For market hogs purchased under a procurement or marketing contract during the past year, what was the length of the contract (% of head)?	(results suppressed)								
a. Less than 6 months				8.0	0.4	15.6	12.6	<0	26.3
b. 6 to 11 months				18.2	7.0	29.4	14.9	5.7	24.1
c. 1 to 2 years				14.0	3.6	24.5	17.5	2.6	32.5
d. 3 to 5 years				33.0	17.5	48.5	27.0	14.4	39.7
e. 6 to 10 years				1.5	<0	3.1	1.2	<0	2.5
f. More than 10 years or evergreen				25.3	11.4	39.2	26.8	10.0	43.5
Total				100.0			100.0		

D = Results suppressed.
NA = Confidence interval not calculable.

(continued)

Table 7-10. Terms of Procurement or Marketing Contracts for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S3.3*	Which of the following terms were specified in the procurement or marketing contracts used by your plant during the past year?												
	1. Number of market hogs to be delivered each specified time period	D	40.0	0.0	100.0	D	89.7	77.9	100.0	28	76.3	60.4	92.2
	2. Average weight of market hogs	D	60.0	0.0	100.0	D	62.1	43.3	80.9	21	61.5	42.4	80.6
	3. Quality of market hogs	D	60.0	0.0	100.0	D	82.8	68.1	97.4	27	76.7	59.5	93.8
	4. Yield percentage of market hogs	D	20.0	0.0	75.5	D	27.6	10.3	44.9	9	25.6	8.9	42.2
	5. Producer must sell 100% of production to your plant	0	0.0	NA	NA	14	48.3	28.9	67.6	14	35.3	21.2	49.4
	6. Minimum guaranteed price for market hogs	D	40.0	0.0	100.0	D	34.5	16.1	52.9	12	36.0	17.0	54.9
	7. Includes a ledger account	0	0.0	NA	NA	12	41.4	22.3	60.4	12	30.3	16.4	44.1
	8. Includes a price window	0	0.0	NA	NA	9	31.0	13.1	48.9	9	22.7	9.7	35.7
	9. Specifications for production facilities	0	0.0	NA	NA	11	37.9	19.1	56.7	11	27.8	14.1	41.4
	10. Breeding/genetics used by producer	0	0.0	NA	NA	15	51.7	32.4	71.1	15	37.8	23.8	51.9
	11. Feeding programs used by producer	0	0.0	NA	NA	11	37.9	19.1	56.7	11	27.8	14.1	41.4
	12. PSE requirements	0	0.0	NA	NA	D	6.9	0.0	16.7	D	5.0	0.0	12.2
	13. Producer must be Pork Quality Assurance (PQA) certified	0	0.0	NA	NA	21	72.4	55.1	89.7	21	53.0	40.4	65.6
	14. Allows packer to inspect and monitor production facilities	0	0.0	NA	NA	23	79.3	63.6	95.0	23	58.0	46.6	69.4
	15. Allows producer to visit and monitor packing facilities	0	0.0	NA	NA	18	62.1	43.3	80.9	18	45.4	31.7	59.1
	16. Allows packer to change carcass pricing grid without producer's consent	0	0.0	NA	NA	15	51.7	32.4	71.1	15	37.8	23.8	51.9
	17. Includes definition of viable or acceptable hog	0	0.0	NA	NA	20	69.0	51.1	86.9	20	50.5	37.4	63.5
	18. Price adjustment for single or multiple source hogs	D	40.0	0.0	100.0	D	10.3	0.0	22.1	5	18.3	2.4	34.2
	19. None of the above	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-11. Reasons for Using Purchase Methods for Pork Packing Plants, by Size (Small = 53, Large = 35)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.1* What are the three most important reasons why your plant only uses the cash or spot market for procuring market hogs?												
1. Can purchase market hogs at lower prices	D	37.8	21.4	54.2	D	25.0	0.0	100.0	15	37.2	21.5	53.0
2. Reduces risk exposure	D	8.1	0.0	17.3	D	25.0	0.0	100.0	4	8.9	0.0	18.0
3. Reduces costs of activities for buying market hogs	4	10.8	0.3	21.3	0	0.0	NA	NA	4	10.3	0.3	20.2
4. Reduces price variability for market hogs	D	5.4	0.0	13.0	0	0.0	NA	NA	D	5.1	0.0	12.4
5. Reduces potential liability and litigation concerns	D	5.4	0.0	13.0	0	0.0	NA	NA	D	5.1	0.0	12.4
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Secures higher quality market hogs	14	37.8	21.4	54.2	0	0.0	NA	NA	14	36.0	20.4	51.6
8. Allows for market access	D	10.8	0.3	21.3	D	25.0	0.0	100.0	5	11.5	1.2	21.8
9. Allows for adjusting operations quickly in response to changes in market conditions	D	32.4	16.6	48.3	D	50.0	0.0	100.0	14	33.3	18.0	48.6
10. Does not require identifying and recruiting long-term contracting partners	D	24.3	9.8	38.8	D	25.0	0.0	100.0	10	24.4	10.4	38.3
11. Does not require managing complex and costly contracts	D	18.9	5.7	32.2	D	25.0	0.0	100.0	8	19.2	6.4	32.0
12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
13. Allows for independence, complete control, and flexibility of own business	D	62.2	45.8	78.6	D	25.0	0.0	100.0	24	60.4	44.6	76.1
14. Enhances ability to benefit from favorable market conditions	D	16.2	3.8	28.7	D	50.0	0.0	100.0	8	17.8	5.7	30.0
15. Other	D	2.7	0.0	8.2	0	0.0	NA	NA	D	2.6	0.0	7.8
16. Can easily purchase small quantity of market hogs *(write-in response)*	5	9.4	1.3	17.6	0	0.0	NA	NA	5	7.2	1.1	13.3

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-11. Reasons for Using Purchase Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S5.2* What are the three most important reasons why your plant uses alternative procurement methods for procuring market hogs?												
1. Can purchase market hogs at lower prices	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
2. Reduces risk exposure	0	0.0	NA	NA	8	27.6	10.3	44.9	8	22.6	8.5	36.7
3. Reduces costs of activities for buying market hogs	D	33.3	0.0	100.0	D	20.7	5.0	36.4	7	23.0	5.2	40.7
4. Reduces price variability for market hogs	D	33.3	0.0	100.0	D	6.9	0.0	16.7	3	11.7	0.0	26.3
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Secures higher quality market hogs	D	33.3	0.0	100.0	D	65.5	47.1	83.9	20	59.7	40.3	79.1
8. Allows for market access	D	33.3	0.0	100.0	D	41.4	22.3	60.4	13	39.9	20.1	59.8
9. Increases flexibility in responding to consumer demand	D	33.3	0.0	100.0	D	3.4	0.0	10.5	D	8.8	0.0	22.4
10. Allows for product branding in retail sales	0	0.0	NA	NA	D	6.9	0.0	16.7	D	5.7	0.0	13.7
11. Allows for food safety and biosecurity assurances	0	0.0	NA	NA	D	6.9	0.0	16.7	D	5.7	0.0	13.7
12. Allows for product traceability	D	33.3	0.0	100.0	D	10.3	0.0	22.1	4	14.5	0.0	30.1
13. Improves week-to-week supply management	0	0.0	NA	NA	22	75.9	59.3	92.4	22	62.2	48.6	75.7
14. Improves efficiency of operations due to animal uniformity	D	66.7	0.0	100.0	D	17.2	2.6	31.9	7	26.2	9.0	43.3
15. Enhances access to credit	D	33.3	0.0	100.0	0	0.0	NA	NA	D	6.0	0.0	18.3
16. Other	0	0.0	NA	NA	D	3.4	0.0	10.5	D	2.8	0.0	8.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-12. Use of Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35)

	Small (n = 50)			Large (n = 33)			All Plants (n = 83)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S6.1 What was your plant's percentage of total pork product dollar sales during the past year by type of buyer or recipient?									
a. Meat processors or food manufacturers	12.7	6.0	19.5	33.7	24.3	43.1	17.7	12.2	23.2
b. Wholesalers or distributors	16.2	9.3	23.2	18.2	13.3	23.2	16.7	11.4	22.1
c. Retail establishments	43.3	31.7	54.9	28.9	21.1	36.6	39.9	30.9	48.9
d. Food service establishments	5.6	1.5	9.7	8.1	4.6	11.6	6.2	3.0	9.4
e. Foreign buyers	0.4	<0	1.0	10.9	5.0	16.8	2.9	1.5	4.3
f. Other	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.1
g. Directly to consumers *(write-in response)*	21.7	10.5	32.8	0.0	0.0	0.0	16.5	8.1	25.0
Total	99.9†			100.0			99.9†		

	Small (n = 47)			Large (n = 32)			All Plants (n = 79)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S6.2 What sales methods were used by your plant during the past year for selling pork products (% of dollar sales)?									
a. Cash or spot market (less than 3 weeks forward)	86.0	76.0	96.0	67.8	56.9	78.8	81.6	73.7	89.5
b. Forward contract	1.5	<0	3.8	7.1	3.9	10.3	2.9	1.0	4.8
c. Marketing agreement	8.1	0.5	15.6	16.9	9.1	24.8	10.2	4.3	16.2
d. Internal company transfer	4.4	<0	10.3	8.1	1.8	14.4	5.3	0.5	10.0
e. Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0			99.9†			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market sales	38	80.9	69.2	92.5	7	21.9	6.7	37.0	45	66.6	57.1	76.0

† Total does not sum to 100% because of rounding.

(continued)

Table 7-12. Use of Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

		Small				Large				All Plants			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S6.5*	For pork products sold by your plant during the past year using formula pricing, what was the base price of the formula?												
	1. Individual or multiple plant average price	4	21.1	0.9	41.2	10	33.3	15.4	51.2	14	26.3	12.9	39.7
	2. Individual or multiple plant average cost of production	D	5.3	0.0	16.3	D	13.3	0.4	26.2	5	8.7	0.6	16.8
	3. USDA publicly reported price	7	36.8	13.0	60.7	29	96.7	89.8	100.0	36	62.3	48.9	75.8
	4. Retail price	8	42.1	17.7	66.6	0	0.0	NA	NA	8	24.2	10.7	37.6
	5. Subscription service price (for example, Urner Barry)	3	15.8	0.0	33.8	4	13.3	0.4	26.2	7	14.7	3.4	26.0
	6. Other market price	D	5.3	0.0	16.3	0	0.0	NA	NA	D	3.0	0.0	9.1
	7. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
S6.6*	What types of pricing methods does your plant expect to use in 3 years for selling pork products?												
	1. Price list	28	59.6	45.0	74.1	17	53.1	34.8	71.4	45	58.0	46.3	69.8
	2. Individually negotiated pricing	20	42.6	27.9	57.2	27	84.4	71.1	97.7	47	52.7	41.3	64.1
	3. Formula pricing (using another price as the base)	16	34.0	20.0	48.1	30	93.8	84.9	100.0	46	48.5	37.8	59.3
	4. Sealed bid	D	2.1	0.0	6.4	D	28.1	11.7	44.6	10	8.4	3.4	13.5
	5. Internal transfer	D	4.3	0.0	10.2	D	40.6	22.6	58.6	15	13.1	6.9	19.3
	6. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 7-13. Terms of Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35)

		Small			Large			All Plants		
		n	Mean	Lower	Upper	n	Mean	Lower	Upper	n	Mean	Lower	Upper
S7.1	For what percentage of pork products sold during the past year did the seller (your plant) pay for transportation?	49	37.1	24.2	50.1	31	66.2	51.4	81.1	80	43.8	33.4	54.3
S7.2	What percentage of pork products sold during the past year were under a written agreement (versus oral)?	47	2.3	<0	5.1	31	20.2	8.9	31.6	78	6.5	3.1	9.9

		Small (n = 41)			Large (n = 31)			All Plants (n = 72)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
S7.3	For pork products sold during the past year, what was the length of the agreement or contact (oral or written) (% of dollar sales)?									
	a. Sales not under agreement or contract	88.8	79.2	98.3	71.6	58.0	85.3	84.3	76.5	92.1
	b. Less than 1 month	6.0	<0	13.0	10.2	1.3	19.0	7.1	1.5	12.6
	c. 1 to 2 months	0.2	<0	0.7	3.8	1.4	6.2	1.2	0.5	1.9
	d. 3 to 5 months	2.6	<0	7.5	0.8	0.2	1.4	2.1	<0	5.7
	e. 6 to 11 months	2.4	<0	7.4	0.8	0.2	1.5	2.0	<0	5.6
	f. 1 to 2 years	0.0	0.0	0.0	9.6	0.1	19.0	2.5	0.1	4.9
	g. 3 to 5 years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	h. 6 to 10 years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	i. More than 10 years or evergreen	0.0	0.0	0.0	3.2	<0	6.9	0.8	<0	1.8
	Total	100.0			100.0			100.0		

(continued)

Table 7-13. Terms of Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

	Small (n = 46)			Large (n = 32)			All Plants (n = 78)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
S7.4 For pork products sold during the past year, how far in advance of delivery was the delivery scheduled (% of dollar sales)?									
a. Less than 3 days	60.2	47.3	73.0	45.3	31.5	59.1	56.5	46.3	66.7
b. 4 to 6 days	25.0	13.9	36.0	26.9	17.8	36.0	25.4	16.9	33.9
c. 1 to 2 weeks	10.8	3.0	18.7	11.3	4.4	18.1	10.9	4.9	17.0
d. 3 to 4 weeks	4.0	<0	9.4	10.2	3.8	16.5	5.5	1.2	9.9
e. More than 1 month	0.0	0.0	0.1	6.4	2.2	10.6	1.6	0.6	2.6
Total	100.0			100.1†			99.9†		

† Total does not sum to 100% because of rounding.

Table 7-14. Reasons for Using Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S8.1* What are the three most important reasons why your plant only uses the cash or spot market for selling pork products?												
1. Can sell pork products at higher prices	D	25.0	11.0	39.0	D	40.0	0.0	100.0	12	25.8	12.3	39.3
2. Reduces risk exposure	6	15.0	3.4	26.6	3	60.0	0.0	100.0	9	17.5	6.3	28.7
3. Reduces costs of activities for selling pork products	9	22.5	9.0	36.0	0	0.0	NA	NA	9	21.3	8.5	34.0
4. Reduces price variability for pork products	D	5.0	0.0	12.1	0	0.0	NA	NA	D	4.7	0.0	11.4
5. Reduces potential liability and litigation concerns	D	2.5	0.0	7.6	D	20.0	0.0	75.5	D	3.5	0.0	8.7
6. Increases supply chain information	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
7. Allows for sale of higher quality pork products	D	20.0	7.0	33.0	D	20.0	0.0	75.5	9	20.0	7.6	32.4
8. Allows for market access	D	10.0	0.3	19.7	D	20.0	0.0	75.5	5	10.6	1.1	20.0
9. Allows for adjusting operations quickly in response to changes in market conditions	17	42.5	26.5	58.5	D	40.0	0.0	100.0	19	42.4	27.0	57.7
10. Does not require identifying and recruiting long-term contracting partners	D	17.5	5.2	29.8	D	40.0	0.0	100.0	9	18.7	6.8	30.7
11. Does not require managing complex and costly contracts	12	30.0	15.2	44.8	0	0.0	NA	NA	12	28.3	14.4	42.3
12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
13. Allows for independence, complete control, and flexibility of own business	D	55.0	38.9	71.1	D	20.0	0.0	75.5	23	53.1	37.7	68.4
14. Enhances ability to benefit from favorable market conditions	D	17.5	5.2	29.8	D	40.0	0.0	100.0	9	18.7	6.8	30.7
15. Other	D	2.5	0.0	7.6	0	0.0	NA	NA	D	2.4	0.0	7.1
16. Can easily sell small quantity of pork products *(write-in response)*	D	5.0	0.0	12.1	0	0.0	NA	NA	D	4.7	0.0	11.4
17. No other choice *(write-in response)*	D	5.0	0.0	12.1	0	0.0	NA	NA	D	4.7	0.0	11.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 7-14. Reasons for Using Sales Methods for Pork Packing Plants, by Size (Small = 53, Large = 35) (continued)

	Small				Large				All Plants			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
S8.2* What are the three most important reasons why your plant uses alternative sales methods for selling pork products?												
1. Can sell pork products at higher prices	3	50.0	0.0	100.0	12	52.2	30.1	74.3	15	51.4	29.8	73.0
2. Reduces risk exposure	D	16.7	0.0	59.5	D	52.2	30.1	74.3	13	39.5	20.9	58.1
3. Reduces costs of activities for selling pork products	D	16.7	0.0	59.5	4	17.4	0.6	34.2	5	17.1	0.9	33.3
4. Reduces price variability for pork products	D	16.7	0.0	59.5	D	8.7	0.0	21.2	3	11.5	0.0	26.1
5. Reduces potential liability and litigation concerns	D	16.7	0.0	59.5	0	0.0	NA	NA	D	5.9	0.0	18.2
6. Increases supply chain information	0	0.0	NA	NA	3	13.0	0.0	27.9	3	8.4	0.0	17.9
7. Allows for sale of higher quality pork products	D	33.3	0.0	87.5	D	8.7	0.0	21.2	4	17.5	0.1	34.8
8. Allows for market access	D	16.7	0.0	59.5	D	4.3	0.0	13.4	D	8.7	0.0	22.2
9. Increases flexibility in responding to consumer demand	D	16.7	0.0	59.5	D	17.4	0.6	34.2	5	17.1	0.9	33.3
10. Allows for product branding in retail sales	0	0.0	NA	NA	8	34.8	13.7	55.8	8	22.4	9.0	35.8
11. Allows for food safety and biosecurity assurances	D	33.3	0.0	87.5	D	4.3	0.0	13.4	3	14.7	0.0	31.2
12. Allows for product traceability	0	0.0	NA	NA	D	4.3	0.0	13.4	D	2.8	0.0	8.5
13. Improves week-to-week production management	3	50.0	0.0	100.0	15	65.2	44.2	86.3	18	59.8	38.6	80.9
14. Secures a buyer for pork products	D	33.3	0.0	87.5	D	13.0	0.0	27.9	5	20.3	2.2	38.4
15. Enhances access to credit	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA
16. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

7.3 LAMB PACKERS

Table 7-15 provides weighted tabulations for all survey questions for lamb packers (n = 11). Results are not provided by size because few lamb packers responded to the survey. Also, because the number of respondents is small, we cannot make inferences to the population of lamb packers; however, we can draw some general conclusions about the marketing practices of the lamb packers surveyed.

7.3.1 Characteristics of Lamb Packing Plants

Most lamb packers surveyed (85%) purchased fewer than 10,000 lambs during the past year, and 15% purchased between 10,000 and 499,999 lambs. About 48% of plants conducted slaughter and fabrication, but no further processing activities; 31% conducted slaughter only; and 21% conducted slaughter, fabrication, and further processing activities. Most plants surveyed also slaughtered other species: 95% slaughtered goats, 86% slaughtered beef cattle, and 71% slaughtered hogs. Of the plants that performed custom slaughter in the past year, 69% custom slaughtered between 1,000 and 49,999 lambs, and 31% custom slaughtered fewer than 500 lambs. (See Table 7-15, Questions 1.2 through 1.5.)

The maximum slaughter capacity averaged 1,111 head per week, with an average slaughter speed line of 39 head per hour. The maximum breaking and processing capacity averaged 61,208 pounds of lamb product per week. (See Table 7-15, Questions 8.4 through 8.6.)

Of the lambs slaughtered during the past year by the plants surveyed, 61% were classified as standard weight carcasses, 29% were classified as light weight carcasses, and 10% were classified as heavy weight carcasses.[8] On average, carcasses weighing less than 45 pounds were classified as light weight, while carcasses weighing over 76 pounds were considered heavy weight. (See Table 7-15, Question 1.8.)

Of the lambs slaughtered during the past year by the plants surveyed, 62% were Yield Grades 1, 2, and 3; 8% were Yield Grades 4 and 5; and 31% had other or no yield grade. Of the

[8] These values were computed as the mean percentage of head weighted by the number of eligible plants. Other reported means were computed similarly (i.e., weighted by the number of eligible plants).

lambs slaughtered, 53% received a quality grade of USDA Prime or Choice, 13% were Good, and 31% had other or no quality grade. Of the plants surveyed, 76% of total lamb product dollar sales were carcasses or saddles, and 20% were primal cuts. Of the lamb products sold, none were branded. (See Table 7-15, Questions 1.6, 1.7, 1.12, and 1.13.)

More than 57% of respondents reported total gross sales for fresh, frozen, and processed lamb products of less than $500,000, and 43% had sales of $500,000 or more. More than 73% of respondents reported total gross sales for lamb by-products of less than $100,000, and 26% had sales of $100,000 or more. More than 54% of respondents reported total gross sales for all products of less than $1 million, 15% reported sales between $1 million and $2.5 million, and 31% reported sales of more than $5 million. (See Table 7-15, Questions 8.9 through 8.11.)

The majority of plants surveyed can be characterized as independent businesses. None of the plants surveyed were owned by a company that owns other packing or processing plants, and 60% of plants did not own other upstream or downstream businesses. Furthermore, the majority of respondents did not participate in alliances. Eighty-three percent of respondents did, however, participate in certification programs, with more than 50% participating in organic certification programs and 25% participating in Halal certification programs. (See Table 7-15, Questions 1.9 through 1.11 and 8.7.)

7.3.2 Methods for Purchasing or Receiving Lambs by Lamb Packers

Of the lambs received during the past year by the plants surveyed, nearly 94% were owned solely by the operation. No lambs were received by joint ventures or shared ownership. For 94% of plants, all of their lambs were owned solely by the operation during the past year. Respondents reported that lamb ownership arrangements were very similar 3 years ago and are not expected to change within the next 3 years. (See Table 7-15, Question 2.1.)

For about 90% of plants, all of the lambs purchased were from spot market transactions.

Of the lambs purchased during the past year by the plants surveyed, nearly 95% were from spot market transactions. For about 90% of plants, all of the lambs purchased were from spot market transactions. During the past year, 38% of cash market purchases of lambs were through dealers/brokers, 34% through auction barns, and 23% through direct trade. In contrast, less than 6% of lamb purchases were made through marketing agreements. Respondents reported that methods for purchasing lambs were generally similar to those of 3 years ago and are not expected to change much within the next 3 years. (See Table 7-15, Question 2.2.)

Although plants used multiple pricing methods for lamb purchases, the most frequently cited methods were individual negotiations (73% of plants) and public auctions (45%).[9] Ninety percent of plants used liveweight as the valuation method for lamb purchases. Respondents expect little change in valuation methods in the next 3 years. (See Table 7-15, Questions 2.3, 2.4, and 2.6.)

Lamb buyers paid transportation costs in 50% of the transactions. There were few lambs purchased using a written contract (5% of transactions). For lambs purchased under a preexisting agreement, the agreement was typically less than 6 months. Nearly 90% of lambs purchased were scheduled for delivery within 2 weeks, and the remainder were scheduled for delivery 2 to 4 weeks in advance. (See Table 7-15, Questions 3.1 through 3.4.)

Of the lambs purchased during the past year, plants provided information back to the feeder or finisher on about 18% of the total head purchased. For respondents that provided information back to the feeder or finisher, most did so at the request of the seller, for no charge. Most plants (84%) provided information on carcass weight for individual animals. (See Table 7-15, Questions 3.5 through 3.7.)

For packers that used only spot market transactions, the three most frequently cited reasons for doing so were (1) “Can purchase lambs at lower prices” (76%), (2) “Allows for market access” (47%), and (3) “Reduces risk exposure” (42%). Because the number of plants that used AMAs was very small,

[9] Respondents could select multiple responses.

we cannot evaluate plants' reasons for using AMAs. (See Table 7-15, Questions 4.1 and 4.2.)

7.3.3 Methods for Selling and Transferring Lamb Products by Lamb Packers

About 82% of lamb products sold during the past year were through spot market methods, and 17% were through marketing agreements.

For the plants surveyed, most lamb product sales were to retail establishments (58% of total lamb product sales) and wholesalers or distributors (38%). Less than 5% of sales were to food service establishments. About 82% of lamb products sold during the past year were through spot market methods, and 17% were through marketing agreements. Type of sales method did not typically vary by type of recipient, with the exception of a greater reliance on marketing agreements when selling to wholesalers/distributors. Respondents reported that methods for selling lamb products were very similar to those of 3 years ago and are not expected to change much within the next 3 years. (See Table 7-15, Questions 5.1 through 5.3.)

The type of method used to price lamb products varied somewhat by type of recipient. Individually negotiated pricing was used most often for sales to wholesalers/distributors and food service establishments, although some sales were priced using price lists. Products sold to retail establishments were priced using price lists, individually negotiated pricing and, to a lesser extent, formula pricing. (See Table 7-15, Questions 5.4 through 5.6.)

Plants incurred transportation costs for approximately 40% of the lamb products sold. No lamb products were sold under a written agreement. Almost all deliveries were scheduled less than 7 days in advance. (See Table 7-15, Questions 6.1 through 6.4.)

More than 54% of plants chose "Can sell lamb products at higher prices" as an important reason for using only cash markets to sell lamb products. Other reasons for using only cash markets were "Allows for market access" (48%) and "Allows for independence, complete control, and flexibility of own business" (46%). Because the number of plants that used AMAs was very small, we cannot evaluate their reasons for using AMAs. (See Table 7-15, Questions 7.1 and 7.2.)

7.3.4 Lamb Packer Survey Summary

Most of the lamb packers surveyed relied on spot market transactions for purchasing lambs and selling lamb products.

Few of the lamb packers surveyed used AMAs for purchasing lambs or selling lamb products. Most lambs for slaughter were not purchased under a written agreement and were scheduled for delivery within 2 weeks. Most of the lamb packers surveyed sold lamb products to retail establishments, wholesalers, and distributors, using cash market methods and individually negotiated pricing or price lists. No plants reported using written agreements for sales, and all sales were scheduled for delivery within 2 weeks.

Most of those responding were independent businesses and appear to value independence in their marketing choices. Respondents used cash markets for purchasing lambs to get a lower price, gain market access, and reduce risk exposure. Also, respondents relied on cash markets for lamb product sales to sell their product at a higher price, to gain market access, and to maintain greater independence.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11)

	n	%	Lower	Upper
1.2* What types of livestock did your plant slaughter during the past year?				
1. Lambs	11	100.0	—[a]	—[a]
2. Ewes and/or rams	5	35.9	—	—
3. Goats	10	95.2	—	—
4. Hogs	5	71.0	—	—
5. Beef cattle (including fed Holsteins)	8	85.5	—	—
6. Dairy cattle	3	26.2	—	—
7. Other	0	0.0	—	—
8. Veal *(write-in response)*	D	21.4	—	—
9. Ratites *(write-in response)*	D	16.5	—	—
10. Buffalo *(write-in response)*	D	16.5	—	—
1.3 Which of the following best describes your plant's operations during the past year?				
1. Only conducted slaughter operations	4	31.0	—	—
2. Conducted slaughter and fabrication operations, but no further processing activities	5	47.6	—	—
3. Conducted slaughter operations, fabrication operations, and further processing activities	D	21.4	—	—
Total		100.0		

	n	Mean	Lower	Upper
1.4 How many lambs were purchased by your plant during the past year?	11	21,814.6	—	—

	n	%	Lower	Upper
1–9,999	8	85.5	—	—
10,000–499,999	3	14.5	—	—
500,000 or more	0	0.0	—	—
Total		100.0		

[a] We do not provide the 95% confidence intervals because we cannot make inferences to the population of lamb packers because of the small number of respondents.

(continued)

D = Results suppressed.

* Respondents could select multiple responses.

A description of the notation used in the table headers is provided below.

n = number of respondents

% = estimated proportion weighted by the number of eligible plants

Mean = estimated mean weighted by the number of eligible plants

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	Mean	Lower	Upper
1.5	How many lambs were custom slaughtered by your plant during the past year?	8	1,873.5	—	—
		n	**%**	**Lower**	**Upper**
	1–499	3	30.7	—	—
	500–999	0	0.0	—	—
	1,000–49,999	5	69.3	—	—
	50,000 or more	0	0.0	—	—
	Total		100.0		
			Mean (n = 9)	**Lower**	**Upper**
1.6	What was the carcass yield grade for lambs slaughtered by your plant during the past year (% of head)?				
	a. Yield grades 1, 2, and 3		61.7	—	—
	b. Yield grades 4 and 5		7.7	—	—
	c. Other yield grade or no yield grade		30.6	—	—
	Total		100.0		
			Mean (n = 9)	**Lower**	**Upper**
1.7	What was the carcass quality grade for lambs slaughtered by your plant during the past year (% of head)?				
	a. Prime and choice		53.0	—	—
	b. Good		13.3	—	—
	c. Utility		2.5	—	—
	d. Other quality grade or no quality grade		31.2	—	—
	Total		100.0		

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	Weight Range (pounds)				Percentage of Head (n = 9)		
	n	Mean	Lower	Upper	Mean	Lower	Upper
1.8 What was the carcass weight classification for lambs slaughtered by your plant during the past year?							
a. Standard weight carcasses	—	—	—	—	61.2	—	—
b. Heavy weight carcasses	5	75.9	—	—	9.9	—	—
c. Light weight carcasses	8	45.3	—	—	29.0	—	—
Total					100.1†		

† Total does not sum to 100% because of rounding.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	%	Lower	Upper
1.9*	What types of certification programs did your plant participate in during the past year?				
	1. None	D	17.4	—	—
	2. Kosher certification	D	10.2	—	—
	3. Halal certification	5	25.4	—	—
	4. Organic certification	3	52.2	—	—
	5. USDA Process Verified certification	D	22.5	—	—
	6. ISO certification	0	0.0	—	—
	7. Third-party certification of breed or livestock quality	0	0.0	—	—
	8. Own-company certification of breed or livestock quality	0	0.0	—	—
	9. Buyer certification of breed or livestock quality	0	0.0	—	—
	10. Other	0	0.0	—	—
1.10*	What levels of production were owned by the same company that owns your plant during the past year?				
	1. None	7	60.2	—	—
	2. Seed stock supplier	0	0.0	—	—
	3. Producer	0	0.0	—	—
	4. Feeder or finisher	D	17.4	—	—
	5. Breaker or meat processor	3	39.8	—	—
	6. Restaurant, hotel, or other food service	D	17.4	—	—
	7. Grocery store, meat market, or other retailer	D	17.4	—	—
	8. Exporter	0	0.0	—	—
	9. Other	0	0.0	—	—
1.11a	What types of alliances did your plant participate in during the past year for purchasing lambs and/or selling lamb products?				
	– Plants participating in an alliance	D	16.5	—	—
	– Respondents with one alliance	D	100.0	—	—

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	%	Lower	Upper
1.11b	For packers that participated in alliances, what types of alliances did your plant participate in during the past year for purchasing lambs and/or selling lamb products?		(results suppressed)		
			Mean (n = 10)	**Lower**	**Upper**
1.12	What was your plant's percentage of total lamb product dollar sales during the past year by product category?				
	a. Carcass or saddle		75.5	—	—
	b. Primal cuts		20.0	—	—
	c. Subprimal cuts		0.8	—	—
	d. Ground, including trimmings		0.7	—	—
	e. Portion cuts		0.2	—	—
	f. Case ready		1.8	—	—
	g. Processed, ready-to-eat		0.0	—	—
	h. Processed, not-ready-to-eat		1.0	—	—
	i. Other		0.0	—	—
	Total		100.0	—	—
		n	**Mean**	**Lower**	**Upper**
1.13	What percentage of lamb product sold by your plant during the past year was branded?	9	0.0	—	—

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		3 Years Ago (n = 8)			During Past Year (n = 9)			Expected in 3 Years (n = 9)		
		Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.1	For all lambs purchased or received by your operation, what were the ownership arrangements (% of head)?									
	a. Sole ownership by your plant	93.5	—	—	93.9	—	—	93.9	—	—
	b. Joint venture	0.0	—	—	0.0	—	—	0.0	—	—
	c. Shared ownership	0.0	—	—	0.0	—	—	0.0	—	—
	d. Other	6.5	—	—	6.1	—	—	6.1	—	—
	Total	100.0			100.0			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are sole ownership	7	93.5	—	—	8	93.9	—	—	8	93.9	—	—

		3 Years Ago (n = 10)			During Past Year (n = 10)			Expected in 3 Years (n = 11)		
		Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
2.2	What methods are used by your plant for purchasing lambs (% of head)?									
	a. Auction barns	40.1	—	—	33.9	—	—	36.6	—	—
	b. Video/electronic auctions	0.0	—	—	0.0	—	—	0.0	—	—
	c. Dealers or brokers	32.1	—	—	38.1	—	—	36.9	—	—
	d. Direct trade	22.5	—	—	22.5	—	—	21.4	—	—
	e. Forward contract	0.0	—	—	0.0	—	—	0.0	—	—
	f. Marketing agreement	5.3	—	—	5.6	—	—	5.1	—	—
	g. Packer fed/owned	0.0	—	—	0.0	—	—	0.0	—	—
	h. Other	0.0	—	—	0.0	—	—	0.0	—	—
	Total	100.0			100.1†			100.0		

	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
Establishments for which 100% are cash or spot market purchases	8	89.8	—	—	8	89.8	—	—	9	90.3	—	—

† Total does not sum to 100% because of rounding.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.3* What types of pricing methods are used by your plant for purchasing lambs?								
1. Individually negotiated pricing	7	72.5	—	—	6	67.4	—	—
2. Public auction	4	44.9	—	—	6	55.1	—	—
3. Sealed bid	D	5.1	—	—	0	0.0	—	—
4. Formula pricing (using another price as the base)	D	5.1	—	—	D	5.1	—	—
5. Internal transfer	0	0.0	—	—	0	0.0	—	—
6. Other	0	0.0	—	—	0	0.0	—	—
	With Grid				**Without Grid**			
	n	%	Lower	Upper	n	%	Lower	Upper
2.4* For lambs purchased by your plant during the past year using formula pricing, what was the base price of the formula?	(results suppressed)							
1. Individual or multiple plant average price					0	0.0	—	—
2. Individual or multiple plant average cost of production					D	63.1	—	—
3. USDA live quote					0	0.0	—	—
4. USDA dressed or carcass quote					0	0.0	—	—
5. USDA cutout value					0	0.0	—	—
6. Retail price					D	18.4	—	—
7. Subscription service price (for example, Urner Barry)					0	0.0	—	—
8. Other market price					0	0.0	—	—
9. Other					0	0.0	—	—
10. Auction price *(write-in response)*					D	18.4	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	n	%	Lower	Upper
2.5* For lambs received during the past year from another business unit owned by the same company, what was the source of the internal transfer price?				
1. Price paid for purchased lambs	D	100.0	—	—
2. Reported market price	D	77.4	—	—
3. Measure of internal production cost with a profit margin	0	0.0	—	—
4. Measure of internal production cost without a profit margin	0	0.0	—	—
5. Other	0	0.0	—	—

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.6* What types of valuation methods are used by your plant for purchasing lambs?								
1. Per head	D	22.5	—	—	D	22.5	—	—
2. Liveweight	8	89.8	—	—	8	89.8	—	—
3. Carcass weight, not dependent on grid value	D	10.2	—	—	D	5.1	—	—
4. Carcass weight, dependent on grid value	D	5.1	—	—	D	5.1	—	—
5. Other	0	0.0	—	—	0	0.0	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	Mean	Lower	Upper
3.1	For what percentage of lambs purchased during the past year did the buyer (your plant) pay for transportation?	11	50.0	—	—
3.2	What percentage of lambs purchased during the past year were under a written agreement (versus oral)?	11	4.8	—	—

		Mean (n = 11)	Lower	Upper
3.3	For lambs purchased during the past year, what was the length of the agreement or contract (oral or written) (% of head)?			
	a. Purchases not under agreement or contract	78.6	—	—
	b. Less than 6 months	16.5	—	—
	c. 6 to 11 months	0.0	—	—
	d. 1 to 2 years	0.0	—	—
	e. 3 to 5 years	0.0	—	—
	f. 6 to 10 years	0.0	—	—
	g. More than 10 years or evergreen	4.8	—	—
	Total	99.9†		

		Mean (n = 11)	Lower	Upper
3.4	For lambs purchased during the past year, how far in advance of slaughter was the delivery scheduled (% of head)?			
	a. Less than 7 days	62.2	—	—
	b. 8 to 14 days	26.8	—	—
	c. 15 to 21 days	10.5	—	—
	d. 22 to 30 days	0.5	—	—
	e. 1 to 2 months	0.0	—	—
	f. More than 2 months	0.0	—	—
	Total	100.0		

		n	Mean	Lower	Upper
3.5	For what percentage of lambs purchased during the past year did your plant provide information back to the feeder or finisher?	11	17.9	—	—

† Total does not sum to 100% because of rounding.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	%	Lower	Upper
3.6*	Under what conditions did your plant provide information back to the feeder or finisher?				
	1. Requested by seller, no charge	3	84.4	—	—
	2. Requested by seller, for a set fee	0	0.0	—	—
	3. Cash or spot market purchases	0	0.0	—	—
	4. Forward contract	0	0.0	—	—
	5. Marketing agreement	D	31.1	—	—
	6. Alliance	0	0.0	—	—
	7. Joint venture	0	0.0	—	—
	8. Shared ownership	0	0.0	—	—
	9. Other	0	0.0	—	—
3.7*	What types of information did your plant provide back to the feeder or finisher?				
	1. USDA carcass quality grade for individual animals	D	53.3	—	—
	2. USDA carcass yield grade for individual animals	D	53.3	—	—
	3. Carcass weight for individual animals	3	84.4	—	—
	4. Price paid for individual carcasses	D	31.1	—	—
	5. USDA carcass quality grade by lot	0	0.0	—	—
	6. USDA carcass yield grade by lot	D	15.6	—	—
	7. Carcass weight by lot	D	15.6	—	—
	8. Average dressing percentage by lot	D	15.6	—	—
	9. Other	0	0.0	—	—
4.1*	What are the three most important reasons why your plant only uses the cash or spot market for purchasing lambs?				
	1. Can purchase lambs at lower prices	7	76.3	—	—
	2. Reduces risk exposure	3	42.0	—	—
	3. Reduces costs of activities for buying lambs	D	23.7	—	—
	4. Reduces price variability for lambs	D	5.3	—	—
	5. Reduces potential liability and litigation concerns	0	0.0	—	—
	6. Increases supply chain information	0	0.0	—	—
	7. Secures higher quality lambs	0	0.0	—	—
	8. Allows for market access	4	47.3	—	—
	9. Allows for adjusting operations quickly in response to changes in market conditions	D	23.7	—	—
	10. Does not require identifying and recruiting long-term contracting partners	D	10.7	—	—
	11. Does not require managing complex and costly contracts	D	23.7	—	—
	12. Eliminates possible negative public perceptions about use of contracts	0	0.0	—	—
	13. Allows for independence, complete control, and flexibility of own business	3	29.0	—	—
	14. Enhances ability to benefit from favorable market conditions	0	0.0	—	—
	15. Other	0	0.0	—	—
	16. Can easily purchase small number of lambs *(write-in response)*	D	18.3	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	n	%	Lower	Upper
4.2* What are the three most important reasons why your plant uses alternative purchase methods for purchasing lambs?		(results suppressed)		
1. Can purchase lambs at lower prices				
2. Reduces risk exposure				
3. Reduces costs of activities for buying lambs				
4. Reduces price variability for lambs				
5. Reduces potential liability and litigation concerns				
6. Increases supply chain information				
7. Secures higher quality lambs				
8. Allows for market access				
9. Increases flexibility in responding to consumer demand				
10. Allows for product branding in retail sales				
11. Allows for food safety and biosecurity assurances				
12. Allows for product traceability				
13. Improves week-to-week supply management				
14. Improves efficiency of operations due to animal uniformity				
15. Enhances access to credit				
16. Other				

	Mean (n = 10)	Lower	Upper
5.1 What was your plant's percentage of total lamb product dollar sales during the past year by type of buyer or recipient?			
a. Breakers or meat processors	0.0	—	—
b. Wholesalers or distributors	38.0	—	—
c. Retail establishments	57.8	—	—
d. Food service establishments	4.2	—	—
e. Foreign buyers	0.0	—	—
f. Other	0.0	—	—
Total	100.0		

* Respondents could select multiple responses.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	3 Years Ago (n = 9)			During Past Year (n = 10)			Expected in 3 Years (n = 10)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
5.2 What sales methods are used by your plant for selling lamb products (% of dollar sales)?									
a. Cash or spot market (less than 3 weeks forward)	78.6	—	—	82.1	—	—	79.0	—	—
b. Forward contract	0.3	—	—	0.5	—	—	1.2	—	—
c. Marketing agreement	21.0	—	—	17.4	—	—	19.8	—	—
d. Internal company transfer	0.0	—	—	0.0	—	—	0.0	—	—
e. Other	0.0	—	—	0.0	—	—	0.0	—	—
Total	99.9†			100.0			100.0		
	n %	Lower	Upper	n %	Lower	Upper	n %	Lower	Upper
Establishments for which 100% are cash or spot market sales	7 72.8	—	—	8 77.5	—	—	7 68.6	—	—

† Total does not sum to 100% because of rounding.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		Breakers or Processors				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.3*	What sales methods did your plant use during the past year for selling lamb products to different types of recipients?	(results suppressed)											
	1. Cash or spot market (less than 3 weeks forward)					4	65.2	—	—	9	100.0	—	—
	2. Forward contract					0	0.0	—	—	0	0.0	—	—
	3. Marketing agreement					D	34.8	—	—	0	0.0	—	—
	4. Internal company transfer					0	0.0	—	—	0	0.0	—	—
	5. Other					0	0.0	—	—	0	0.0	—	—
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Cash or spot market (less than 3 weeks forward)	4	100.0	—	—	(results suppressed)							
	2. Forward contract	0	0.0	—	—								
	3. Marketing agreement	0	0.0	—	—								
	4. Internal company transfer	0	0.0	—	—								
	5. Other	0	0.0	—	—								

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		Breakers or Processors				Wholesalers / Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.4*	What types of pricing methods did your plant use during the past year for selling lamb products to different types of recipients?	(results suppressed)											
	1. Price list					D	20.3	—	—	5	45.6	—	—
	2. Individually negotiated pricing					4	89.8	—	—	3	33.3	—	—
	3. Formula pricing (using another price as the base)					0	0.0	—	—	D	21.0	—	—
	4. Sealed bid					0	0.0	—	—	0	0.0	—	—
	5. Internal transfer					0	0.0	—	—	0	0.0	—	—
	6. Other					0	0.0	—	—	0	0.0	—	—
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Price list	3	46.7	—	—	(results suppressed)							
	2. Individually negotiated pricing	D	68.9	—	—								
	3. Formula pricing (using another price as the base)	0	0.0	—	—								
	4. Sealed bid	0	0.0	—	—								
	5. Internal transfer	0	0.0	—	—								
	6. Other	0	0.0	—	—								

D = Results suppressed.
* Respondents could select multiple responses.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	n	%	Lower	Upper
5.5* For lamb products sold by your plant during the past year using formula pricing, what was the base price of the formula?				
1. Individual or multiple plant average price	D	63.1	—	—
2. Individual or multiple plant average cost of production	D	18.4	—	—
3. USDA publicly reported price	0	0.0	—	—
4. Retail price	D	18.4	—	—
5. Subscription service price (for example, Urner Barry)	0	0.0	—	—
6. Other market price	0	0.0	—	—
7. Other	0	0.0	—	—
5.6* What types of pricing methods does your plant expect to use in 3 years for selling lamb products?				
1. Price list	4	32.6	—	—
2. Individually negotiated pricing	8	65.2	—	—
3. Formula pricing (using another price as the base)	D	17.4	—	—
4. Sealed bid	0	0.0	—	—
5. Internal transfer	0	0.0	—	—
6. Other	0	0.0	—	—

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		Breakers or Processors				Wholesalers/Distributors				Retail Establishments			
		n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.7*	Which of the following marketing practices did your plant use during the past year for the sale of lamb products?	(results suppressed)											
	1. Two-part pricing					0	0.0	—	—	D	16.9	—	—
	2. Volume discounts					D	50.0	—	—	D	37.3	—	—
	3. Exclusive dealings					0	0.0	—	—	0	0.0	—	—
	4. Bundling					0	0.0	—	—	0	0.0	—	—
	5. None of the above					D	50.0	—	—	3	45.8	—	—
		Food Service Establishments				**Foreign Buyers**							
		n	%	Lower	Upper	n	%	Lower	Upper				
	1. Two-part pricing	D	15.6	—	—	(results suppressed)							
	2. Volume discounts	D	15.6	—	—								
	3. Exclusive dealings	0	0.0	—	—								
	4. Bundling	0	0.0	—	—								
	5. None of the above	D	68.9	—	—								

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	Mean	Lower	Upper
6.1	For what percentage of lamb products sold during the past year did the seller (your plant) pay for transportation?	11	40.1	—	—
6.2	What percentage of lamb products sold during the past year were under a written agreement (versus oral)?	11	0.0	—	—

		Mean (n = 11)	Lower	Upper
6.3	For lamb products sold during the past year, what was the length of the agreement or contract (oral or written) (% of dollar sales)?			
	a. Sales not under agreement or contract	81.0	—	—
	b. Less than 1 month	19.0	—	—
	c. 1 to 2 months	0.0	—	—
	d. 3 to 5 months	0.0	—	—
	e. 6 to 11 months	0.0	—	—
	f. 1 to 2 years	0.0	—	—
	g. 3 to 5 years	0.0	—	—
	h. 6 to 10 years	0.0	—	—
	i. More than 10 years or evergreen	0.0	—	—
	Total	100.0		

		Mean (n = 11)	Lower	Upper
6.4	For lamb products sold during the past year, how far in advance of delivery was the delivery scheduled (% of dollar sales)?			
	a. Less than 3 days	62.8	—	—
	b. 4 to 6 days	36.7	—	—
	c. 1 to 2 weeks	0.5	—	—
	d. 3 to 4 weeks	0.0	—	—
	e. More than 1 month	0.0	—	—
	Total	100.0		

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

	n	%	Lower	Upper
7.1* What are the three most important reasons why your plant only uses the cash or spot market for selling lamb products?				
1. Can sell lamb products at higher prices	4	54.4	—	—
2. Reduces risk exposure	3	18.4	—	—
3. Reduces costs of activities for selling lamb products	3	33.3	—	—
4. Reduces price variability for lamb products	D	6.1	—	—
5. Reduces potential liability and litigation concerns	0	0.0	—	—
6. Increases supply chain information	0	0.0	—	—
7. Allows for sale of higher quality lamb products	D	6.1	—	—
8. Allows for market access	3	48.2	—	—
9. Allows for adjusting operations quickly in response to changes in market conditions	D	27.2	—	—
10. Does not require identifying and recruiting long-term contracting partners	D	27.2	—	—
11. Does not require managing complex and costly contracts	D	6.1	—	—
12. Eliminates possible negative public perceptions about use of contracts	0	0.0	—	—
13. Allows for independence, complete control, and flexibility of own business	5	45.6	—	—
14. Enhances ability to benefit from favorable market conditions	D	6.1	—	—
15. Other	0	0.0	—	—
16. Can easily sell small quantity of lamb products *(write-in response)*	D	21.0	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	%	Lower	Upper
7.2*	What are the three most important reasons why your plant uses alternative sales methods for selling lamb products?		(results suppressed)		
	1. Can sell lamb products at higher prices				
	2. Reduces risk exposure				
	3. Reduces costs of activities for selling lamb products				
	4. Reduces price variability for lamb products				
	5. Reduces potential liability and litigation concerns				
	6. Increases supply chain information				
	7. Allows for sale of higher quality lamb products				
	8. Allows for market access				
	9. Increases flexibility in responding to consumer demand				
	10. Allows for product branding in retail sales				
	11. Allows for food safety and biosecurity assurances				
	12. Allows for product traceability				
	13. Improves week-to-week production management				
	14. Secures a buyer for lamb products				
	15. Enhances access to credit				
	16. Other				
8.1	How many days per week did your plant usually slaughter lambs?				
	1. Less frequently than once a week	0	0.0	—	—
	2. 1 or 2 days per week	4	66.2	—	—
	3. 3 or 4 days per week	4	19.3	—	—
	4. 5 or 6 days per week	3	14.5	—	—
	Total		100.0		
8.2	How many lamb slaughter shifts did your plant usually operate per day?				
	1. One	11	100.0	—	—
	2. Two	0	0.0	—	—
	3. Three	0	0.0	—	—
	Total		100.0		
8.3	How many lamb breaking and processing shifts did your plant usually operate per day?				
	1. None	7	57.2	—	—
	2. One	4	42.8	—	—
	3. Two	0	0.0	—	—
	4. Three	0	0.0	—	—
	Total		100.0		

* Respondents could select multiple responses.

(continued)

Table 7-15. Weighted Responses for the Lamb Packer Survey (n = 11) (continued)

		n	Mean	Lower	Upper
8.4	What is your plant's maximum slaughter capacity (head per week) for lambs?	10	1,110.6	—	—
8.5	What is your plant's maximum breaking and processing capacity (pounds per week) for lamb products?	7	61,208.1	—	—
8.6	What was the slaughter line speed (head per hour) for lambs?	5	39.0	—	—
		n	**%**	**Lower**	**Upper**
8.7	How many meat slaughter and processing plants, including this one, are owned by the company that owns your plant?				
	1. One	11	100.0	—	—
	2. 2 to 5	0	0.0	—	—
	3. 6 to 10	0	0.0	—	—
	4. 11 to 20	0	0.0	—	—
	5. 21 or more	0	0.0	—	—
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
8.8	Approximately how many people were employed at your plant during the past year?				
	a. Full time	11	15.1	—	—
	b. Part time or seasonal	3	4.8	—	—
		n	**%**	**Lower**	**Upper**
8.9	What were your plant's approximate total gross sales for fresh, frozen, and processed lamb products during the past year?				
	1. Under $499,999	4	57.2	—	—
	2. $500,000 or more	6	42.8	—	—
	Total		100.0		
8.10	What were your plant's approximate total gross sales for lamb by-products during the past year?				
	1. Under $99,999	8	73.8	—	—
	2. $100,000 to $4,999,999	3	26.2	—	—
	3. $5,000,000 or more	0	0.0	—	—
	Total		100.0		
8.11	What were your plant's approximate total gross sales for all products during the past year?				
	1. Under $999,999	4	54.5	—	—
	2. $1,000,000 to $2,499,999	3	14.5	—	—
	3. $2,500,000 to $4,999,999	0	0.0	—	—
	4. $5,000,000 or more	4	31.0	—	—
	Total		100.0		

8 Survey Results: Meat Processors

This section presents the weighted tabulations for meat processors. Table 8-1 provides weighted tabulations for all survey questions for meat processors (n = 125). We do not provide results by size because of the small number of respondents.

For weighted proportions, the tables provide the number of respondents (n), the estimated proportion weighted by the number of eligible plants (%), and the corresponding 95% confidence interval (lower and upper) for each response item. For questions for which respondents could select only one response, the sum of the responses equals 100%. For questions for which respondents could select more than one response, the total may sum to more than 100%. These questions are noted with an asterisk (*).

For weighted means, the tables provide the number of respondents used in the mean calculation (n), the estimated mean weighted by the number of eligible plants (mean), and the corresponding 95% confidence interval (lower and upper).

In reporting the survey findings, we make comparisons between marketing practices during the past year and expected changes within the next 3 years. These comparisons are based on the magnitude of the point estimates and not on statistical testing. The confidence intervals provided in Table 8-1 can be used to make comparisons between survey estimates. That is, overlapping confidence intervals suggest that the difference between the corresponding point estimates is not statistically significant.

8.1 PLANT CHARACTERISTICS

Meat processing plants receive meat inputs and produce a variety of products. These plants do not slaughter.

The meat processors responding to the survey operated plants that processed beef, pork, lamb, and combination meats (e.g., products made with beef and pork). Most plants (80%) are small, independently owned businesses and are not part of a company that owns another slaughter or processing plant. Most operated one shift and operated 3 or more days per week. In the past year, approximately 40% of plants had processed meat sales of less than $1 million, nearly 30% had sales between $1 million and $5 million, 14% had sales between $5 million and $50 million, 13% between $50 million and $1 billion, and nearly 4% with more than $1 billion of processed meat sales. The majority of processors did not sell any by-products. For plants with beef sales, average sales were $15 million during the past year; for plants with pork sales, average sales were $5.5 million; for plants with lamb sales, average sales were about $20,000; and for plants with sales of combination product, average sales were more than $13 million. (See Table 8-1, Questions 8.1 through 8.8.)

8.2 INPUT PURCHASING METHODS

Of the total value of meat purchased during the past year, a slightly higher percentage was pork (48%), then beef (45%), followed by lamb (1.4%) and combination meats (5.2%).[1] The vast majority of the volume processed was owned by the plant, approximately 85% for pork, beef, and combination meats, with the remainder being custom processing. Lamb had a lower percentage of owned production (72%) because custom (or toll) processing is more common in the lamb industry. (See Table 8-1, Questions 1.2 and 1.3.)

The most common beef products produced at the responding plants were ground beef and trimmings (53%), followed by processed ready-to-eat products (49%). The largest volume of pork products were ready-to-eat (54%) and ground pork and trimmings (44%). Based on the relatively few lamb processor responses received, more than one-half of the lamb products were portion-control products. Despite the level of processing, only approximately 30% of the products sold by processors

[1] These values were computed as the mean value of meat inputs weighted by the number of eligible plants. Other reported means were computed similarly (i.e., weighted by the number of eligible plants).

were branded products. (See Table 8-1, Questions 1.4 and 1.5.)

Approximately two-thirds of plants did not own other upstream or downstream businesses. Fifteen percent of plants were part of a company that also owned meat packing facilities. A comparable amount (13%) were part of a company that owned retail operations or hotel, restaurant, and institution (HRI) operations (10%). Seventy percent of plants did not certify their products. Plants primarily participated in the following certification programs: USDA Process Verified (14%), CAB (8%), other breed-related programs (10%), and Halal processing (5%). Few meat processors reported belonging to an alliance. Alliances were primarily with packers or retailers. (See Table 8-1, Questions 1.6 through 1.8.)

Most plants (98%) solely owned the meat inputs purchased. Few plants used joint venture or shared ownership arrangements to purchase meat inputs. Plants' ownership arrangements are not expected to change in the next 3 years. (See Table 8-1, Question 2.1.)

The most common purchasing method used by processors was the cash or spot market (less than 3 weeks forward).

The most common purchasing method used by processors was the cash or spot market (less than 3 weeks forward). Ninety-one percent of plants used the spot market for purchases, and 63% used it exclusively. Forward contracting was used by nearly 20% of plants, and marketing agreements and internal company transfers were each used by approximately 13% of plants. Purchasing methods are expected to be relatively stable over the next 3 years, with perhaps a slight increase in forward contracting. (See Table 8-1, Question 2.2.)

The most frequently cited methods used to price meat purchases were price lists and individually negotiated prices, with approximately 60% of plants using each method.[2] Formula pricing was used by 32% of plants, and 13% of plants used internal transfers. For plants using formula pricing, 63% used a USDA publicly reported price. (See Table 8-1, Questions 2.3 and 2.4.)

Most of the meat purchased by processors was on the basis of short-term verbal agreements. Only 8% of the dollar volume of meat purchased was covered under a written contract. Twenty-

[2] Respondents could select multiple responses.

eight percent of purchases were under a contract (oral or written), and these were typically less than a year in length. Nearly two-thirds of the meat purchased was scheduled for delivery within a week of the order, 35% within 3 days, 29% within 4 to 6 days, and 20% within 1 to 2 weeks. (See Table 8-1, Questions 3.1 through 3.3,)

The most cited reasons for using only the cash market to purchase meat related to the respondent's business philosophy and the ability to adjust to market conditions. The reasons centered on decision making, flexibility, and price.

Respondents who used only the cash market to purchase meat products were asked to identify the three most important reasons for using the cash market. The most cited reasons related to the respondent's business philosophy and the ability to adjust to market conditions. The reasons centered on decision making, flexibility, and price. More specifically, the reasons were (1) "Allows for independence, complete control, and flexibility of own business" (51%), (2) "Allows for adjusting operations quickly in response to changes in market conditions" (48%), and (3) "Can purchase meat inputs at lower prices" (46%). Other responses included "Enhances ability to benefit from favorable market conditions" (33%), "Does not require managing complex and costly contracts" (26%), and (3) "Reduces risk exposure" (20%). These responses suggest that processors prefer flexibility and simplicity as a way to adjust to changing market conditions and to reduce their risk exposure. (See Table 8-1, Question 4.1.)

Respondents who used alternatives to the cash market were asked to identify the three most important reasons for using AMAs. Their responses focused on price, price stability, and product standards. The three most frequently cited responses were (1) "Can purchase meat inputs at lower prices" (69%), (2) "Reduces price variability for meat inputs" (59%), and (3) "Improves efficiency of operations due to product uniformity" (43%). Other responses included "Improves week-to-week supply management" (28%), "Secures higher quality meat inputs" (23%), and "Reduces risk exposure" (17%). While AMA users were as concerned as cash market purchasers about price, if not more concerned, the AMA users also identified plant efficiency, supply management, and product quality as important reasons for using AMAs. (See Table 8-1, Question 4.2.)

Companies in similar businesses had different perceptions and preferences regarding meat purchases. The cash-only processors value flexibility over plant efficiency and value

simplicity over price stability. It is interesting to note that both cash-only processors and users of AMAs thought that their marketing choice allowed them to obtain lower purchase prices and reduce their risk exposure. Thus, there are similar concerns across both groups of processors, although they have different approaches to addressing these concerns in the individual product markets.

8.3 OUTPUT SALES METHODS

About 87% of processors sold products that contained at least 50% meat by weight during the past year. Of these, 41% of sales were to wholesalers and distributors, 29% to food service operators, 21% to retailers, and 8% to other processors and manufacturers. The cash or spot market was used by many processors. Sixty percent or more of plants used the cash or spot market when selling to processors/ manufacturers, wholesalers/distributors, retailers, and food service operators. Forward contracts and marketing agreements were used by fewer plants. Ten percent or more of plants used forward contracts when selling to wholesalers/distributors, retailers, and food service operators. Likewise, 10% or more of plants used marketing agreements when selling to wholesalers/distributors and food service operators. Nine percent of sales to other processors/manufacturers were internal transfers. Because of the small number of responses, we do not discuss the results for sales to foreign buyers. (See Table 8-1, Questions 5.1 through 5.3.)

Processors were asked their views on the types of sales methods they will use 3 years from now. In general, they expect that cash market sales will still be the largest (85% of plants), and forward contracts and marketing agreements are expected to be used by approximately one-fourth of plants. (See Table 8-1, Question 5.4.)

The most frequently cited methods for pricing meat products were price lists and individually negotiated pricing; formula pricing was used to a lesser extent. The type of pricing method used varied depending on the type of buyer or recipient. For other processors, individually negotiated pricing was most often used. For wholesalers and distributors, retail establishments, food service establishments, and foreign buyers, price lists were most often used. In 3 years, 72% of processors plan to

use price lists for selling meat products, 61% plan to use individually negotiated pricing, and 23% plan to use formula pricing. For those processors selling products using formula pricing, 49% of plants used USDA-reported prices as the base. (See Table 8-1, Questions 5.5 through 5.7.)

The majority of plants reported using some type of special marketing practices, such as two-part pricing, volume discounts, exclusive dealings, or bundling. The most common of these across all buyers was volume discounts, followed by two-part pricing. (See Table 8-1, Question 5.8.)

Only 10% of meat sales were covered by a written contract, and 77% of sales were transacted without an oral or written agreement or contract. Most contracts were less than 1 month in length. Delivery was scheduled for 3 days or less for one-half of meat sales, and 20% and 22% were scheduled for delivery in 4 to 6 days and 1 to 2 weeks, respectively. (See Table 8-1, Questions 6.1 through 6.3.)

When asked to identify the three most important reasons for using only the cash market for meat sales, two items were chosen more than the other responses. These both focused on the management philosophy and decision-making style of the respondent. The two most cited responses were (1) “Allows for adjusting operations quickly in response to changes in market conditions” (51%) and (2) “Allows for independence, complete control, and flexibility of own business” (39%). Five other items received a similar number of responses and reflect simplicity, price level, and risk exposure: “Does not require managing complex and costly contracts” (29%), “Reduces costs of activities for selling meat products” (29%), “Reduces risk exposure” (28%), “Can sell meat products at higher prices” (24%), and “Does not require identifying and recruiting long-term contracting partners” (22%). (See Table 8-1, Question 7.1.)

Respondents that used alternatives to the cash market were asked to identify the three most important reasons for using AMAs for meat sales (Table 7-2). One response, “Reduces risk exposure,” was selected by 40% of plants. Several others had responses between 24% and 31% and included, “Allows for sale of higher quality meat products,” “Improves week-to-week production management,” “Reduces price variability for meat products,” “Can sell meat products at higher prices,” “Increases

flexibility in responding to consumer demand," and "Reduces costs of activities for selling meat products." The reasons for using AMAs are more diverse than identified on the purchasing side, but still tend to focus on reducing risks, costs, and price variability and emphasized quality and production management. (See Table 8-1, Question 7.2.)

8.4 SUMMARY

The survey of meat processors reflects an industry largely composed of independent companies that buy meat inputs and sell meat products, often in a short time frame. Only some processors sold branded or certified products, and a very small percentage participated in an alliance of any type. The largest share of purchases and sales were conducted in the spot market, although some plants had AMAs with buyers and sellers. Plants do not expect much of a shift in their use of marketing methods 3 years from now. Processors using cash markets exclusively for either meat purchases or meat sales identified operational independence and the flexibility to react to market conditions. These plants also believed that they could achieve better prices with less risk exposure and that AMAs are costly to initiate and maintain. While processors using AMAs to purchase meat inputs identified reducing input prices as an important reason for using AMAs, the most cited reasons for using AMAs on both purchases and sales focused on reducing operating costs and price risk and improving product quality and production efficiency.

The survey results suggest that meat processors have found a combination of cash and AMAs that meets their needs, and they expect little relative change in marketing methods during the next 3 years.

Meat processors face similar challenges because they buy from the same packers and sell to similar customers. In some cases, they indicated similar reasons for using only cash markets or using AMAs. The priorities are different for each plant and the cost and benefit of AMAs are perceived differently by each plant and in relation to the cash market. The survey results suggest that meat processors have found a combination of cash markets and AMAs that meets their needs, and they expect little relative change in marketing methods during the next 3 years.

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125)

		Mean (n = 108)	Lower	Upper
1.2	What was your plant's percentage of total dollar value of meat inputs during the past year by type of meat?			
	a. Beef	45.2	37.6	52.8
	b. Pork	48.2	40.4	56.0
	c. Lamb	1.4	0.4	2.5
	d. Combination	5.2	1.9	8.5
	Total	100.0		

		Beef (n = 88)			Pork (n = 97)			Lamb (n = 25)		
		Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
1.3	What percentage of your plant's total volume (weight) of meat products during the past year was for your own production and for custom processing or co-packing?									
	a. Own production	86.5	80.3	92.6	84.8	78.5	91.1	71.9	52.3	91.5
	b. Custom processed or co-packed	13.5	7.4	19.7	15.2	8.9	21.5	28.1	8.5	47.7
	Total	100.0			100.0			100.0		

	Combination (n = 41)		
	Mean	Lower	Upper
a. Own production	84.5	74.6	94.4
b. Custom processed or co-packed	15.5	5.6	25.4
Total	100.0		

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible plants
Mean = estimated mean weighted by the number of eligible plants
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	Beef				Pork				Lamb			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
1.4* What types of meat products did your plant sell or ship during the past year?												
1. Primal cuts	26	30.5	20.6	40.4	28	31.0	21.3	40.7	10	46.6	24.0	69.3
2. Subprimal cuts	34	38.8	28.3	49.3	30	32.2	22.5	42.0	10	46.6	24.0	69.3
3. Ground, including trimmings	46	52.9	42.2	63.6	41	44.4	34.0	54.8	9	42.0	19.6	64.4
4. Portion cuts	35	40.0	29.4	50.5	30	32.2	22.5	42.0	11	51.3	28.7	73.9
5. Case ready	15	16.5	8.5	24.5	16	16.7	8.9	24.5	5	23.3	4.0	42.6
6. Processed, ready-to-eat	51	49.3	38.6	60.1	58	54.4	44.0	64.8	8	20.7	2.9	38.5
7. Processed, not-ready-to-eat	24	27.1	17.5	36.7	37	39.0	28.8	49.2	3	14.0	0.0	29.8
8. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

* Respondents could select multiple responses.

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

		Combination			
		n	Mean	Lower	Upper
1.5	What percentage of meat products sold by your plant during the past year were branded?	118	30.5	22.2	38.8
		n	%	Lower	Upper
1.6*	What levels of production were owned by the same company that owns your plant during the past year?				
	1. None	74	65.7	56.6	74.9
	2. Feed company	6	3.2	0.0	6.5
	3. Livestock producer or feeder	9	2.7	0.0	5.4
	4. Packer	21	15.0	8.2	21.8
	5. Restaurant, hotel, or other food service	10	9.6	3.8	15.3
	6. Grocery store, meat market, or other retailer	14	13.4	6.8	20.0
	7. Exporter	6	4.9	0.7	9.1
	8. Other	0	0.0	NA	NA
1.7*	Which of the following types of certification apply for products produced by your plant during the past year?				
	1. None	76	70.3	61.5	79.1
	2. Kosher certification	D	1.9	0.0	4.6
	3. Halal certification	6	4.9	0.7	9.1
	4. Organic certification	8	3.4	0.1	6.7
	5. USDA Process Verified certification	16	13.6	7.0	20.3
	6. ISO certification	D	0.2	0.0	0.5
	7. Certified Angus Beef	11	8.0	2.8	13.2
	8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	6	5.8	1.2	10.3
	9. Own-company certification of breed or livestock quality	5	3.9	0.2	7.7
	10. Buyer certification of breed or livestock quality	0	0.0	NA	NA
	11. Other	D	1.0	0.0	2.9
1.8a	What types of alliances did your plant participate in during the past year for purchasing meat inputs and selling meat products?				
	– Plants participating in an alliance	6	5.3	1.1	9.5
	– Number of respondents with one alliance	3	50.0	0.0	100.0
	– Number of respondents with two alliances	D	16.7	0.0	59.5
	– Number of respondents with three alliances	D	16.7	0.0	59.5
	– Number of respondents with five alliances	D	16.7	0.0	59.5
1.8b	For processors that participated in alliances, what types of alliances did your plant participate in during the past year for purchasing meat inputs and selling meat products?				
	1. Packer only	5	38.5	7.9	69.1
	2. Other processor only	D	15.4	0.0	38.1
	3. Retailer only	6	46.2	14.8	77.5
	Total		100.1†		

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.1* For all meat inputs purchased or received by your operation, what were the ownership arrangements?								
1. Sole ownership by your plant	115	98.1	95.5	100.0	95	97.7	94.4	100.0
2. Joint venture	4	3.8	0.1	7.5	4	4.7	0.1	9.2
3. Shared ownership	3	2.8	0.0	6.1	4	4.7	0.1	9.2
4. Other	3	2.0	0.0	4.7	3	2.5	0.0	5.7
Establishments that only reported sole ownership	107	91.4	85.9	96.8	86	88.2	81.2	95.1
2.2* What methods are used by your plant for purchasing meat inputs?								
1. Cash or spot market (less than 3 weeks forward)	108	90.7	85.1	96.2	90	89.8	83.4	96.2
2. Forward contract	30	19.5	12.1	26.9	32	25.9	16.8	34.9
3. Marketing agreement	18	13.3	6.9	19.7	16	13.9	6.7	21.1
4. Internal company transfer	21	13.6	7.2	20.1	20	15.4	8.0	22.9
5. Other	3	2.8	0.0	5.9	3	3.4	0.0	7.2
Establishments that only reported cash or spot market purchases	68	62.8	53.6	71.9	52	58.2	47.9	68.5

	During Past Year				Expected in 3 Years			
	n	%	Lower	Upper	n	%	Lower	Upper
2.3* What types of pricing methods are used by your plant for purchasing meat inputs?								
1. Price list	72	59.8	50.6	69.0	55	55.5	45.1	65.9
2. Individually negotiated pricing	79	61.3	52.2	70.4	69	65.2	55.2	75.2
3. Formula pricing (using another price as the base)	45	31.6	22.9	40.3	41	34.9	25.0	44.8
4. Sealed bid	D	1.8	0.0	4.3	D	1.1	0.0	3.3
5. Internal transfer	21	13.3	7.0	19.5	20	15.4	8.0	22.8
6. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

		n	%	Lower	Upper
2.4*	For meat inputs purchased by your plant during the past year using formula pricing, what was the base price of the formula?				
	1. Individual or multiple plant average price	13	18.1	7.0	29.2
	2. Individual or multiple plant average cost of production	7	7.3	0.1	14.5
	3. USDA publicly reported price	37	63.3	49.2	77.4
	4. Retail price	10	13.6	3.8	23.5
	5. Subscription service price (for example, Urner Barry)	16	28.2	15.1	41.4
	6. Other market price	8	9.4	1.2	17.6
	7. Other	5	3.1	0.0	7.4

		n	Mean	Lower	Upper
3.1	What percentage of meat inputs purchased during the past year were under a written agreement (versus oral)?	119	8.3	3.8	12.7

		Mean (n = 110)	Lower	Upper
3.2	For meat inputs purchased during the past year, what was the length of the agreement or contract (oral or written) (% of meat inputs)?			
	a. Purchases not under agreement or contract	72.4	64.0	80.9
	b. Less than 1 month	9.2	3.7	14.7
	c. 1 to 2 months	6.0	1.8	10.3
	d. 3 to 5 months	2.0	<0	4.3
	e. 6 to 11 months	2.3	<0	5.2
	f. 1 to 2 years	4.9	0.9	9.0
	g. 3 to 5 years	0.2	0.1	0.4
	h. 6 to 10 years	1.0	<0	3.0
	i. More than 10 years or evergreen	1.8	<0	4.3
	Total	99.8†		

		Mean (n = 120)	Lower	Upper
3.3	For meat inputs purchased during the past year, how far in advance of delivery was the delivery scheduled (% of meat inputs)?			
	a. Less than 3 days	35.3	27.2	43.5
	b. 4 to 6 days	29.4	22.0	36.7
	c. 1 to 2 weeks	20.2	14.0	26.5
	d. 3 to 4 weeks	10.8	5.7	15.9
	e. More than 1 month	4.3	1.5	7.2
	Total	100.0		

* Respondents could select multiple responses.

† Total does not sum to 100% because of rounding.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	n	%	Lower	Upper
4.1* What are the three most important reasons why your plant only uses the cash or spot market for purchasing meat inputs?				
1. Can purchase meat inputs at lower prices	32	46.4	34.3	58.4
2. Reduces risk exposure	14	20.3	10.6	30.0
3. Reduces costs of activities for buying meat inputs	5	7.2	1.0	13.5
4. Reduces price variability for meat inputs	7	10.1	2.8	17.5
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
6. Increases supply chain information	3	4.3	0.0	9.3
7. Secures higher quality meat inputs	10	14.5	6.0	23.0
8. Facilitates or increases market access	D	2.9	0.0	7.0
9. Allows for adjusting operations quickly in response to changes in market conditions	33	47.8	35.7	59.9
10. Does not require identifying and recruiting long-term contracting partners	10	14.5	6.0	23.0
11. Does not require managing complex and costly contracts	18	26.1	15.5	36.7
12. Eliminates possible negative public perceptions about use of contracts	0	0.0	NA	NA
13. Allows for independence, complete control, and flexibility of own business	35	50.7	38.6	62.8
14. Enhances ability to benefit from favorable market conditions	23	33.3	21.9	44.7
15. Other	0	0.0	NA	NA
16. No other choice *(write-in response)*	D	2.9	0.0	7.0
17. Can easily purchase small quantity of meat inputs *(write-in response)*	D	2.9	0.0	7.0
18. Convenience *(write-in response)*	D	1.4	0.0	4.3
4.2* What are the three most important reasons why your plant uses alternative purchase methods for purchasing meat inputs?				
1. Can purchase meat inputs at lower prices	24	68.6	49.0	88.2
2. Reduces risk exposure	11	16.6	2.2	31.1
3. Reduces costs of activities for buying meat inputs	3	9.0	0.0	21.1
4. Reduces price variability for meat inputs	20	59.0	38.4	79.7
5. Reduces potential liability and litigation concerns	D	4.3	0.0	13.0
6. Increases supply chain information	D	8.6	0.0	20.6
7. Secures higher quality meat inputs	9	23.3	5.7	41.0
8. Facilitates or increases market access	0	0.0	NA	NA
9. Increases flexibility in responding to consumer demand	D	4.3	0.0	13.0
10. Allows for product branding in retail sales	0	0.0	NA	NA
11. Allows for food safety and biosecurity assurances	D	8.6	0.0	20.6
12. Allows for product traceability	D	4.8	0.0	13.5
13. Improves week-to-week supply management	11	28.1	9.3	46.8
14. Improves efficiency of operations due to product uniformity	11	43.4	22.5	64.3
15. Enhances access to credit	D	4.3	0.0	13.0
16. Other	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

		n	%	Lower	Upper
5.1	Did your plant sell any products that contain at least 50 percent beef, pork, or lamb by weight during the past year?				
	1. Yes	106	87.2	81.0	93.3
	2. No	19	12.8	6.7	19.0
	Total		100.0		
			Mean (n = 92)	**Lower**	**Upper**
5.2	What was your plant's percentage of total meat product dollar sales during the past year by type of buyer or recipient?				
	a. Meat processors or food manufacturers		8.1	3.7	12.6
	b. Wholesalers or distributors		41.2	33.0	49.3
	c. Retail establishments		21.4	15.3	27.4
	d. Food service establishments		29.3	21.8	36.9
	e. Foreign buyers		0.0	0.0	0.0
	f. Other		0.0	0.0	0.0
	Total		100.0		

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	Processors/Manufacturers				Wholesalers/Distributors				Retail Establishments			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.3* What sales methods did your plant use during the past year for selling meat products to different types of recipients?												
1. Cash or spot market (less than 3 weeks forward)	23	60.5	44.1	76.9	68	81.6	72.9	90.3	57	75.4	65.2	85.6
2. Forward contract	D	2.7	0.0	8.3	12	13.1	5.5	20.7	13	15.8	7.2	24.5
3. Marketing agreement	4	8.5	0.0	17.8	11	13.0	5.4	20.6	9	8.9	2.3	15.6
4. Internal company transfer	4	8.5	0.0	17.8	4	2.9	0.0	6.5	5	3.3	0.0	7.3
5. Other	0	0.0	NA	NA	D	1.3	0.0	3.8	0	0.0	NA	NA
Establishments that only reported cash or spot market sales	20	19.3	11.4	27.2	57	54.0	44.1	64.0	48	46.7	36.8	56.7

	Food Service Establishments				Foreign Buyers			
	n	%	Lower	Upper	n	%	Lower	Upper
1. Cash or spot market (less than 3 weeks forward)	57	70.5	60.1	81.0	6	25.3	2.9	47.8
2. Forward contract	16	17.6	8.9	26.3	3	7.3	0.0	20.0
3. Marketing agreement	12	13.5	5.7	21.3	D	6.7	0.0	19.3
4. Internal company transfer	4	2.9	0.0	6.6	4	13.3	0.0	30.5
5. Other	0	0.0	NA	NA	0	0.0	NA	NA
Establishments that only reported cash or spot market sales	46	44.7	34.8	54.7	5	4.2	0.2	8.1

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	n	%	Lower	Upper
5.4* What types of sales methods does your plant expect to use in 3 years?				
1. Cash or spot market (less than 3 weeks forward)	84	84.8	77.5	92.0
2. Forward contract	28	25.8	16.9	34.7
3. Marketing agreement	29	26.8	17.8	35.8
4. Internal company transfer	12	9.8	3.8	15.8
5. Other	0	0.0	NA	NA
Establishments that only expect cash or spot market sales	51	52.8	42.6	63.0

NA = Confidence interval not calculable. (continued)
* Respondents could select multiple responses.

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	Processors/Manufacturers				Wholesalers/Distributors				Retail Establishments			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.5* What types of pricing methods did your plant use during the past year for selling meat products to different types of recipients?												
1. Price list	11	39.9	19.6	60.2	58	73.7	63.4	84.0	44	63.3	51.3	75.3
2. Individually negotiated pricing	16	59.7	39.3	80.0	38	49.8	38.1	61.6	39	56.9	44.5	69.2
3. Formula pricing (using another price as the base)	9	32.0	12.7	51.4	15	18.2	9.2	27.2	10	10.1	2.7	17.4
4. Sealed bid	D	3.9	0.0	12.1	D	1.5	0.0	4.3	D	0.2	0.0	0.5
5. Internal transfer	3	8.3	0.0	19.6	4	4.3	0.0	9.0	5	5.0	0.0	10.4
6. Other	0	0.0	NA	NA	0	0.0	NA	NA	0	0.0	NA	NA

	Food Service Establishments				Foreign Buyers			
	n	%	Lower	Upper	n	%	Lower	Upper
1. Price list	50	66.7	55.4	78.0	4	48.3	0.1	96.5
2. Individually negotiated pricing	38	50.7	38.7	62.7	4	34.5	0.0	80.0
3. Formula pricing (using another price as the base)	17	19.3	9.9	28.7	3	18.9	0.0	55.0
4. Sealed bid	12	14.7	6.2	23.1	D	1.7	0.0	5.7
5. Internal transfer	4	4.5	0.0	9.4	D	17.2	0.0	53.3
6. Other	0	0.0	NA	NA	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	n	%	Lower	Upper
5.6* For meat products sold by your plant during the past year using formula pricing, what was the base price of the formula?				
1. Individual or multiple plant average price	5	13.0	0.8	25.2
2. Individual or multiple plant average cost of production	7	22.1	6.9	37.3
3. USDA publicly reported price	20	49.1	31.0	67.3
4. Retail price	5	15.8	2.4	29.1
5. Subscription service price (for example, Urner Barry)	8	16.8	3.5	30.2
6. Other market price	0	0.0	NA	NA
7. Other	3	9.5	0.0	20.2
5.7* What types of pricing methods does your plant expect to use in 3 years for selling meat products?				
1. Price list	75	72.1	63.1	81.1
2. Individually negotiated pricing	63	60.7	50.9	70.5
3. Formula pricing (using another price as the base)	28	23.2	14.7	31.6
4. Sealed bid	13	11.5	5.1	17.8
5. Internal transfer	10	8.4	2.9	13.9
6. Other	D	2.0	0.0	4.9

D = Results suppressed. (continued)
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

	Processors/Manufacturers				Wholesalers/Distributors				Retail Establishments			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
5.8* Which of the following marketing practices did your plant use during the past year for the sale of meat products?												
1. Two-part pricing	6	16.4	3.9	29.0	20	23.4	13.8	32.9	18	22.9	12.9	32.8
2. Volume discounts	9	22.2	8.2	36.2	37	42.9	31.8	54.1	23	26.2	15.8	36.5
3. Exclusive dealings	D	0.3	0.0	0.9	6	7.7	1.7	13.8	5	7.1	1.0	13.2
4. Bundling	0	0.0	NA	NA	3	3.9	0.0	8.2	D	2.8	0.0	6.8
5. None of the above	17	39.2	22.8	55.6	26	30.0	19.6	40.3	27	34.3	23.1	45.6

	Food Service Establishments				Foreign Buyers			
	n	%	Lower	Upper	n	%	Lower	Upper
1. Two-part pricing	14	17.3	8.6	26.0	D	12.0	0.0	29.1
2. Volume discounts	27	30.9	20.4	41.5	5	19.3	0.0	39.6
3. Exclusive dealings	6	7.9	1.7	14.1	0	0.0	NA	NA
4. Bundling	3	4.0	0.0	8.4	0	0.0	NA	NA
5. None of the above	30	36.1	25.1	47.1	14	68.0	44.0	92.1

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n = 125) (continued)

		n	Mean	Lower	Upper
6.1	What percentage of meat products sold during the past year were under a written agreement (versus oral)?	99	10.2	5.2	15.2
			Mean (n = 97)	**Lower**	**Upper**
6.2	For meat products sold during the past year, what was the length of the agreement or contract (oral or written) (% of meat products)?				
	a. Sales not under agreement or contract		77.3	69.8	84.8
	b. Less than 1 month		9.8	4.2	15.4
	c. 1 to 2 months		0.7	0.0	1.4
	d. 3 to 5 months		1.0	<0	2.1
	e. 6 to 11 months		3.1	0.2	5.9
	f. 1 to 2 years		6.2	1.4	11.0
	g. 3 to 5 years		0.0	0.0	0.1
	h. 6 to 10 years		0.0	0.0	0.0
	i. More than 10 years or evergreen		1.8	<0	4.3
	Total		99.9†		
			Mean (n = 104)	**Lower**	**Upper**
6.3	For meat products sold during the past year, how far in advance of delivery was the delivery scheduled (% of meat products)?				
	a. Less than 3 days		50.0	41.2	58.8
	b. 4 to 6 days		20.1	13.9	26.3
	c. 1 to 2 weeks		21.8	15.0	28.6
	d. 3 to 4 weeks		6.4	2.2	10.5
	e. More than 1 month		1.7	<0	4.0
	Total		100.0		

† Total does not sum to 100% because of rounding.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n=125) (continued)

	n	%	Lower	Upper
7.1* What are the three most important reasons why your plant only uses the cash or spot market for selling meat products?				
1. Can sell meat products at higher prices	13	23.7	11.7	35.7
2. Reduces risk exposure	15	27.6	15.0	40.3
3. Reduces costs of activities for selling meat products	15	29.3	16.4	42.3
4. Reduces price variability for meat products	10	19.6	8.3	30.8
5. Reduces potential liability and litigation concerns	D	2.2	0.0	6.1
6. Increases supply chain information	0	0.0	NA	NA
7. Allows for sale of higher quality meat products	10	19.6	8.3	30.8
8. Facilitates or increases market access	D	2.0	0.0	5.9
9. Allows for adjusting operations quickly in response to changes in market conditions	26	50.9	36.7	65.0
10. Does not require identifying and recruiting long-term contracting partners	11	21.5	9.9	33.2
11. Does not require managing complex and costly contracts	15	29.3	16.4	42.3
12. Eliminates possible negative public perceptions about use of contracts	D	2.0	0.0	5.9
13. Allows for independence, complete control, and flexibility of own business	20	39.1	25.3	53.0
14. Enhances ability to benefit from favorable market conditions	9	17.6	6.8	28.4
15. Other	D	3.9	0.0	9.4
7.2* What are the three most important reasons why your plant uses alternative sales methods for selling meat products?				
1. Can sell meat products at higher prices	8	27.7	9.4	46.0
2. Reduces risk exposure	13	40.3	20.3	60.2
3. Reduces costs of activities for selling meat products	8	24.2	6.8	41.6
4. Reduces price variability for meat products	10	28.6	10.3	46.9
5. Reduces potential liability and litigation concerns	0	0.0	NA	NA
6. Increases supply chain information	5	19.5	3.2	35.8
7. Allows for sale of higher quality meat products	8	31.2	12.2	50.1
8. Facilitates or increases market access	5	12.5	0.0	25.8
9. Increases flexibility in responding to consumer demand	7	27.3	9.0	45.5
10. Allows for product branding in retail sales	4	12.1	0.0	25.4
11. Allows for food safety and biosecurity assurances	D	3.9	0.0	11.9
12. Allows for product traceability	D	3.9	0.0	11.9
13. Improves week-to-week production management	11	29.0	10.7	47.3
14. Secures a buyer for meat products	7	20.3	4.0	36.7
15. Enhances access to credit	0	0.0	NA	NA
16. Other	D	7.8	0.0	18.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n=125) (continued)

		n	%	Lower	Upper
8.1	How many days per week did your plant usually produce meat products?				
	1. Less frequently than once a week	3	2.7	0.0	5.7
	2. 1 or 2 days per week	10	8.9	3.6	14.3
	3. 3 or 4 days per week	29	25.9	17.7	34.1
	4. 5 or 6 days per week	78	62.5	53.4	71.6
	Total		100.0		
8.2	How many meat processing shifts did your plant usually operate per day?				
	1. One	93	83.8	77.0	90.6
	2. Two	26	16.2	9.4	23.0
	3. Three	0	0.0	NA	NA
	Total		100.0		
8.3	How many meat slaughter and processing plants, including this one, are owned by the company that owns your plant?				
	1. One	83	79.9	72.2	87.6
	2. 2 to 5	11	10.6	4.6	16.6
	3. 6 to 10	3	2.0	0.0	4.7
	4. 11 to 20	5	4.0	0.2	7.7
	5. 21 or more	9	3.5	0.2	6.8
	Total		100.0		

		n	Mean	Lower	Upper
8.4	Approximately how many people were employed at your plant during the past year?				
	a. Full time	116	57.8	39.3	76.4
	b. Part time or seasonal	55	8.8	4.8	12.9

		n	Mean	Lower	Upper
8.5	What were your plant's total dollar sales during the past year for each type of meat?				
	a. Beef	63	14,945,163.1	<0	31,914,029.7
	b. Pork	77	5,464,804.2	2,557,763.0	8,371,845.5
	c. Lamb	16	20,283.9	9,889.3	30,678.4
	d. Combination	27	13,044,592.7	2,622,270.8	23,466,914.6

NA = Confidence interval not calculable.

(continued)

Table 8-1. Weighted Responses for the Meat Processor Survey (n=125) (continued)

		n	%	Lower	Upper
8.6	What were your plant's approximate total gross sales for fresh, frozen, and processed beef, pork, and lamb products during the past year?				
	1. Under $99,999	10	8.6	3.2	14.0
	2. $100,000 to $499,999	22	20.8	12.9	28.6
	3. $500,000 to $999,999	11	10.4	4.5	16.3
	4. $1,000,000 to $2,499,999	19	17.9	10.5	25.3
	5. $2,500,000 to $4,999,999	12	11.3	5.2	17.4
	6. $5,000,000 to $9,999,999	7	6.6	1.8	11.4
	7. $10,000,000 to $19,999,999	6	5.7	1.2	10.1
	8. $20,000,000 to $49,999,999	3	2.0	0.0	4.6
	9. $50,000,000 to $99,999,999	6	4.8	0.7	8.9
	10. $100,000,000 to $999,999,999	14	8.2	3.1	13.3
	11. $1,000,000,000 or more	4	3.8	0.1	7.5
	Total		100.1†		
8.7	What were your plant's approximate total gross sales for meat by-products during the past year?				
	1. Do not sell by-products	84	74.1	65.6	82.6
	2. Under $99,999	16	15.2	8.3	22.2
	3. $100,000 to $499,999	4	3.8	0.1	7.5
	4. $500,000 to $999,999	0	0.0	NA	NA
	5. $1,000,000 to $2,499,999	5	3.9	0.2	7.6
	6. $2,500,000 to $999,999,999	4	3.0	0.0	6.2
	7. 1,000,000,000 or more	0	0.0	NA	NA
	Total		100.0		
8.8	What were your plant's approximate total gross sales for all products during the past year?				
	1. Under $99,999	4	3.9	0.1	7.8
	2. $100,000 to $499,999	11	10.8	4.7	16.9
	3. $500,000 to $999,999	9	8.8	3.2	14.4
	4. $1,000,000 to $2,499,999	21	20.6	12.6	28.6
	5. $2,500,000 to $4,999,999	15	14.7	7.7	21.7
	6. $5,000,000 to $9,999,999	10	9.8	3.9	15.7
	7. $10,000,000 to $19,999,999	6	5.9	1.2	10.5
	8. $20,000,000 to $49,999,999	6	5.0	0.7	9.3
	9. $50,000,000 to $99,999,999	6	5.0	0.7	9.3
	10. $100,000,000 to $499,999,999	15	9.5	3.9	15.1
	11. $500,000,000 to $999,999,999	4	3.0	0.0	6.4
	12. $1,000,000,000 or more	3	2.9	0.0	6.3
	Total		99.9†		

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

9 Survey Results: Downstream Market Participants

This section presents the weighted tabulations for the downstream market participants. We do not provide results by size of company (small versus large) because of the small number of respondents.

For weighted proportions, the tables provide the number of respondents (n), the estimated proportion weighted by the number of eligible business units (%), and the corresponding 95% confidence interval (lower and upper) for each response item. For questions for which respondents could select only one response, the sum of the responses equals 100%. For questions for which respondents could select more than one response, the total may sum to more than 100%. These questions are noted with an asterisk (*).

For weighted means, the tables provide the number of respondents used in the mean calculation (n), the estimated mean weighted by the number of eligible business units (mean), and the corresponding 95% confidence interval (lower and upper).

9.1 WHOLESALERS

Table 9-1 provides weighted tabulations for all survey questions for meat wholesalers (n = 142). These results are described briefly in this section.

9.1.1 Company Characteristics

Forty percent of wholesalers did not own a warehouse or distribution center, 56% owned one warehouse or distribution center, and 4% owned two or more. Thirty-eight percent of the companies had annual gross sales of beef, pork, and lamb products of less than $1 million, 30% had sales between $1 million and $5 million, and 31% had sales of more than $5 million a year. On average, these companies had 142 full-time employees and 12 part-time employees. (See Table 9-1, Questions 4-1 through 4.3.)

9.1.2 Meat Purchases by Wholesalers

The majority of meat purchased by wholesalers was fresh or frozen product. Beef purchases by wholesalers were made up of 81% fresh or frozen product, 15% processed, and 5% variety meats.[1] Pork purchases were 75% fresh or frozen, 21% processed, and 5% variety meats. Lamb purchases were 95% fresh or frozen and 4% processed, with very little variety meats. For purchases of product that was a combination of meats (e.g., beef and pork), 49% was processed, 40% was fresh or frozen, and 11% was variety meats. Nearly all companies purchased some case-ready beef, pork, and lamb, but the percentage was relatively small. Beef and pork case-ready purchases averaged 17% to 18% of total dollar purchases, while lamb was 8%. (See Table 9-1, Questions 1.2 through 1.5.)

More than 70% of the beef and pork and two-thirds of the lamb purchases had national or regional brand labels.

Nearly two-thirds of wholesalers purchased or received meat products that had some type of certification. The most frequently cited type of certification was USDA Process Verified (47% of companies).[2] Other certification programs included CAB (20%), other breed or livestock quality certification (19%), organic (10%), and Halal (9%). More than 70% of the beef and pork and two-thirds of the lamb purchases had national or regional brand labels. Private-label brand volumes were less in comparison with commodity products (i.e., no brand) for pork

[1] These values were computed as the mean value of purchases of meat products weighted by the number of eligible business units. Other reported means were computed similarly (i.e., weighted by the number of eligible business units).

[2] The percentage of wholesalers that reported purchasing USDA Process Verified meat is high relative to the amount of meat that we believe is USDA Process Verified; however, USDA does not track process verified product volume. Respondents may have been confusing this with USDA inspection.

and particularly for lamb, but were comparable for beef. The national or regional brand most often was a brand name used by a packer or processor. (See Table 9-1, Questions 1.6 through 1.8.)

Wholesalers purchased 40% of their beef, pork, and lamb from packers and 38% from another wholesaler. To a lesser extent, further processors and dealers supplied 9% each, and importers and others provided 2% or less each. Wholesalers were asked to identify the three most important reasons for purchasing meat products from a chosen supplier. The most often cited reason was “Has provided good quality product in the past” (64% of companies). Other reasons given included “Provides product quality guarantees” (33%), “Offers lower prices for given product specifications” (32%), and “Can meet all my product needs” (30%). Of lesser importance were issues of source, delivery time, exact specifications, traceability, and certification. (See Table 9-1, Questions 2.1 and 2.2.)

Wholesalers identified specific terms that were included in purchase transactions during the past year. Most often identified, but by less than one-half of companies, was product quality specifications. Other terms included maximum or minimum purchase quantities, volume discounts, and delivery lead times (32% to 36%). One-third of companies did not specify any terms in their purchase transactions. (See Table 9-1, Question 2.3.)

For companies that purchased meat products under an ongoing arrangement, 35% had agreements that were less than 1 month in length, 35% had agreements that were more than 10 years or evergreen, and the rest had agreements between 1 month and 10 years. Regardless of the length of the purchasing agreement, delivery was typically scheduled only days before delivery: 56% of companies scheduled delivery 3 days or less in advance, and 42% scheduled delivery within 4 to 6 days. (See Table 9-1, Questions 2.4 and 2.5.)

The most common type of pricing method used by wholesalers was flat pricing (56% of total dollar purchases), followed by formula pricing (27%), and then or-better pricing (12%). Few companies used floor and ceiling pricing or other methods. For companies using flat pricing, most did not include a premium (or overage) relative to the market price. For companies that purchased product under an ongoing arrangement, the

purchase price was usually benchmarked relative to a market-reported price. For companies using formula pricing, many (61%) used a USDA publicly reported price as the base and the current market (82%) or an average of the previous week (24%) as the timing for the base price; relatively few companies received premiums or discounts in formula price agreements. Of those that did, the premiums or discounts most often were based on brand name, USDA quality grade, or availability or timing of product. (See Table 9-1, Questions 2.6 through 2.11.)

9.1.3 Meat Sales by Wholesalers

Sales by wholesalers most often were to domestic HRI and to retail food stores (e.g., grocery stores, meat markets, warehouse clubs), representing 46% and 39% of sales, respectively. Direct to consumers (6%), foreign buyers (4%), and other wholesalers (4%) were other lesser markets for wholesalers. While wholesalers reported purchasing 38% of their meat needs from other wholesalers, they reported selling only 4% of their meat products to other wholesalers, thus suggesting the survey responses tend to represent smaller wholesalers. While companies specified a variety of terms in sales transactions, there was no dominate term identified. Between 22% and 32% of companies specified volume discounts, maximum or minimum quantities, delivery lead times, and/or retail price maintenance. Of lesser importance were maximum or minimum pricing requirements, inventory management, and advertising requirements. Nearly 40% of companies did not specify any terms in sales transactions. (See Table 9-1, Questions 3.1 and 3.2.)

The ongoing arrangements used to sell meat products varied widely in length. Forty-two percent of companies had agreements that were less than 1 month, and 30% had agreements that were more than 10 years in length or evergreen. Delivery time, however, was usually short term. Nearly 76% of companies specified delivery within 3 days, 26% specified delivery 4 to 6 days in advance, and 31% specified delivery 1 to 2 weeks in advance. (See Table 9-1, Questions 3.3 and 3.4.)

Flat pricing was also the most commonly used method for pricing meat sold by wholesalers. Flat pricing was used for 63% of meat sales compared with 24% for formula pricing. Other

pricing methods were used less frequently. Relatively few wholesalers made an adjustment to flat pricing agreements that reflected market conditions. When formula pricing was used, companies most often used USDA-reported prices (52% of companies) or retail prices (36%) as the base price. The timing for the base price was most often based on the current market (80%) or an average of the previous week (30%). Relatively few companies offered premiums or discounts in formula price agreements. Of those that did, half based their premiums and discounts on brand name. To a lesser extent, but of nearly equal weight, were customer service, availability, and quality grade. (See Table 9-1, Questions 3-5 through 3-9.)

9.1.4 Wholesaler Survey Summary

Wholesalers handled primarily fresh or frozen meat products rather than processed products. Sixty-five percent of companies purchased meat products that were certified. While packers were the largest supplier to wholesalers, the second largest supplier to wholesalers was another wholesaler. Wholesalers selected suppliers that had a good history of quality product and that provided guarantees on product quality. There was greater use of long-term agreements compared with other types of downstream companies, but short-term agreements were used as well.

Flat pricing was the most common method of meat pricing for wholesalers on both purchases and sales.

Flat pricing was the most common method of meat pricing for wholesalers on both purchases and sales. If formula pricing was used it was most often tied to a USDA-reported price, typically for the current or previous week. If premiums or discounts were paid in formula pricing agreements, they were most often for brand name.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142)

	Beef (n = 125)			Pork (n = 118)			Lamb (n = 64)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.2 What was your company's percentage of total dollar purchases of meat products during the past year by type of product category for each type of meat?									
a. Fresh or frozen	80.7	75.7	85.8	74.5	68.4	80.5	94.9	90.3	99.6
b. Processed	14.7	10.0	19.5	20.9	15.1	26.6	4.4	<0	9.0
c. Variety meats and edible by-products	4.5	2.9	6.2	4.7	2.8	6.6	0.7	0.2	1.2
Total	99.9†			100.1†			100.0		

	Combination of Meat (n = 81)		
	Mean	**Lower**	**Upper**
a. Fresh or frozen	40.0	30.7	49.4
b. Processed	49.2	39.9	58.5
c. Variety meats and edible by-products	10.8	5.3	16.3
Total	100.0		

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible business units
Mean = estimated mean weighted by the number of eligible business units
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

† Total does not sum to 100% because of rounding.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	Mean	Lower	Upper
1.3	What percentage of total dollar purchases of beef products during the past year were case ready?	132	17.3	10.9	23.7
1.4	What percentage of total dollar purchases of pork products during the past year were case ready?	134	17.7	11.5	23.9
1.5	What percentage of total dollar purchases of lamb products during the past year were case ready?	131	8.3	3.7	12.9
		n	**%**	**Lower**	**Upper**
1.6*	Which of the following types of certification apply for meat products purchased or received by your company?				
	1. None	42	35.0	26.1	44.0
	2. Kosher certification	9	5.9	1.6	10.3
	3. Halal certification	11	9.2	3.8	14.6
	4. Organic certification	15	9.9	4.4	15.4
	5. USDA Process Verified certification	56	46.9	37.6	56.3
	6. ISO certification	5	3.8	0.2	7.3
	7. Certified Angus Beef	28	19.5	12.2	26.7
	8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	19	12.1	6.1	18.0
	9. Own-company certification of breed or livestock quality	11	7.0	2.4	11.7
	10. Buyer certification of breed or livestock quality	D	1.1	0.0	2.9
	11. Other	D	1.8	0.0	4.3

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

	Beef (n = 123)			Pork (n = 118)			Lamb (n = 65)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.7 What was your company's percentage of total dollar purchases of meat products during the past year by type of label for each type of meat?									
a. National or regional brand	73.0	65.8	80.3	72.7	65.1	80.2	66.9	55.5	78.4
b. Private label brand	12.1	7.0	17.1	10.6	5.8	15.4	9.2	2.3	16.2
c. Commodity product—not branded	14.9	8.9	21.0	16.7	10.0	23.5	23.8	13.2	34.5
Total	100.0			100.0			99.9†		

	Beef				Pork				Lamb			
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
1.8* For meat products purchased during the past year with a national or regional brand label, what was the source of the brand name?												
1. Brand name used by packer or processor	79	95.8	91.4	100.0	76	97.0	93.2	100.0	33	85.6	73.4	97.8
2. Name of livestock producer organization	10	11.0	3.9	18.0	6	7.1	1.2	13.0	7	20.1	6.2	34.1
3. Name of certification organization	12	12.5	5.1	19.9	3	4.1	0.0	8.7	4	11.5	0.4	22.6
4. Other	0	0.0	NA	NA	D	1.4	0.0	4.1	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

			Mean (n = 137)	Lower	Upper
2.1	What was your company's percentage of total dollar purchases of beef, pork, and lamb products during the past year by type of supplier?				
	a. Packer		40.1	33.1	47.1
	b. Further processor		8.9	5.0	12.8
	c. Wholesaler or distributor		37.9	30.9	44.9
	d. Dealer or broker		9.1	5.4	12.8
	e. Importer		1.2	0.5	1.9
	f. Other		0.8	<0	2.4
	g. Farmer *(write-in response)*		2.0	<0	4.3
	Total		100.0		
		n	**%**	**Lower**	**Upper**
2.2*	What were the three most important reasons for purchasing meat products from your chosen suppliers during the past year?				
	1. Offers portion cut product for repackaging	3	2.4	0.0	5.1
	2. Has product traceability system in operation	14	9.3	4.2	14.3
	3. Is in electronic procurement system	D	0.8	0.0	2.4
	4. Provides product quality guarantees	44	33.3	25.0	41.6
	5. Provides food safety guarantees	36	25.6	17.9	33.3
	6. Has provided good quality product in the past	89	63.5	55.0	72.0
	7. Offers lower prices for given product specifications	45	32.2	23.9	40.4
	8. Offers products from specific packers or processors	28	22.4	15.0	29.8
	9. Offers case-ready product	4	3.2	0.1	6.3
	10. Meets exact product specifications	25	16.8	10.3	23.3
	11. Offers products with certifications (for example, Certified Angus Beef)	9	6.6	2.2	10.9
	12. Offers products from U.S. sources	12	9.6	4.4	14.8
	13. Is on approved list of suppliers	7	5.0	1.1	8.8
	14. Meets delivery time requirements	32	22.4	15.1	29.7
	15. Can meet all meat product needs	40	30.1	22.0	38.2
	16. Other	D	1.6	0.0	3.8
	17. Franchise or exclusive arrangement *(write-in response)*	7	5.0	1.1	8.8

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	%	Lower	Upper
2.3*	Which of the following terms were specified in purchase transactions for meat products made by your company during the past year?				
	1. Retail price maintenance	10	8.3	3.3	13.3
	2. Volume discounts	47	34.3	25.8	42.7
	3. Maximum or minimum purchase quantities	46	36.1	27.5	44.7
	4. Maximum or minimum pricing requirements	13	8.8	3.8	13.8
	5. Delivery lead times	46	32.1	23.8	40.4
	6. Product quality specifications	62	44.0	35.1	52.9
	7. Information sharing	11	7.1	2.6	11.6
	8. Slotting fees	D	1.0	0.0	2.7
	9. Inventory management	12	8.6	3.6	13.6
	10. Inventory cost control	8	6.0	1.7	10.2
	11. Advertising requirements	5	4.1	0.5	7.7
	12. Other	D	0.8	0.0	2.5
	13. None of the above	40	32.5	24.1	40.9
2.4*	For meat products purchased under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
	1. Less than 1 month	27	34.8	23.2	46.5
	2. 1 to 2 months	11	11.8	4.1	19.5
	3. 3 to 5 months	7	6.9	1.0	12.9
	4. 6 to 11 months	7	5.7	0.5	11.0
	5. 1 to 2 years	7	8.2	1.6	14.8
	6. 3 to 5 years	D	3.0	0.0	7.3
	7. 6 to 10 years	4	6.1	0.2	12.0
	8. More than 10 years or evergreen	24	35.2	23.5	46.9
2.5*	For meat products purchased during the past year, how far in advance of delivery was the delivery scheduled?				
	1. Less than 3 days	72	55.5	46.8	64.1
	2. 4 to 6 days	61	41.7	33.1	50.3
	3. 1 to 2 weeks	32	20.8	13.7	27.8
	4. 3 to 4 weeks	10	6.0	1.9	10.0
	5. More than 1 month	17	9.6	4.6	14.6
			Mean (n = 141)	**Lower**	**Upper**
2.6	What types of pricing methods did your company use during the past year for purchasing meat products (% of total dollar purchases)?				
	a. Flat pricing		55.6	47.7	63.5
	b. Formula pricing (using another price as the base)		26.7	19.7	33.8
	c. Or-better pricing		12.2	6.8	17.6
	d. Floor and ceiling pricing		3.1	0.4	5.9
	e. Other		2.3	<0	5.0
	Total		99.9†		

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

† Total does not sum to 100% because of rounding.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	%	Lower	Upper
2.7	If flat pricing was used during the past year, did the purchase price include a premium (or overage) relative to the market price?				
	1. Did not use flat pricing during the past year	46	36.5	28.0	45.0
	2. Yes, for some meat product purchases (less than 50%)	14	8.0	3.4	12.7
	3. Yes, for most meat product purchases (50% or more)	15	10.8	5.3	16.3
	4. No	61	44.7	35.9	53.5
	Total		100.0		
2.8*	For meat products purchased under an ongoing arrangement during the past year, how was the purchase price or base price benchmarked?				
	1. Did not purchase under an ongoing arrangement	67	56.0	46.9	65.1
	2. Did not benchmark purchase price or base price	10	8.1	3.0	13.1
	3. Relative to market-reported price	45	33.8	25.1	42.5
	4. Relative to internal rates of return	D	0.2	0.0	0.5
	5. Relative to other bids or offers	14	9.5	4.2	14.8
	6. Other	D	0.2	0.0	0.5
2.9*	For meat products purchased during the past year using formula pricing, what was the base price of the formula?				
	1. USDA publicly reported price	36	60.9	46.4	75.5
	2. Futures price or price ratio	9	18.4	6.8	30.1
	3. Retail price	10	22.5	9.9	35.1
	4. Subscription service price (for example, Urner Barry)	12	16.1	5.6	26.5
	5. Other	3	4.9	0.0	11.3
2.10*	For meat products purchased during the past year using formula pricing, what was the timing for the base price?				
	1. Current market	46	81.5	70.5	92.6
	2. Average of the previous week	16	23.5	11.5	35.5
	3. Average of the previous 2 weeks	D	4.2	0.0	10.1
	4. Average of the previous 3 weeks	D	4.2	0.0	10.1
	5. Average of the previous month	5	7.1	0.0	14.3
	6. Average of the previous 2 months or longer	3	4.6	0.0	10.6
	7. Other	0	0.0	NA	NA
2.11*	For meat products purchased during the past year using formula pricing, what was the basis of any premiums or discounts?				
	1. USDA yield grade	4	16.4	0.8	32.1
	2. USDA quality grade	12	39.3	19.1	59.6
	3. Brand name	16	52.4	31.7	73.2
	4. Availability/timing	9	30.3	11.2	49.4
	5. Customer service	3	12.3	0.0	26.2
	6. Other	D	4.9	0.0	13.5

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

			Mean (n = 138)	Lower	Upper
3.1	What was your company's percentage of total dollar sales or shipments of beef, pork, and lamb products during the past year by type of buyer or receiver?				
	a. Grocery stores, meat markets, warehouse clubs, or other retail establishments in the United States		39.2	32.4	45.9
	b. Restaurants, hotels, institutions, or other food service establishments in the United States		46.1	39.1	53.0
	c. Foreign distributors, retailers, or food service		4.4	1.4	7.4
	d. Other		0.9	<0	2.3
	e. Other wholesalers, distributors, or food processors *(write-in response)*		3.8	0.8	6.8
	f. Directly to consumer *(write-in response)*		5.7	2.0	9.4
	Total		100.1†		
		n	**%**	**Lower**	**Upper**
3.2*	Which of the following terms were specified in sales transactions for meat products made by your company during the past year?				
	1. Retail price maintenance	29	22.2	14.9	29.5
	2. Volume discounts	50	31.8	23.7	39.8
	3. Maximum or minimum sales quantities	44	28.3	20.5	36.1
	4. Maximum or minimum pricing requirements	16	9.4	4.4	14.4
	5. Delivery lead times	42	27.4	19.6	35.1
	6. Information sharing	10	5.3	1.6	9.1
	7. Slotting fees	4	2.5	0.0	5.2
	8. Inventory management	14	7.8	3.3	12.4
	9. Inventory cost control	5	2.7	0.0	5.4
	10. Advertising requirements	11	7.4	2.9	11.9
	11. Other	5	3.9	0.5	7.4
	12. None of the above	50	39.4	30.9	48.0
3.3*	For meat products sold under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
	1. Less than 1 month	30	41.9	29.1	54.7
	2. 1 to 2 months	12	16.5	6.9	26.1
	3. 3 to 5 months	7	5.1	0.1	10.0
	4. 6 to 11 months	7	3.7	0.1	7.3
	5. 1 to 2 years	10	11.6	3.5	19.7
	6. 3 to 5 years	3	5.2	0.0	11.0
	7. 6 to 10 years	D	1.7	0.0	5.2
	8. More than 10 years or evergreen	18	29.6	17.6	41.5

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

† Total does not sum to 100% because of rounding.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	%	Lower	Upper
3.4*	For meat products sold during the past year, how far in advance of delivery was the delivery scheduled?				
	1. Less than 3 days	104	75.6	68.2	83.1
	2. 4 to 6 days	39	26.1	18.5	33.7
	3. 1 to 2 weeks	47	31.1	23.1	39.1
	4. 3 to 4 weeks	16	9.4	4.4	14.3
	5. More than 1 month	12	6.2	2.2	10.3
			Mean (n = 138)	**Lower**	**Upper**
3.5	What types of pricing methods did your company use during the past year for selling meat products (% of total dollar sales)?				
	a. Flat pricing		63.4	55.5	71.2
	b. Formula pricing (using another price as the base)		23.5	16.5	30.5
	c. Or-better pricing		8.7	4.0	13.4
	d. Floor and ceiling pricing		2.0	0.1	4.0
	e. Other		2.4	<0	5.1
	Total		100.0		
		n	**%**	**Lower**	**Upper**
3.6	If flat pricing was used during the past year, did the sales price include a premium (or overage) relative to the market price?				
	1. Did not use flat pricing during the past year	39	32.1	23.7	40.5
	2. Yes, for some meat product sales (less than 50%)	11	7.7	3.0	12.5
	3. Yes, for most meat product sales (50% or more)	10	6.9	2.4	11.4
	4. No	72	53.3	44.4	62.2
	Total		100.0		
3.7*	For meat products sold during the past year using formula pricing, what was the base price of the formula?				
	1. USDA publicly reported price	29	51.9	37.2	66.6
	2. Futures price or price ratio	6	11.2	1.9	20.4
	3. Retail price	19	35.6	21.6	49.7
	4. Subscription service price (for example, Urner Barry)	8	12.0	2.7	21.3
	5. Other	5	10.7	1.5	19.9
3.8*	For meat products sold during the past year using formula pricing, what was the timing for the base price?				
	1. Current market	42	79.9	68.3	91.4
	2. Average of the previous week	19	29.8	16.7	42.8
	3. Average of the previous 2 weeks	D	2.1	0.0	6.3
	4. Average of the previous 3 weeks	D	4.2	0.0	10.1
	5. Average of the previous month	5	8.8	0.6	17.0
	6. Average of the previous 2 months or longer	D	2.5	0.0	6.8
	7. Other	D	2.1	0.0	6.3

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	%	Lower	Upper
3.9*	For meat products sold during the past year using formula pricing, what was the basis of any premiums or discounts?				
	1. USDA yield grade	4	14.1	0.0	29.3
	2. USDA quality grade	5	22.1	3.7	40.6
	3. Brand name	13	50.4	28.4	72.5
	4. Availability/timing	6	19.4	2.4	36.5
	5. Customer service	6	23.0	4.5	41.5
	6. Other	D	8.9	0.0	21.5
4.1	How many warehouses or distribution centers were owned by your company during the past year?				
	1. None	54	39.7	31.2	48.2
	2. One	73	55.8	47.2	64.4
	3. 2 to 9	11	4.2	1.1	7.3
	4. 10 to 99	D	0.1	0.0	0.4
	5. 100 to 499	D	0.1	0.0	0.4
	6. 500 to 999	0	0.0	NA	NA
	7. 1,000 or more	0	0.0	NA	NA
	Total		99.9†		

		n	Mean	Lower	Upper
4.2	What was the approximate total number of people employed by your company during the past year?				
	a. Full time	69	141.5	<0	381.3
	b. Part time	58	11.5	<0	25.4

		n	%	Lower	Upper
4.3	What were your company's approximate total gross sales for fresh, frozen, and processed beef, pork, and lamb products during the past year?				
	1. Under $99,999	16	12.8	6.9	18.7
	2. $100,000 to $499,999	15	12.0	6.2	17.8
	3. $500,000 to $999,999	17	13.6	7.5	19.7
	4. $1,000,000 to $2,499,999	24	19.2	12.2	26.2
	5. $2,500,000 to $4,999,999	14	11.2	5.6	16.8
	6. $5,000,000 to $9,999,999	14	11.2	5.6	16.8
	7. $10,000,000 to $19,999,999	11	8.8	3.8	13.8
	8. $20,000,000 to $49,999,999	7	3.7	0.5	6.8
	9. $50,000,000 to $99,999,999	8	3.8	0.6	7.0
	10. $100,000,000 to $499,999,999	6	2.2	0.0	4.5
	11. $500,000,000 or more	5	1.4	0.0	3.1
	Total		99.9†		

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 9-1. Weighted Responses for the Food Wholesaler Survey (n = 142) (continued)

		n	%	Lower	Upper
4.4	What were your company's approximate total gross sales for all products during the past year?				
	1. Under $99,999	13	11.0	5.3	16.8
	2. $100,000 to $499,999	11	9.3	4.0	14.6
	3. $500,000 to $999,999	13	11.0	5.3	16.8
	4. $1,000,000 to $2,499,999	27	22.2	14.7	29.8
	5. $2,500,000 to $4,999,999	16	13.6	7.3	19.8
	6. $5,000,000 to $9,999,999	11	9.3	4.0	14.6
	7. $10,000,000 to $19,999,999	12	10.2	4.7	15.7
	8. $20,000,000 to $49,999,999	8	5.4	1.4	9.5
	9. $50,000,000 to $99,999,999	7	3.2	0.3	6.1
	10. $100,000,000 to $499,999,999	5	2.2	0.0	4.6
	11. $500,000,000 to $999,999,999	3	0.5	0.0	1.0
	12. $1,000,000,000 or more	4	2.0	0.0	4.4
	Total		99.9†		

† Total does not sum to 100% because of rounding.

9.2 EXPORTERS

Table 9-2 provides weighted tabulations for all survey questions for meat exporters (n = 14).[3] Because the number of respondents is small, we cannot make inferences to the population of meat exporters; however, we can draw some conclusions about the marketing practices of the exporters surveyed. These results are described briefly in this section.

9.2.1 Company Characteristics

Ten companies reported sales of beef, 14 sold pork, and 4 sold lamb. The responding companies handled a large volume of products. Three companies had annual gross meat sales of less than $5 million, eight companies had gross meat sales between $5 million and $100 million, and three companies had gross meat sales of more than $100 million. A majority of companies appear to only play a broker or dealer role because they do not have warehouses (9 of 14 companies). (See Table 9-2, Questions 4-1 through 4-4.)

9.2.2 Meat Purchases by Exporters

The majority of the meat purchased by the exporters surveyed was fresh or frozen product. There were no case-ready purchases of beef and lamb, and only 7% of pork purchases were case–ready purchases.

The majority of the meat purchased by the exporters surveyed was fresh or frozen product. Beef purchases by exporters were 61% fresh or frozen, 4% processed, and 35% variety meats. Pork purchases by exporters were 74% fresh or frozen, 13% processed, and 13% variety meats. Lamb purchases by exporters were 97% fresh or frozen. Three companies exported combination meats that were approximately two-thirds processed and one-third fresh or frozen; they exported very little variety meats. There were no case-ready purchases of beef and lamb, and only 7% of pork purchases were case-ready purchases. (See Table 9-2, Questions 1.2 through 1.5.)

Four of the 14 exporters purchased no certified products. The most cited type of certification program was USDA Process Verified (43%).[4] More than half of the meat products purchased by exporters were a branded product of some type. Beef exporters reported that 53% of purchases were national or

[3] The survey population excluded meat packers that also export; such establishments were included in the survey population for meat packers.

[4] The percentage of exporters that reported purchasing USDA Process Verified meat is high relative to the amount of meat that we believe is USDA Process Verified; however, USDA does not track process verified product volume. Respondents may have been confusing this with USDA inspection.

regional brands, 8% were private-label brands, and 39% were commodity products (i.e., no brand). Pork exporters reported that 52% of purchases were national or regional brands, 14% were private-label brands, and 34% were commodity products. Lamb exporters reported that 75% of purchases were national or regional brands and 25% were commodity. In most cases, the brand was that of a packer or processor across all meat types. (See Table 9-2, Questions 1.6 through 1.8.)

Seventy percent of the beef, pork, and lamb purchased by exporters was from packers. Another 13% was from further processors, 9% from dealers or brokers, and 4% from a wholesaler or distributor. Interestingly, 4% of exporter purchases were from an importer, indicating that these companies are sourcing some of their product from outside the United States. (See Table 9-2, Question 2.1.)

Exporters were asked to identify the three most important reasons for selecting a supplier. The most frequently given reasons were “Has provided good quality product in the past” (86%) and “Offers lower prices for given product specifications” (50%). Thus, product quality and specifications are important to exporters. The other responses were selected by less than one-third of respondents. (See Table 9-2, Question 2.2.)

Exporters specified a variety of terms in purchase transactions. The most common terms were product quality specifications and delivery lead times. The length of the agreement varied for meat products purchased under ongoing arrangements, but most exporters reported having agreements less than 6 months in length. However, most deliveries were scheduled within 6 days. (See Table 9-1, Questions 2.3 through 2.5.)

The most common pricing method employed by exporters was flat pricing (76% of purchases). Formula pricing, or-better pricing, and floor and ceiling pricing were used, but to a much lesser extent. When flat pricing was used, six of the companies did not include a premium or overage in the agreement. When formula pricing was used, the USDA publicly reported price was most often used; the current market and an average of the previous week were most often used as the timing for the base price. (See Table 9-1, Questions 2.6 through 2.11.)

9.2.3 Meat Sales by Exporters

Exporter sales of beef, pork, and lamb went through several outlets to reach consumers. The most common was through foreign distributors, retailers, and food service operators (64% of sales). U.S. retail establishments accounted for 16% of sales, and U.S. HRI accounted for 11% of sales. Delivery lead time was the most common term specified in sales agreements. (See Table 9-2, Questions 3.1 and 3.2.)

The length of the agreement varied for meat products sold under ongoing arrangements, but most exporters reported having agreements less than 6 months in length. Likewise, there was a lot of variation as to when delivery was scheduled, with deliveries ranging from less than 3 days ahead to more than 1 month ahead. The majority of meat exports were priced by flat pricing (83% of sales). (See Table 9-2, Questions 3.3 through 3.5.)

9.2.4 Exporter Survey Summary

The small sample of exporters represented companies with a relatively large dollar volume of business. Most of the product purchased was fresh or frozen rather than processed beef, pork, and lamb. Combination product purchases tended to include more processed product. Most fresh and frozen products carried a national or regional brand, and the brand was typically from a packer or processor. Compared with the other downstream companies, exporters purchased more commodity meats. Motivation for choosing a supplier focused on past quality performance, followed by price for the given product specifications. More than half of the exporters specified product quality specifications in the terms of purchase agreements.

Exporters tended to use flat pricing to purchase and sell meat products. Ongoing arrangements were generally short and measured in weeks or months.

Exporters are generally brokers that do not hold the product. Nine of the 14 companies do not have warehouses and yet they did a very large dollar volume of business. Exporters tended to use flat pricing to purchase and sell meat products. Ongoing arrangements were generally short and measured in weeks or months.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14)

	Beef (n = 10)			Pork (n = 14)			Lamb (n = 4)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.2 What was your company's percentage of total dollar purchases of meat products during the past year by type of product category for each type of meat?									
a. Fresh or frozen	61.0	—[a]	—[a]	74.4	—	—	96.5	—	—
b. Processed	4.0	—	—	12.9	—	—	0.5	—	—
c. Variety meats and edible by-products	35.0	—	—	12.7	—	—	3.0	—	—
Total	100.0			100.0			100.0		

	Combination of Meat (n = 3)		
	Mean	**Lower**	**Upper**
a. Fresh or frozen	31.7	—	—
b. Processed	65.0	—	—
c. Variety meats and edible by-products	3.3	—	—
Total	100.0		

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible business units
Mean = estimated mean weighted by the number of eligible business units

[a] We do not provide the 95% confidence intervals because we cannot make inferences to the population of meat exporters because of the small number of respondents.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		n	Mean	Lower	Upper
1.3	What percentage of total dollar purchases of beef products during the past year were case ready?	14	0.0	—	—
1.4	What percentage of total dollar purchases of pork products during the past year were case ready?	14	7.1	—	—
1.5	What percentage of total dollar purchases of lamb products during the past year were case ready?	14	0.0	—	—
		n	**%**	**Lower**	**Upper**
1.6*	Which of the following types of certification apply for meat products purchased or received by your company?				
	1. None	4	28.6	—	—
	2. Kosher certification	D	14.3	—	—
	3. Halal certification	3	21.4	—	—
	4. Organic certification	D	14.3	—	—
	5. USDA Process Verified certification	6	42.9	—	—
	6. ISO certification	D	7.1	—	—
	7. Certified Angus Beef	3	21.4	—	—
	8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	4	28.6	—	—
	9. Own-company certification of breed or livestock quality	D	7.1	—	—
	10. Buyer certification of breed or livestock quality	D	14.3	—	—
	11. Other	D	14.3	—	—

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

	Beef (n = 8)			Pork (n = 14)			Lamb (n = 4)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
1.7 What was your company's percentage of total dollar purchases of meat products during the past year by type of label for each type of meat?									
a. National or regional brand	53.1	—	—	52.1	—	—	75.0	—	—
b. Private label brand	7.5	—	—	13.9	—	—	0.0	—	—
c. Commodity product—not branded	39.4	—	—	33.9	—	—	25.0	—	—
Total	100.0			99.9†			100.0		

	Beef				Pork				Lamb			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
1.8* For meat products purchased during the past year with a national or regional brand label, what was the source of the brand name?												
1. Brand name used by packer or processor	6	100.0	—	—	9	100.0	—	—	3	100.0	—	—
2. Name of livestock producer organization	D	16.7	—	—	D	22.2	—	—	D	33.3	—	—
3. Name of certification organization	D	16.7	—	—	D	22.2	—	—	0	0.0	—	—
4. Other	D	16.7	—	—	0	0.0	—	—	0	0.0	—	—

D = Results suppressed.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		Mean (n = 14)	Lower	Upper
2.1	What was your company's percentage of total dollar purchases of beef, pork, and lamb products during the past year by type of supplier?			
	a. Packer	70.0	—	—
	b. Further processor	12.9	—	—
	c. Wholesaler or distributor	4.1	—	—
	d. Dealer or broker	9.1	—	—
	e. Importer	3.9	—	—
	f. Other	0.0	—	—
	Total	100.0		

		n	%	Lower	Upper
2.2*	What were the three most important reasons for purchasing meat products from your chosen suppliers during the past year?				
	1. Offers portion cut product for repackaging	D	7.1	—	—
	2. Has product traceability system in operation	D	14.3	—	—
	3. Is in electronic procurement system	0	0.0	—	—
	4. Provides product quality guarantees	4	28.6	—	—
	5. Provides food safety guarantees	D	14.3	—	—
	6. Has provided good quality product in the past	12	85.7	—	—
	7. Offers lower prices for given product specifications	7	50.0	—	—
	8. Offers products from specific packers or processors	D	14.3	—	—
	9. Offers case-ready product	0	0.0	—	—
	10. Meets exact product specifications	4	28.6	—	—
	11. Offers products with certifications (for example, Certified Angus Beef)	D	7.1	—	—
	12. Offers products from U.S. sources	0	0.0	—	—
	13. Is on approved list of suppliers	5	35.7	—	—
	14. Meets delivery time requirements	0	0.0	—	—
	15. Can meet all meat product needs	D	7.1	—	—
	16. Other	0	0.0	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		n	%	Lower	Upper
2.3*	Which of the following terms were specified in purchase transactions for meat products made by your company during the past year?				
	1. Retail price maintenance	0	0.0	—	—
	2. Volume discounts	3	21.4	—	—
	3. Maximum or minimum purchase quantities	4	28.6	—	—
	4. Maximum or minimum pricing requirements	0	0.0	—	—
	5. Delivery lead times	6	42.9	—	—
	6. Product quality specifications	9	64.3	—	—
	7. Information sharing	D	7.1	—	—
	8. Slotting fees	0	0.0	—	—
	9. Inventory management	D	7.1	—	—
	10. Inventory cost control	0	0.0	—	—
	11. Advertising requirements	0	0.0	—	—
	12. Other	0	0.0	—	—
	13. None of the above	4	28.6	—	—
2.4*	For meat products purchased under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
	1. Less than 1 month	6	46.2	—	—
	2. 1 to 2 months	7	53.8	—	—
	3. 3 to 5 months	6	46.2	—	—
	4. 6 to 11 months	D	15.4	—	—
	5. 1 to 2 years	D	15.4	—	—
	6. 3 to 5 years	0	0.0	—	—
	7. 6 to 10 years	0	0.0	—	—
	8. More than 10 years or evergreen	D	7.7	—	—
2.5*	For meat products purchased during the past year, how far in advance of delivery was the delivery scheduled?				
	1. Less than 3 days	6	42.9	—	—
	2. 4 to 6 days	6	42.9	—	—
	3. 1 to 2 weeks	4	28.6	—	—
	4. 3 to 4 weeks	4	28.6	—	—
	5. More than 1 month	5	35.7	—	—
			Mean (n = 14)	**Lower**	**Upper**
2.6	What types of pricing methods did your company use during the past year for purchasing meat products (% of total dollar purchases)?				
	a. Flat pricing		76.2	—	—
	b. Formula pricing (using another price as the base)		7.7	—	—
	c. Or-better pricing		8.6	—	—
	d. Floor and ceiling pricing		7.1	—	—
	e. Other		0.4	—	—
	Total		100.0		

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

	n	%	Lower	Upper
2.7 If flat pricing was used during the past year, did the purchase price include a premium (or overage) relative to the market price?				
1. Did not use flat pricing during the past year	D	15.4	—	—
2. Yes, for some meat product purchases (less than 50%)	3	23.1	—	—
3. Yes, for most meat product purchases (50% or more)	D	15.4	—	—
4. No	6	46.2	—	—
Total		100.1†		
2.8* For meat products purchased under an ongoing arrangement during the past year, how was the purchase price or base price benchmarked?				
1. Did not purchase under an ongoing arrangement	D	9.1	—	—
2. Did not benchmark purchase price or base price	D	9.1	—	—
3. Relative to market-reported price	9	81.8	—	—
4. Relative to internal rates of return	0	0.0	—	—
5. Relative to other bids or offers	3	27.3	—	—
6. Other	0	0.0	—	—
2.9* For meat products purchased during the past year using formula pricing, what was the base price of the formula?				
1. USDA publicly reported price	8	100.0	—	—
2. Futures price or price ratio	D	12.5	—	—
3. Retail price	0	0.0	—	—
4. Subscription service price (for example, Urner Barry)	3	37.5	—	—
5. Other	0	0.0	—	
2.10* For meat products purchased during the past year using formula pricing, what was the timing for the base price?				
1. Current market	5	62.5	—	—
2. Average of the previous week	5	62.5	—	—
3. Average of the previous 2 weeks	D	12.5	—	—
4. Average of the previous 3 weeks	0	0.0	—	—
5. Average of the previous month	0	0.0	—	—
6. Average of the previous 2 months or longer	0	0.0	—	—
7. Other	0	0.0	—	—
2.11* For meat products purchased during the past year using formula pricing, what was the basis of any premiums or discounts?				
1. USDA yield grade	D	25.0	—	—
2. USDA quality grade	D	25.0	—	—
3. Brand name	D	50.0	—	—
4. Availability/timing	D	50.0	—	—
5. Customer service	0	0.0	—	—
6. Other	0	0.0	—	—

D = Results suppressed. (continued)
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		Mean (n = 14)	Lower	Upper
3.1	What was your company's percentage of total dollar sales or shipments of beef, pork, and lamb products during the past year by type of buyer or receiver?			
	a. Grocery stores, meat markets, warehouse clubs, or other retail establishments in the United States	15.9	—	—
	b. Restaurants, hotels, institutions, or other food service establishments in the United States	11.3	—	—
	c. Foreign distributors, retailers, or food service	63.9	—	—
	d. Other	0.0	—	—
	e. Food manufacturers in the United States *(write-in response)*	8.9	—	—
	Total	100.0		

		n	%	Lower	Upper
3.2*	Which of the following terms were specified in sales transactions for meat products made by your company during the past year?				
	1. Retail price maintenance	D	7.1	—	—
	2. Volume discounts	3	21.4	—	—
	3. Maximum or minimum sales quantities	4	28.6	—	—
	4. Maximum or minimum pricing requirements	D	7.1	—	—
	5. Delivery lead times	7	50.0	—	—
	6. Information sharing	D	7.1	—	—
	7. Slotting fees	0	0.0	—	—
	8. Inventory management	D	14.3	—	—
	9. Inventory cost control	0	0.0	—	—
	10. Advertising requirements	D	7.1	—	—
	11. Other	D	7.1	—	—
	12. None of the above	3	21.4	—	—
3.3*	For meat products sold under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
	1. Less than 1 month	5	45.5	—	—
	2. 1 to 2 months	7	63.6	—	—
	3. 3 to 5 months	4	36.4	—	—
	4. 6 to 11 months	D	9.1	—	—
	5. 1 to 2 years	0	0.0	—	—
	6. 3 to 5 years	D	9.1	—	—
	7. 6 to 10 years	0	0.0	—	—
	8. More than 10 years or evergreen	D	9.1	—	—

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		n	%	Lower	Upper
3.4*	For meat products sold during the past year, how far in advance of delivery was the delivery scheduled?				
	1. Less than 3 days	6	42.9	—	—
	2. 4 to 6 days	3	21.4	—	—
	3. 1 to 2 weeks	6	42.9	—	—
	4. 3 to 4 weeks	5	35.7	—	—
	5. More than 1 month	3	21.4	—	—
			Mean (n = 14)	**Lower**	**Upper**
3.5	What types of pricing methods did your company use during the past year for selling meat products (% of total dollar sales)?				
	a. Flat pricing		82.8	—	—
	b. Formula pricing (using another price as the base)		2.2	—	—
	c. Or-better pricing		7.9	—	—
	d. Floor and ceiling pricing		7.1	—	—
	e. Other		0.0	—	—
	Total		100.0		
		n	**%**	**Lower**	**Upper**
3.6	If flat pricing was used during the past year, did the sales price include a premium (or overage) relative to the market price?				
	1. Did not use flat pricing during the past year	D	18.2	—	—
	2. Yes, for some meat product sales (less than 50%)	4	36.4	—	—
	3. Yes, for most meat product sales (50% or more)	D	9.1	—	—
	4. No	4	36.4	—	—
	Total		100.1†		
3.7*	For meat products sold during the past year using formula pricing, what was the base price of the formula?				
	1. USDA publicly reported price	3	100.0	—	—
	2. Futures price or price ratio	0	0.0	—	—
	3. Retail price	0	0.0	—	—
	4. Subscription service price (for example, Urner Barry)	D	66.7	—	—
	5. Other	0	0.0	—	—
3.8*	For meat products sold during the past year using formula pricing, what was the timing for the base price?				
	1. Current market	D	66.7	—	—
	2. Average of the previous week	3	100.0	—	—
	3. Average of the previous 2 weeks	D	33.3	—	—
	4. Average of the previous 3 weeks	0	0.0	—	—
	5. Average of the previous month	0	0.0	—	—
	6. Average of the previous 2 months or longer	0	0.0	—	—
	7. Other	0	0.0	—	—

D = Results suppressed. (continued)
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

Table 9-2. Weighted Responses for the Meat Exporter Survey (n = 14) (continued)

		n	%	Lower	Upper
3.9*	For meat products sold during the past year using formula pricing, what was the basis of any premiums or discounts?		(results suppressed)		
	1. USDA yield grade				
	2. USDA quality grade				
	3. Brand name				
	4. Availability/timing				
	5. Customer service				
	6. Other				
4.1	How many warehouses or distribution centers were owned by your company during the past year?				
	1. None	9	64.3	—	—
	2. One	3	21.4	—	—
	3. 2 to 9	D	14.3	—	—
	4. 10 to 99	0	0.0	—	—
	5. 100 to 499	0	0.0	—	—
	6. 500 to 999	0	0.0	—	—
	7. 1,000 or more	0	0.0	—	—
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
4.2	What was the approximate total number of people employed by your company during the past year?				
	a. Full time	10	53.3	—	—
	b. Part time	8	9.5	—	—
		n	**%**	**Lower**	**Upper**
4.3	What were your company's approximate total gross sales for fresh, frozen, and processed beef, pork, and lamb products during the past year?				
	1. Under $4,999,999	3	21.4	—	—
	2. $5,000,000 to $19,999,999	5	35.7	—	—
	3. $20,000,000 to $99,999,999	3	21.4	—	—
	4. $100,000,000 or more	3	21.4	—	—
	Total		99.9†		
4.4	What were your company's approximate total gross sales for all products during the past year?				
	1. Under $4,999,999	3	21.4	—	—
	2. $5,000,000 to $19,999,999	5	35.7	—	—
	3. $20,000,000 to $99,999,999	3	21.4	—	—
	4. $100,000,000 or more	3	21.4	—	—
	Total		99.9†		

D = Results suppressed.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

9.3 RETAILERS

Table 9-3 provides weighted tabulations for all survey questions for food retailers (n = 136). These results are described briefly in this section.

9.3.1 Company Characteristics

Nearly 84% of companies owned one retail establishment, and 12% owned two to nine establishments. These companies employed an average of 121 full-time and 150 part-time employees in the past year. More than 62% had total sales of all products of less than $1 million, 25% had sales between $1 million and $10 million, and 12% had sales over $10 million. About 80% had total sales from fresh, frozen, and processed beef, pork, and lamb products of less than $1 million, 16% had meat sales between $1 million and $20 million, and the remaining 4% had meat sales over $20 million. Based on these characteristics, most respondents to the retailer survey represent relatively small establishments. (See Table 9-3, Questions 4.1, 4.2, 4.6, and 4.7.)

9.3.2 Meat Purchases by Retailers

The majority of purchases of beef, pork, lamb, and combination meats by retailers were fresh or frozen rather than processed product. Relatively few of the purchases were case-ready product.

The majority of purchases of beef, pork, lamb, and combination meats were fresh or frozen rather than processed product. Eighty-two percent of beef purchases, 79% of pork purchases, and 90% of lamb purchases were fresh. Combination product was 57% fresh or frozen and 43% processed. However, relatively few of the purchases were case-ready product: 15% of purchases each for beef and pork and 6% for lamb. (See Table 9-3, Questions 1.2 through 1.5.)

More than 70% of retailers purchased meat products that were certified. The two most cited types of certification programs were USDA Process Verified (38%)[5] and CAB (38%). Other third-party certification of livestock breed or quality (15%) and organic certification (12%) were used by fewer companies. (See Table 9-3, Question 1.6.)

Eighty-five percent or more of meat products purchased by retailers were a branded product of some type. For beef, 81%

[5] The percentage of retailers that reported purchasing USDA Process Verified meat is high relative to the amount of meat that we believe is USDA Process Verified; however, USDA does not track process verified product volume. Respondents may have been confusing this with USDA inspection.

of purchases were national or regional brands, 9% were private-label brands, and 10% were commodity products (i.e., no brand). For pork, 85% of purchases were national or regional brands, 9% were private-label brands, and 7% were commodity products. For lamb, 72% of purchases were national or regional brands, 13% were private-label brands, and 15% were commodity products. In most cases, the brand was that of a packer or processor. (See Table 9-3, Questions 1.7 and 1.8.)

Because most respondents represented mostly small establishments, more than 80% of meat purchases by retailers were from wholesalers or distributors. Purchases directly from packers represented only 13% of purchases. Dealers, processors, and importers accounted for a small percentage of purchases. Relatively little meat case space received slotting fees from suppliers, but fees were more prevalent for fresh than frozen product. (See Table 9-3, Questions 2.1 through 2.4.)

The three most cited reasons given by retailers for selecting their chosen suppliers were (1) “Has provided good quality product in the past” (63%), (2) “Provides product quality guarantees” (46%), and (3) “Can meet all meat product needs” (45%). Less than 20% of companies selected responses addressing delivery, product specifications, sources, traceability, and other services or features. (See Table 9-3, Question 2.5.)

Retailers specified or were required to include a variety of terms in purchase transactions for meat products. The most common terms were product quality specifications (45%) and retail price maintenance (34%). These terms require the supplier to meet product specifications and help the retailer manage price risk on the product supplied. Nearly one-fourth of companies did not require specific terms on their purchase transactions. (See Table 9-3, Question 2.6.)

Relatively few retailers had ongoing arrangements with their suppliers. For those that did have an ongoing arrangement, the agreements were either long term or very short. About 41% of companies had agreements that were more than 10 years or evergreen, and 35% of companies had agreements that lasted less than 1 month. Delivery of product was primarily scheduled within a short time frame. Nearly 86% of companies scheduled

delivery for within 3 days. (See Table 9-3, Questions 2-7 and 2.8.)

The most common pricing method for purchasing meat by retailers was flat pricing.

The most common pricing method for purchasing meat by retailers was flat pricing (53% of purchases). Formula pricing was used for 21% of purchases, and or-better pricing and floor and ceiling pricing were each used for 12% of purchases. Flat pricing arrangements sometimes included a premium (or overage) relative to market prices. For companies that purchased under an ongoing arrangement, the purchase price was generally benchmarked relative to market-reported prices. Formula-priced meat purchases were most often based on retail prices (62% of companies) or USDA-reported prices (35%). Companies using formula prices used the current market price (85% of companies) and the previous week's average price (20%) as the timing for the base period. Formula price premiums or discounts were based on several factors including USDA grades, brand name, availability/timing, and service. (See Table 9-3, Questions 2.9 through 2.14.)

Retailers identified price and appearance as the key factors affecting consumer purchases of beef, pork, and lamb.

Retailers were asked to identify the three most important factors that affect consumer purchases of beef, pork, and lamb. The factors most often cited were price per pound (60% of companies), appearance (56%), fat trim (41%), and cut of meat (37%). (See Table 9-3, Question 3.1.)

Retailers reported selling 23% of fresh beef and pork volume at a discounted or featured price, while only 4% of fresh lamb was discounted. A smaller share of frozen product was sold at a discounted or feature price: 12% for beef, 10% for pork, and 2% for lamb. The three most cited reasons for selling fresh meat at discounted or featured prices tended to be consumer focused and included "Bring new customers into the store" (71%), "Reward loyal customers" (59%), and "Pass on discounts offered by suppliers" (52%). Responses were similar for frozen product. (See Table 9-3, Questions 3.2 through 3.5.)

Retailers' target rate of return or profit on meat sales during the last year ranged from between 1% and 5% to more than 30%. One-half had a target rate of return of 26% or higher, and 23% had a target rate of return of 21% to 25%. Despite their profit targets, retailers reported discarding or discounting a significant amount of the meat they purchased. These companies reported that 8% of meat purchased passed the "sell-by" date or was discarded because of spoilage, and 78%

reported selling meat at a discount to the list price. The discounts on meat products were reported to be 11% to 15% (21% of companies), 6% to 10% (20%), 16% to 20% (14%), more than 20% (14%), and 1% to 5% (9%). (See Table 9-3, Questions 4.3 through 4.5.)

9.3.3 Retailer Survey Summary

The retailers surveyed were predominately small, independent stores where fresh sales of beef, pork, and lamb made up a large portion of their gross sales. The product sold is mostly under a national or regional brand typically belonging to a packer or processor. More than 80% of retailer purchases were from a wholesaler or distributor, and only 13% were directly from the packer.

Retailers purchased meat from their chosen suppliers because the suppliers had a history of good quality product and offered quality product guarantees.

Retailers purchased meat from their chosen suppliers because the suppliers had a history of good quality product and offered product quality guarantees. Common terms of purchase transactions included product specifications and retail price maintenance. There were relatively few marketing agreements, but those that were used were either long term or very short. However, most product was scheduled for delivery within 3 days.

Flat pricing was the most common pricing method used by retailers to purchase meat. When formula pricing was used, it was more often tied to retail prices and, to a lesser extent, to USDA-reported prices. Premiums and discounts were based on USDA grades, brands, and service. Retailers identified price and appearance as the key factors affecting consumer purchases of beef, pork, and lamb. While retailers had target profit margins, a relatively high percentage of meat was sold at discount prices. The reasons given for discounts were to attract new customers and to reward loyal customers.

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136)

	Beef (n = 125)			Pork (n = 118)			Lamb (n = 59)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.2 What was your company's percentage of total dollar purchases of meat products during the past year by type of product category for each type of meat?									
a. Fresh or frozen	81.8	76.7	87.0	78.6	72.9	84.3	89.9	81.6	98.2
b. Processed	18.2	13.0	23.3	21.4	15.7	27.1	10.1	1.8	18.4
Total	100.0			100.0			100.0		

	Combination of Meat (n = 103)		
	Mean	**Lower**	**Upper**
a. Fresh or frozen	56.8	48.3	65.2
b. Processed	43.2	34.8	51.7
Total	100.0		

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible business units
Mean = estimated mean weighted by the number of eligible business units
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

		n	Mean	Lower	Upper
1.3	What percentage of total dollar purchases of beef products during the past year were case ready?	133	14.6	9.2	20.0
1.4	What percentage of total dollar purchases of pork products during the past year were case ready?	132	14.8	9.3	20.3
1.5	What percentage of total dollar purchases of lamb products during the past year were case ready?	127	6.0	2.1	9.9
		n	**%**	**Lower**	**Upper**
1.6*	Which of the following types of certification apply for meat products purchased or received by your company?				
	1. None	31	27.5	19.2	35.9
	2. Kosher certification	15	6.5	2.0	11.0
	3. Halal certification	6	4.5	0.6	8.3
	4. Organic certification	19	11.8	5.8	17.7
	5. USDA Process Verified certification	50	38.4	29.3	47.5
	6. ISO certification	D	1.8	0.0	4.3
	7. Certified Angus Beef	53	37.7	28.6	46.7
	8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	24	14.5	7.9	21.0
	9. Own-company certification of breed or livestock quality	4	2.7	0.0	5.7
	10. Buyer certification of breed or livestock quality	7	3.7	0.2	7.1
	11. Other	D	0.9	0.0	2.7

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

	Beef (n = 120)			Pork (n = 121)			Lamb (n = 58)		
	Mean	Lower	Upper	Mean	Lower	Upper	Mean	Lower	Upper
1.7 What was your company's percentage of total dollar purchases of meat products during the past year by type of label for each type of meat?									
a. National or regional brand	81.1	74.4	87.9	84.8	78.7	90.9	72.0	59.7	84.4
b. Private label brand	9.0	4.3	13.6	8.6	4.1	13.1	13.0	4.0	21.9
c. Commodity product—not branded	9.9	4.5	15.3	6.6	2.2	11.0	15.0	5.0	24.9
Total	100.0			100.0			100.0		

	Beef				Pork				Lamb			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
1.8* For meat products purchased during the past year with a national or regional brand label, what was the source of the brand name?												
1. Brand name used by packer or processor	81	95.8	91.2	100.0	84	97.2	93.5	100.0	31	88.6	75.7	100.0
2. Name of livestock producer organization	15	15.0	6.7	23.2	10	9.5	2.8	16.3	6	19.2	3.3	35.0
3. Name of certification organization	15	11.1	3.9	18.3	6	5.5	0.2	10.7	D	3.8	0.0	11.5
4. Other	D	2.7	0.0	6.4	3	4.0	0.0	8.6	0	0.0	NA	NA

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

			Mean (n = 128)	Lower	Upper
2.1	What was your company's percentage of total dollar purchases of beef, pork, and lamb products during the past year by type of supplier?				
	a. Packer		13.0	7.6	18.5
	b. Further processor		1.6	<0	3.3
	c. Wholesaler or distributor		82.1	76.0	88.2
	d. Dealer or broker		2.0	0.6	3.4
	e. Importer		0.2	0.0	0.4
	f. Other		0.0	0.0	0.0
	g. Other retailers *(write-in response)*		1.0	<0	2.8
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
2.2	During the past year, what percentage of your company's case space for beef products received slotting fees from suppliers?				
	a. Percentage of fresh product case space	130	8.6	3.9	13.3
	b. Percentage of frozen product case space	122	3.4	0.5	6.2
2.3	During the past year, what percentage of your company's case space for pork products received slotting fees from suppliers?				
	a. Percentage of fresh product case space	131	7.9	3.3	12.4
	b. Percentage of frozen product case space	122	3.4	0.6	6.2
2.4	During the past year, what percentage of your company's case space for lamb products received slotting fees from suppliers?				
	a. Percentage of fresh product case space	123	1.1	<0	3.0
	b. Percentage of frozen product case space	115	1.0	<0	2.9

† Total does not sum to 100% because of rounding.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

	n	%	Lower	Upper
2.5* What were the three most important reasons for purchasing meat products from your chosen suppliers during the past year?				
1. Offers portion cut product for repackaging	6	4.2	0.6	7.8
2. Has product traceability system in operation	10	7.6	2.8	12.4
3. Is in electronic procurement system	0	0.0	NA	NA
4. Provides product quality guarantees	63	46.3	37.2	55.3
5. Provides food safety guarantees	29	21.0	13.7	28.4
6. Has provided good quality product in the past	80	62.9	54.1	71.6
7. Offers lower prices for given product specifications	34	26.8	18.8	34.9
8. Offers products from specific packers or processors	19	15.9	9.3	22.5
9. Offers case ready product	11	6.0	1.7	10.2
10. Meets exact product specifications	15	9.3	4.1	14.6
11. Offers products with certifications (for example, Certified Angus Beef)	29	20.2	13.0	27.5
12. Offers products from U.S. sources	8	5.9	1.6	10.2
13. Is on approved list of suppliers	6	5.0	1.1	9.0
14. Meets delivery time requirements	25	18.5	11.5	25.5
15. Can meet all meat product needs	61	45.4	36.4	54.4
16. Other	D	0.8	0.0	2.5
2.6* Which of the following terms were specified in purchase transactions for meat products made by your company during the past year?				
1. Retail price maintenance	44	34.2	25.5	42.9
2. Volume discounts	42	27.6	19.4	35.7
3. Maximum or minimum purchase quantities	40	28.3	20.1	36.5
4. Maximum or minimum pricing requirements	13	8.6	3.5	13.7
5. Delivery lead times	38	24.2	16.4	32.0
6. Product quality specifications	63	44.6	35.5	53.7
7. Information sharing	13	9.4	4.1	14.8
8. Slotting fees	6	1.8	0.0	4.2
9. Inventory management	9	6.0	1.7	10.4
10. Inventory cost control	9	6.8	2.2	11.5
11. Advertising requirements	19	11.3	5.5	17.0
12. Other	0	0.0	NA	NA
13. None of the above	29	24.7	16.8	32.6

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

	n	%	Lower	Upper
2.7* For meat products purchased under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
1. Less than 1 month	13	35.1	18.4	51.7
2. 1 to 2 months	4	8.8	0.0	18.7
3. 3 to 5 months	D	0.1	0.0	0.3
4. 6 to 11 months	3	3.1	0.0	9.0
5. 1 to 2 years	6	9.1	0.0	18.9
6. 3 to 5 years	0	0.0	NA	NA
7. 6 to 10 years	3	8.7	0.0	18.6
8. More than 10 years or evergreen	19	41.3	24.2	58.5
2.8* For meat products purchased during the past year, how far in advance of delivery was the delivery scheduled?				
1. Less than 3 days	108	85.6	79.3	91.9
2. 4 to 6 days	24	15.1	8.7	21.6
3. 1 to 2 weeks	23	9.5	4.3	14.7
4. 3 to 4 weeks	14	6.8	2.3	11.3
5. More than 1 month	6	1.8	0	4.1

	Mean (n = 123)	Lower	Upper
2.9 What types of pricing methods did your company use during the past year for purchasing meat products (% of total dollar purchases)?			
a. Flat pricing	53.2	44.5	61.9
b. Formula pricing (using another price as the base)	20.7	13.4	28.0
c. Or-better pricing	12.4	6.8	18.0
d. Floor and ceiling pricing	12.3	6.4	18.3
e. Other	1.4	<0	3.4
Total	100.0		

	n	%	Lower	Upper
2.10 If flat pricing was used during the past year, did the purchase price include a premium (or overage) relative to the market price?				
1. Did not use flat pricing during the past year	49	43.0	33.6	52.3
2. Yes, for some meat product purchases (less than 50%)	22	15.7	8.8	22.6
3. Yes, for most meat product purchases (50% or more)	12	10.1	4.4	15.8
4. No	41	31.3	22.5	40.1
Total		100.1†		

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.
* Respondents could select multiple responses.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

	n	%	Lower	Upper
2.11* For meat products purchased under an ongoing arrangement during the past year, how was the purchase price or base price benchmarked?				
1. Did not purchase under an ongoing arrangement	92	77.3	69.5	85.2
2. Did not benchmark purchase price or base price	6	4.5	0.6	8.4
3. Relative to market-reported price	23	13.7	7.3	20.1
4. Relative to internal rates of return	4	2.7	0.0	5.8
5. Relative to other bids or offers	12	6.4	1.9	11.0
6. Other	D	0.9	0.0	2.7
2.12* For meat products purchased during the past year using formula pricing, what was the base price of the formula?				
1. USDA publicly reported price	23	35.0	18.8	51.2
2. Futures price or price ratio	5	6.0	0.0	13.9
3. Retail price	23	62.1	45.6	78.5
4. Subscription service price (for example, Urner Barry)	4	3.1	0.0	8.8
5. Other	D	2.8	0.0	8.5
2.13* For meat products purchased during the past year using formula pricing, what was the timing for the base price?				
1. Current market	47	85.4	74.4	96.5
2. Average of the previous week	16	20.0	7.6	32.4
3. Average of the previous 2 weeks	D	2.5	0.0	7.3
4. Average of the previous 3 weeks	D	0.1	0.0	0.3
5. Average of the previous month	D	2.5	0.0	7.3
6. Average of the previous 2 months or longer	3	2.6	0.0	7.4
7. Other	0	0.0	NA	NA
2.14* For meat products purchased during the past year using formula pricing, what was the basis of any premiums or discounts?				
1. USDA yield grade	13	35.8	17.2	54.4
2. USDA quality grade	15	42.9	23.7	62.1
3. Brand name	17	43.1	23.9	62.3
4. Availability/timing	12	32.2	14.1	50.4
5. Customer service	5	17.7	2.8	32.5
6. Other	D	0.1	0.0	0.4

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

		n	%	Lower	Upper
3.1*	In your opinion, what are the three most important factors that affect consumer purchases of beef, pork, and lamb products in stores owned by your company?				
	1. Fat trim	51	41.2	32.3	50.0
	2. Recipes or cooking instructions on label	D	0.9	0.0	2.5
	3. Case ready packaging	8	5.8	1.6	10.0
	4. Cut of meat	52	37.2	28.5	45.9
	5. Package size	15	10.8	5.2	16.3
	6. Size of cuts	11	9.0	3.9	14.2
	7. Featured (discounted) product	32	22.4	14.9	29.8
	8. Visual appearance (color, marbling, etc.)	81	56.3	47.4	65.3
	9. Food safety assurances on label	10	8.2	3.3	13.2
	10. Shelf life (use-by date)	19	12.5	6.5	18.4
	11. Produced in United States	9	7.4	2.7	12.1
	12. Quality assurances on label	11	8.3	3.3	13.2
	13. Brand name of product	17	13.2	7.1	19.3
	14. Price per pound	81	59.5	50.7	68.3
	15. Resealable packaging	3	2.5	0.0	5.3
	16. Other	D	1.6	0.0	3.9
		n	**Mean**	**Lower**	**Upper**
3.2	During the past year, what percentage of your company's total pounds of beef products were sold at a discounted or featured price?				
	a. Percentage of fresh product pounds sold	130	23.1	18.1	28.0
	b. Percentage of frozen product pounds sold	121	11.5	7.4	15.5
3.3	During the past year, what percentage of your company's total pounds of pork products were sold at a discounted or featured price?				
	a. Percentage of fresh product pounds sold	130	23.1	17.9	28.2
	b. Percentage of frozen product pounds sold	115	9.5	6.1	12.9
3.4	During the past year, what percentage of your company's total pounds of lamb products were sold at a discounted or featured price?				
	a. Percentage of fresh product pounds sold	124	4.3	1.0	7.5
	b. Percentage of frozen product pounds sold	111	1.6	<0	3.8

D = Results suppressed. (continued)
* Respondents could select multiple responses.

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

		n	%	Lower	Upper
3.5a*	What were the three most important reasons for selling fresh meat products at a discounted or featured price during the past year?				
	a. Bring new customers into the store	75	71.4	61.8	81.0
	b. Reward loyal customers	61	58.7	48.2	69.2
	c. Reduce excess inventory	27	30.8	21.0	40.7
	d. Pass on discounts offered by suppliers	54	51.8	41.2	62.4
	e. Sell product with nearing expiration dates	23	24.1	15.0	33.2
	f. Offer volume discount for larger size packages	29	29.8	20.1	39.6
	g. Other	D	1.1	0.0	3.4
	h. Increase sales	D	1.2	0.0	3.5
3.5b*	What were the three most important reasons for selling frozen meat products at a discounted or featured price during the past year?				
	a. Bring new customers into the store	46	55.1	42.5	67.7
	b. Reward loyal customers	38	46.9	34.3	59.5
	c. Reduce excess inventory	22	33.6	21.7	45.6
	d. Pass on discounts offered by suppliers	32	35.8	23.7	47.9
	e. Sell product with nearing expiration dates	18	27.2	16.0	38.5
	f. Offer volume discount for larger size packages	18	27.2	16.0	38.5
	g. Other	0	0.0	NA	NA
	h. Increase sales	D	1.7	0.0	4.8

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

		n	%	Lower	Upper
4.1	How many retail establishments were owned by your company during the past year?				
	1. One	102	83.9	77.4	90.4
	2. 2 to 9	14	11.5	5.8	17.3
	3. 10 to 99	12	2.8	0.0	5.5
	4. 100 to 499	7	1.0	0.0	2.6
	5. 500 to 999	0	0.0	NA	NA
	6. 1,000 or more	D	0.8	0.0	2.4
	Total		100.0		
		n	**Mean**	**Lower**	**Upper**
4.2	What was the approximate total number of people employed by your company during the past year?				
	a. Full time	122	120.7	28.6	212.8
	b. Part time	110	150.2	<0	313.1
		n	**%**	**Lower**	**Upper**
4.3	What was the average discount on the list price for meat products sold by your company during the past year?				
	1. 0%	27	21.6	14.2	29.0
	2. 1% to 5%	11	9.1	3.9	14.3
	3. 6% to 10%	24	19.9	12.7	27.1
	4. 11% to 15%	28	20.8	13.5	28.2
	5. 16% to 20%	20	14.2	7.9	20.5
	6. More than 20%	25	14.4	8.1	20.6
	Total		100.0		
4.4	What was your company's target rate of return or profit on meat product sales during the past year?				
	1. 1% to 5%	11	9.3	4.0	14.6
	2. 6% to 10%	8	5.9	1.6	10.2
	3. 11% to 15%	8	5.9	1.6	10.2
	4. 16% to 20%	8	5.9	1.6	10.2
	5. 21% to 25%	31	22.9	15.3	30.6
	6. 26% to 30%	50	37.3	28.5	46.1
	7. More than 30%	16	12.7	6.6	18.8
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
4.5	What percentage of meat products purchased by your company during the past year passed the sell-by date or were discarded because of spoilage?	133	8.1	4.5	11.8

D = Results suppressed.
NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

(continued)

Table 9-3. Weighted Responses for the Food Retailer Survey (n = 136) (continued)

		n	%	Lower	Upper
4.6	What were your company's approximate total gross sales for fresh, frozen, and processed beef, pork, and lamb products during the past year?				
	1. Under $99,999	39	33.5	24.8	42.2
	2. $100,000 to $499,999	38	32.6	24.0	41.2
	3. $500,000 to $999,999	16	13.7	7.4	20.1
	4. $1,000,000 to $4,999,999	12	10.3	4.7	15.9
	5. $5,000,000 to $19,999,999	7	6.0	1.6	10.4
	6. $20,000,000 to $49,999,999	3	0.1	0.0	0.2
	7. $50,000,000 to $99,999,999	7	1.1	0.0	2.8
	8. $100,000,000 to $499,999,999	7	2.7	0.0	5.6
	9. $500,000,000 to $999,999,999	0	0.0	NA	NA
	10. $1,000,000,000 or more	0	0.0	NA	NA
	Total		100.0		
4.7	What were your company's approximate total gross sales for all products during the past year?				
	1. Under $99,999	21	17.7	10.8	24.7
	2. $100,000 to $499,999	34	28.7	20.4	36.9
	3. $500,000 to $999,999	19	16.0	9.3	22.7
	4. $1,000,000 to $2,499,999	17	14.3	8.0	20.7
	5. $2,500,000 to $4,999,999	5	4.2	0.6	7.9
	6. $5,000,000 to $9,999,999	8	6.8	2.2	11.3
	7. $10,000,000 to $19,999,999	3	2.5	0.0	5.4
	8. $20,000,000 to $49,999,999	3	1.7	0.0	4.1
	9. $50,000,000 to $99,999,999	4	3.4	0.1	6.7
	10. $100,000,000 to $499,999,999	5	1.8	0.0	4.1
	11. $500,000,000 to $999,999,999	5	1.0	0.0	2.6
	12. $1,000,000,000 or more	7	1.8	0.0	4.2
	Total		99.9†		

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

9.4 FOOD SERVICE OPERATORS

Table 9-4 provides weighted tabulations for all survey questions for food service operators (n = 108). Food service operators include restaurants and other institutions that purchase and serve meat products. These survey results are described briefly in this section.

9.4.1 Company Characteristics

About 68% of companies owned 1 food service establishment, 20% owned 2 to 9 establishments, 8% owned 10 to 99 establishments, and 3% owned 100 or more establishments. On average, these companies had 353 full-time and 114 part-time employees. Approximately one-third of companies had beef, pork, and lamb sales of less than $100,000 in the past year. Another one-third had sales between $100,000 and $499,999, and 14% had sales between $500,000 and $999,999 annually. The remaining 17% had meat sales of more than $1 million per year. Based on these characteristics, most respondents to the food service operator survey represent relatively small establishments. (See Table 9-4, Questions 3.1 through 3.3.)

9.4.2 Meat Purchases by Food Service Operators

Food service companies purchased primarily fresh or frozen beef, pork, and lamb rather than processed meat (about 80% of purchases were fresh or frozen and 20% were processed). Purchases of combination meats were about 60% for fresh or frozen product and 40% for processed meat. Nearly 80% of companies purchased meat that was certified under some type of program. The most cited types of certification programs were the USDA Process Verified[6] (49% of companies) and CAB (39%) programs. National or regional brands were the dominate types of products, with 69%, 81%, and 77% for beef, pork, and lamb purchases, respectively. Private-label brands made up 24%, 14%, and 18% of purchases for beef, pork, and lamb, respectively. The source of the national or regional brand was most often a packer or processor (95% to 100% of companies). (See Table 9-4, Questions 1.2 through 1.5.)

[6] The percentage of food service operators that reported purchasing USDA Process Verified meat is high relative to the amount of meat that we believe is USDA Process Verified; however, USDA does not track process verified product volume. Respondents may have been confusing this with USDA inspection.

Food service companies responding to the survey purchased 81% of their beef, pork, and lamb from a wholesaler or distributor, and 11% of purchases were directly from a packer. Companies' reasons for choosing the suppliers they did were relatively diverse, but mostly related to product quality. The most cited responses were (1) "Has provided good quality product in the past" (57%), (2) "Provides product quality guarantees" (48%), and (3) "Can meet all meat product needs" (34%). The following responses were selected by 18% to 24% of companies: "Offers lower prices for given product specifications," "Provides food safety guarantees," "Offers portion cut product," "Meets delivery time requirements," and "Meets exact product specifications." Thus, price, food safety, and product specifications are also important. (See Table 9-4, Questions 2.1 and 2.2.)

The terms specified in purchase transactions for food service operators were diverse. Product quality specifications (58% of companies), volume discounts (40%), delivery lead times (32%), and maximum and minimum purchase quantities (27%) were the most cited terms. Other responses dealing with pricing, inventory management, and cost were selected by less than 20% of companies. (See Table 9-4, Question 2.3.)

Relatively few food service companies had ongoing purchasing arrangements. Of those that reported having ongoing arrangements, nearly 60% of companies had agreements that were less than 1 year, 24% were 1 to 2 years, 6% were 6 to 10 years, and 29% were long term (more than 10 years or evergreen). Delivery scheduling, however, was short term. Nearly 80% of companies scheduled deliveries for within 3 days, 17% within 4 to 6 days, and 12% within 1 to 2 weeks. (See Table 9-4, Questions 2.4 and 2.5.)

Flat pricing was the most common method of pricing among food service companies, making up 48% of the product purchased.

Flat pricing was the most common method of pricing among food service companies, making up 48% of the product purchased. Or-better (21%), floor and ceiling (16%), and formula (14%) were the next most common pricing methods. For companies that used flat pricing, some purchases included a premium or overage relative to the market price. Without this type of adjustment, the supplier bears more market risk. For companies that purchased products under an ongoing arrangement, most benchmarked the price relative to a market-reported price. Prices were also benchmarked relative

to other bids and internal rates of returns, and still others did not benchmark the price. (See Table 9-4, Questions 2.6 through 2.8.)

Formula pricing was used by few food service companies; for most of these companies (61%), the base price was tied to a retail price. From a timing standpoint, most companies (79%) used the current market price. Other time frames were used less often. Few companies reported using premiums or discounts with formula pricing, but those that did based them on USDA quality grade, brand name, or availability/timing of product. (See Table 9-4, Questions 2.9 through 2.11.)

9.4.3 Food Service Operator Survey Summary

Product quality history and guarantees were the primary motivators for food service companies choosing their suppliers, and product specifications and volume discounts were often written into purchase agreements.

Compared with the other downstream segments, food service companies tended to have smaller gross sales but more employees. A relatively high percentage of the meat products purchased were from a certified program and had a national or regional brand. At the same time, food service companies purchased most of their product from wholesalers or distributors, and only slightly more than 10% of product was purchased from packers. Product quality history and guarantees were the primary motivators for food service companies choosing their suppliers, and product specifications and volume discounts were often written into purchase agreements. There were relatively few ongoing arrangements, but the ones that existed tended to be longer than in other downstream segments, with 10 or more years representing nearly 30% of these agreements. Flat pricing was the most common pricing method identified, and many transactions included market adjustment terms. Formula pricing was used less often, but was typically tied to retail prices.

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108)

	Beef (n = 101)			Pork (n = 89)			Lamb (n = 27)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.2 What was your company's percentage of total dollar purchases of meat products during the past year by type of product category for each type of meat?									
a. Fresh or frozen	76.8	69.8	83.7	78.9	71.3	86.4	78.6	61.3	95.9
b. Processed	23.2	16.3	30.2	21.1	13.6	28.7	21.4	4.1	38.7
Total	100.0			100.0			100.0		

	Combination of Meat (n = 59)		
	Mean	**Lower**	**Upper**
a. Fresh or frozen	60.3	48.5	72.2
b. Processed	39.7	27.8	51.5
Total	100.0		

(continued)

A description of the notation used in the table headers is provided below.
n = number of respondents
% = estimated proportion weighted by the number of eligible business units
Mean = estimated mean weighted by the number of eligible business units
Lower = lower bound of the 95% confidence interval for the weighted proportion or mean
Upper = upper bound of the 95% confidence interval for the weighted proportion or mean

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

	n	%	Lower	Upper
1.3* Which of the following types of certification apply for meat products purchased or received by your company?				
1. None	22	21.9	13.1	30.7
2. Kosher certification	6	4.7	0.2	9.1
3. Halal certification	4	3.5	0.0	7.4
4. Organic certification	4	4.6	0.1	9.0
5. USDA Process Verified certification	49	49.4	38.8	60.1
6. ISO certification	7	6.9	1.5	12.3
7. Certified Angus Beef	38	39.1	28.7	49.5
8. Other third-party certification of breed or livestock quality (not including Certified Angus Beef)	8	8.1	2.3	13.8
9. Own-company certification of breed or livestock quality	5	4.6	0.2	9.1
10. Buyer certification of breed or livestock quality	D	1.1	0.0	3.4
11. Other	D	2.3	0.0	5.5

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

	Beef (n = 105)			Pork (n = 94)			Lamb (n = 28)		
	Mean	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**	**Mean**	**Lower**	**Upper**
1.4 What was your company's percentage of total dollar purchases of meat products during the past year by type of label for each type of meat?									
a. National or regional brand	68.8	60.9	76.8	81.3	74.0	88.7	77.2	62.1	92.2
b. Private label brand	23.8	16.6	31.0	14.4	8.2	20.6	17.5	3.9	31.2
c. Commodity product—not branded	7.4	2.9	11.9	4.3	0.5	8.1	5.3	<0	13.8
Total	100.0			100.0			100.0		

	Beef				Pork				Lamb			
	n	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**	**n**	**%**	**Lower**	**Upper**
1.5* For meat products purchased during the past year with a national or regional brand label, what was the source of the brand name?												
1. Brand name used by packer or processor	79	94.7	89.5	99.9	68	98.4	95.1	100.0	18	100.0	100.0	100.0
2. Name of livestock producer organization	8	9.3	2.6	16.0	4	5.0	0.0	10.5	D	6.2	0.0	19.4
3. Name of certification organization	17	18.7	9.8	27.7	5	3.4	0.0	8.0	D	0.2	0.0	0.7
4. Other	D	0.0	0.0	0.1	D	1.7	0.0	4.9	D	6.2	0.0	19.4

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

		Mean (n = 108)	Lower	Upper
2.1	What were your company's percentage of total dollar purchases of beef, pork, and lamb products during the past year by type of supplier?			
	a. Packer	10.8	5.5	16.0
	b. Further processor	4.5	1.1	7.9
	c. Wholesaler or distributor	80.7	73.9	87.5
	d. Dealer or broker	2.7	<0	5.6
	e. Importer	0.2	<0	0.5
	f. Other	0.0	0.0	0.0
	g. Grocery stores *(write-in response)*	1.2	<0	3.2
	Total	100.1†		

		n	%	Lower	Upper
2.2*	What were the three most important reasons for purchasing meat products from your chosen suppliers during the past year?				
	1. Offers portion cut product	25	20.9	12.7	29.2
	2. Has product traceability system in operation	9	8.3	2.7	13.9
	3. Is in electronic procurement system	0	0.0	NA	NA
	4. Provides product quality guarantees	50	47.9	37.7	58.0
	5. Provides food safety guarantees	26	23.0	14.4	31.5
	6. Has provided good quality product in the past	59	57.2	47.2	67.2
	7. Offers lower prices for given product specifications	29	24.1	15.4	32.7
	8. Offers products from specific packers or processors	11	11.4	5.0	17.9
	9. Offers case ready product	8	8.3	2.7	13.9
	10. Meets exact product specifications	23	17.9	10.1	25.6
	11. Offers products with certifications (e.g., Certified Angus Beef)	16	14.6	7.4	21.7
	12. Offers products from U.S. sources	6	6.2	1.3	11.1
	13. Is on approved list of suppliers	5	3.2	0.0	6.7
	14. Meets delivery time requirements	19	19.7	11.6	27.8
	15. Can meet all meat product needs	35	34.3	24.7	43.9
	16. Other	0	0.0	NA	NA

NA = Confidence interval not calculable.

(continued)

† Total does not sum to 100% because of rounding.

* Respondents could select multiple responses.

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

		n	%	Lower	Upper
2.3*	Which of the following terms were specified in purchase transactions for meat products made by your company during the past year?				
	1. Volume discounts	42	40.2	30.1	50.4
	2. Maximum or minimum purchase quantities	33	27.4	18.1	36.6
	3. Maximum or minimum pricing requirements	18	14.3	7.0	21.5
	4. Delivery lead times	37	31.7	22.1	41.3
	5. Product quality specifications	64	57.8	47.5	68.0
	6. Information sharing	14	9.9	3.8	16.1
	7. Inventory management	16	14.2	7.0	21.4
	8. Inventory cost control	17	15.3	7.8	22.7
	9. Advertising requirements	5	4.4	0.1	8.6
	10. Other	D	2.2	0.0	5.2
	11. None of the above	16	17.3	9.5	25.2
2.4*	For meat products purchased under an ongoing arrangement (oral or written) during the past year, what was the length of the arrangement?				
	1. Less than 1 month	6	17.4	4.2	30.7
	2. 1 to 2 months	8	14.8	2.6	27.1
	3. 3 to 5 months	8	14.8	2.6	27.1
	4. 6 to 11 months	8	12.0	0.9	23.2
	5. 1 to 2 years	16	24.1	9.4	38.8
	6. 3 to 5 years	D	0.1	0.0	0.3
	7. 6 to 10 years	D	5.8	0.0	14.0
	8. More than 10 years or evergreen	10	29.1	13.3	44.9
2.5*	For meat products purchased during the past year, how far in advance of delivery was the delivery scheduled?				
	1. Less than 3 days	78	78.7	70.4	87.0
	2. 4 to 6 days	18	16.8	9.2	24.5
	3. 1 to 2 weeks	20	11.9	5.3	18.4
	4. 3 to 4 weeks	D	0.1	0.0	0.2
	5. More than 1 month	D	0.0	0.0	0.1
			Mean (n = 104)	**Lower**	**Upper**
2.6	What types of pricing methods did your company use during the past year for purchasing meat products (% of total dollar purchases)?				
	a. Flat pricing		47.6	37.8	57.3
	b. Formula pricing (using another price as the base)		14.3	7.9	20.8
	c. Or-better pricing		21.1	13.3	29.0
	d. Floor and ceiling pricing		15.9	8.8	23.0
	e. Other		1.1	<0	3.2
	Total		100.0		

D = Results suppressed.

(continued)

* Respondents could select multiple responses.

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

		n	%	Lower	Upper
2.7	If flat pricing was used during the past year, did the purchase price include a premium (or overage) relative to the market price?				
	1. Did not use flat pricing during the past year	43	45.0	34.8	55.2
	2. Yes, for some meat product purchases (less than 50%)	11	10.7	4.4	17.1
	3. Yes, for most meat product purchases (50% or more)	14	15.0	7.6	22.3
	4. No	37	29.3	19.9	38.6
	Total		100.0		
2.8*	For meat products purchased under an ongoing arrangement during the past year, how was the purchase price or base price benchmarked?				
	1. Did not purchase under an ongoing arrangement	63	65.7	56.0	75.4
	2. Did not benchmark purchase price or base price	6	5.3	0.7	9.9
	3. Relative to market-reported price	35	26.9	17.8	35.9
	4. Relative to internal rates of return	3	3.2	0.0	6.8
	5. Relative to other bids or offers	11	7.6	2.2	12.9
	6. Other	D	0.0	0.0	0.1
2.9*	For meat products purchased during the past year using formula pricing, what was the base price of the formula?				
	1. USDA publicly reported price	13	33.9	12.5	55.2
	2. Futures price or price ratio	7	19.3	1.5	37.1
	3. Retail price	13	61.1	39.1	83.1
	4. Subscription service price (for example, Urner Barry)	4	5.2	0.0	14.8
	5. Other	D	4.7	0.0	14.3
2.10*	For meat products purchased during the past year using formula pricing, what was the timing for the base price?				
	1. Current market	21	78.5	61.4	95.6
	2. Average of the previous week	5	12.6	0.0	26.6
	3. Average of the previous 2 weeks	0	0.0	NA	NA
	4. Average of the previous 3 weeks	3	12.4	0.0	26.3
	5. Average of the previous month	6	4.8	0.0	13.3
	6. Average of the previous 2 months or longer	D	4.3	0.0	12.7
	7. Other	0	0.0	NA	NA
2.11*	For meat products purchased during the past year using formula pricing, what was the basis of any premiums or discounts?				
	1. USDA yield grade	D	0.3	0.0	1.0
	2. USDA quality grade	7	54.3	20.4	88.3
	3. Brand name	6	45.3	11.4	79.3
	4. Availability/timing	5	36.3	3.5	69.2
	5. Customer service	D	9.3	0.0	29.0
	6. Other	D	0.3	0.0	1.0

D = Results suppressed.
NA = Confidence interval not calculable.
* Respondents could select multiple responses.

(continued)

Table 9-4. Weighted Responses for the Food Service Operator Survey (n = 108) (continued)

		n	%	Lower	Upper
3.1	How many food service establishments were owned by your company during the past year?				
	1. One	66	68.4	59.1	77.8
	2. 2 to 9	20	19.7	11.7	27.8
	3. 10 to 99	12	8.4	2.8	14.0
	4. 100 to 499	7	3.3	0.0	6.8
	5. 500 to 999	0	0.0	NA	NA
	6. 1,000 or more	3	0.1	0.0	0.2
	Total		99.9†		
		n	**Mean**	**Lower**	**Upper**
3.2	What was the approximate total number of people employed by your company during the past year?				
	a. Full time	99	352.6	95.6	609.5
	b. Part time	85	114.4	61.8	166.9
		n	**%**	**Lower**	**Upper**
3.3	What were your company's approximate total gross sales for fresh, frozen, and processed beef, pork, and lamb products during the past year?				
	1. Under $99,999	33	35.7	25.8	45.6
	2. $100,000 to $499,999	31	33.5	23.8	43.3
	3. $500,000 to $999,999	13	14.1	6.9	21.3
	4. $1,000,000 to $2,499,999	5	5.4	0.7	10.1
	5. $2,500,000 to $4,999,999	0	0.0	NA	NA
	6. $5,000,000 to $9,999,999	7	5.5	0.8	10.2
	7. $10,000,000 to $19,999,999	3	3.2	0.0	6.9
	8. $20,000,000 to $49,999,999	5	2.3	0.0	5.3
	9. $50,000,000 to $99,999,999	0	0.0	NA	NA
	10. $100,000,000 to $499,999,999	3	0.1	0.0	0.2
	11. $500,000,000 or more	4	0.2	0.0	0.3
	Total		100.0		
3.4	What were your company's approximate total gross sales for all products during the past year?				
	1. Under $99,999	13	14.2	6.9	21.5
	2. $100,000 to $499,999	28	30.6	21.0	40.2
	3. $500,000 to $999,999	23	25.2	16.1	34.2
	4. $1,000,000 to $2,499,999	11	12.0	5.2	18.8
	5. $2,500,000 to $9,999,999	6	5.5	0.8	10.3
	6. $10,000,000 to $19,999,999	3	3.3	0.0	7.0
	7. $20,000,000 to $49,999,999	5	4.4	0.1	8.7
	8. $50,000,000 to $99,999,999	3	2.2	0.0	5.3
	9. $100,000,000 to $999,999,999	7	2.4	0.0	5.4
	10. $1,000,000,000 or more	4	0.2	0.0	0.3
	Total		100.0		

NA = Confidence interval not calculable.
† Total does not sum to 100% because of rounding.

10 Sample Design for the Transactions Data Collection

This section describes the sample design for the transactions data collection. We limited the transactions data collection to the largest companies because these businesses represent the majority of purchases of livestock and sales of meat products and these businesses are likely to use a variety of AMAs. The transactions data collection also included collection of P&L statements.

10.1 MEAT PACKERS AND PROCESSORS

We limited the transactions data collection to the largest companies because these businesses represent the majority of purchases of livestock and sales of meat products and these businesses are likely to use a variety of AMAs.

As described in Section 2.1, we used the USDA, FSIS EFD to construct the sampling frames for meat packers and meat processors (USDA, FSIS, 2005). The sampling unit for meat packers and processors was the establishment because establishment-level transactions data were needed for the analysis. Using the EFD, we constructed separate sampling frames for beef packers, pork packers, lamb packers, and meat processors. Establishments that slaughter and process were included in the sampling frame for packers. We stratified each industry segment by small and large establishments and then took a census of the largest establishments from each industry segment. We used annual slaughter volume as the size criterion for packers and annual revenues as the size criterion for processors.

Table 10-1 shows the initial sample design for meat packers and processors. The large sample was the same sample used for the industry survey and initially included the 60 largest beef packers, 60 largest pork packers, 30 largest lamb packers, and

50 largest meat processors.[1,2] While administering the industry survey, we found that some large establishments were not eligible for the survey (e.g., packers that only do custom slaughter). If additional establishments were available in the sampling frame, we replaced these ineligible establishments with the plant next in rank size to achieve the specified sample sizes.

After the start of data collection, GIPSA decided to limit data collection to a subset of packing establishments to minimize the burden on smaller entities, while still including the entities representing the vast majority of product volume in the industry. After these adjustments,

- the top 37 beef packers establishments, representing 97% of total industry slaughter volume, were required to provide transactions data;
- the top 39 pork packers establishments, representing 96% of total industry slaughter volume, were required to provide transactions data; and
- the top 15 lamb packers establishments, representing 84% of total industry slaughter volume, were required to provide transactions data.

GIPSA did not modify the sample size for meat processors and thus the largest 50 meat processors were retained in the sample.

10.2 DOWNSTREAM MARKET PARTICIPANTS

We made an attempt to obtain transactions data from downstream market participants, but ultimately were not successful.

As described in Section 2.1, we used the D&B database to construct the sampling frames for wholesalers, retailers, and food service operators. The sampling unit for the downstream market participants was the firm or company (single-location businesses or the headquarters for multilocation businesses), because firm-level transactions data were needed for the analysis. Using the D&B database, we constructed sampling frames for each industry segment on the basis of the

[1] To ensure adequate representation of lamb processors (i.e., breakers) in the sample for large processing plants, we replaced 10 of the plants with lamb breakers.

[2] Two plants selected for the large sample slaughtered more than one species. To minimize burden on individual entities to the extent possible, these plants were only required to provide transactions data for their highest volume species. To achieve the specified sample sizes, another plant was substituted for the species with the smaller volume, determined by the plant next in size rank.

company's primary SIC code. We stratified each industry segment by small and large companies and then took a census of the largest companies from each industry segment. We used annual revenue as the size criterion for selecting the largest companies from each industry segment.[3] After selecting the sample, we compared the large sample with industry lists of the largest companies to identify and add companies not included in the sample. Finally, we used the USMEF membership list as the sampling frame for meat exporters because meat exporters are not specifically identified in the D&B database. We took a census of all meat exporters (n = 46).

Because the transactions data collection was voluntary for the downstream market participants, in consultation with GIPSA, we limited the data collection to eligible companies that completed the industry survey or agreed to be sent the survey packet. We assumed that companies that were not responsive to the industry survey would not provide transactions data. Table 10-1 shows the initial and revised sample sizes for each industry segment.

[3] Our target sample size for large companies was 50 companies from each segment; however, because revenue is reported as categories in the D&B database, it was necessary to select more than 50 companies.

Table 10-1. Sample Design for the Transactions Data Collection

Industry Segment	NAICS Codes	SIC Codes	Universe Size	Initial Sample Size	Percentage of Total Industry Volume	Revised Sample Size[a]	Percentage of Total Industry Volume
Packers	311611[b]	2011[b]					
Fed cattle			300	60	99%	37	97.0%
Hogs			309	60	99%	39	96.0%
Lambs			120	30	96%	15	84.0%
Processors	311612[b]	2013[b]	4,050	50	N/A	45	N/A
Wholesalers	42242, 42247	5142[c], 5147[d]	3,562	72	N/A	35	N/A
Exporters	N/A	N/A	46	46	N/A	31	N/A
Retailers	44511, 44512, 44521, 45291	5411[e], 5421[f], 5399[g]	28,559	91	N/A	44	N/A
Food service operators	72211, 722211, 722212, 72231, 72111, 72112	5812[h], 7011[i]	44,246	122	N/A	36	N/A

Sources: Dun and Bradstreet (D&B). <http:\www.dnb.com>.
U.S. Department of Agriculture, Food Safety and Inspection Service (USDA, FSIS). 2005. Enhanced Facilities Database. Washington, DC: USDA.
U.S. Meat Export Federation. 2005. *2005 Membership Directory*. Denver, CO: Meat Export Federation.

N/A = Not available.

[a] Excludes plants that were determined to be ineligible for the data collection.

[b] NAICS and SIC codes were not used to identify the respondent universe for packers and processors but are included in the table for completeness.

[c] For SIC code 5142 (packaged frozen foods), the following subcategories were included in the sampling frame: frozen meat, frozen meat pies, and packaged frozen meat.

[d] For SIC code 5147 (meats and meat products), the following subcategories were included in the sampling frame: meats and meat products, excluding lard.

[e] For SIC code 5411 (grocery stores), the following subcategories were included in the sampling frame: supermarkets (chains and independents) and grocery stores (chains and independents).

[f] For SIC code 5421 (meat and fish markets), the following subcategories were included in the sampling frame: meat markets, including freezer provisioners.

[g] For SIC code 5399 (miscellaneous general merchandise stores), the following subcategories were included in the sampling frame: warehouse club stores.

[h] For SIC code 5812 (eating places), the following subcategories were included in the sampling frame: fast-food restaurants (chains and independents), family restaurants (chains and independents), steak and barbecue restaurants, and contract food services.

[i] For SIC code 7011 (hotels and motels), the following subcategories were included in the sampling frame: hotels (franchised and independents), casino hotels, and resort hotels (franchised and independents).

11 Study Design and Procedures for the Transactions Data Collection

This section describes the data specifications for the transactions data collection, our pretest procedures for testing the instruction booklets for the transactions data collection, and our data collection procedures for the mandatory and voluntary components of the data collection.

11.1 DATA SPECIFICATIONS

We developed instruction booklets that provided detailed information on how to provide the transactions data. We also provided electronic templates for preparing the files in the specified format and for preparing a data dictionary (if an alternative format was used). Companies could provide electronic or hard copy data.

We developed instruction booklets (eight versions, a different version for each industry segment) that provided detailed information on how to provide the transactions data. Appendix D in Volume 2 provides the instruction booklets for each industry segment. Each instruction booklet provided tables with file specifications that described each data element or data field required (e.g., carcass quality grade) and the preferred format for providing the data (e.g., 1 = prime, 2 = choice). If a plant or company chose to use an alternative format, the data could be provided in the format used by the respondent; however, the respondent was asked to provide a data dictionary (i.e., variable name, description, unit of measure, and description of any coding system used). We also provided a CD with templates in Microsoft Excel for preparing the files in the specified format and for preparing a data dictionary (if an alternative format was used). Companies could provide electronic or hard copy data. Companies were instructed to send electronic data files to RTI and hard copy data to GIPSA.

11.1.1 Meat Packers

Beef, pork, and lamb packers were required to provide the following types of information for the 2.5-year period from October 6, 2002, through March 31, 2005:

- daily transactions data for purchases/procurement of livestock
- contract settlement data for production contracts (pork packers only)
- daily transactions data for sales of meat products
- weekly P&L statements for each production stage

Pork packers also were asked to provide procurement transactions data and contract settlement data for weaner and feeder pigs on a voluntary basis.

For purchases/procurement of livestock, a transaction was defined as the purchase or procurement of a pen or lot of fed cattle, lambs, or finished hogs.

For contract settlement data for hog production contracts, pork packers were required to provide a copy of the contract form (electronic or hard copy) for each hog production contract and contract settlement data or to provide settlement sheets for each payment made to the grower during the requested time period.

For sales of meat products, a transaction was defined as the sale of a specific type of raw or processed meat product based on the Institutional Meat Purchase Specification (IMPS) item numbers or other coding system; thus, each transaction is equivalent to an individual line item on the respondent's invoices.[1]

Packing establishments were also required to provide weekly P&L statements for each production stage (i.e., slaughter, fabrication, and processing) operated by the establishment. If establishments did not prepare weekly P&L statements but did prepare monthly P&L statements, they were asked to provide monthly P&L statements.

[1] The IMPS system is not commonly used by pork packers.

11.1.2 Processors

Meat processors were required to provide the following types of information for the 2.5-year period from October 6, 2002, through March 31, 2005:

- detailed transactions data for purchases of meat inputs
- detailed transactions data for sales of meat products
- weekly P&L statements

A transaction was defined as the purchase or sale of a specific type of raw or processed meat product based on the IMPS item numbers or other coding system. For sales of meat products, meat processors were only required to provide information on products that contained at least 50% meat by weight**.**

Processors were also required to provide weekly P&L statements. If establishments did not prepare weekly P&L statements but did prepare monthly P&L statements, they were asked to provide monthly P&L statements. Processors were not required to provide P&L statements if they only sold meat products that contained less than 50% meat by weight.

11.1.3 Downstream Market Participants

To minimize respondent burden, downstream market participants were asked to provide weekly summaries of purchase and sales transactions by type of meat for the 2.5-year period from October 6, 2002, through March 31, 2005. Some market participants at these levels frequently handled many nonmeat items; thus, they were asked to provide information on products that contained at least 50% meat by weight.

The following types of data were requested from downstream market participants:

- weekly summaries of purchase or receipt of meat products, by type of meat
- weekly summaries of sales or transfers of meat products to other market entities, by type of meat

Companies that purchased or sold more than one type of meat were asked to provide separate data files for each type of meat (i.e., beef, pork, and lamb). The requested data elements for downstream market participants were substantially fewer because data on product attributes should mirror those for meat product sales from packers and processors. Furthermore,

the data collection did not seek to obtain data on final sales to consumers by retailers and food service operators.

11.2 PRETEST PROCEDURES

To test the usability and respondent's understanding of the instructions and format specifications provided in the instruction booklets, we conducted interviews with GIPSA field staff, conducted interviews with individuals from the target population, and met with industry representatives. Additionally, we reviewed the comments from the study's peer reviewers on the draft instruction booklets. Our pretest procedures are described below.

We conducted telephone interviews with three GIPSA field staff to obtain feedback on the draft instruction booklets for beef packers and pork packers. These individuals are very knowledgeable about the meat packing industry and frequently interact with packers. Based on the interviews with the GIPSA field staff and the written comments from the peer reviewers, we revised the eight versions of the draft instruction booklets.

Next, we conducted interviews with 13 respondents representing the different industry segments (Table 11-1). We sent the pretest respondents the instruction booklet and then conducted telephone interviews to obtain their feedback on the instructions, format specifications, and burden estimate. In November 2004, we met with representatives from the American Meat Institute (AMI), several of its member companies, and representatives for the National Meat Association (NMA) at AMI's offices in Washington, D.C. The primary purpose of this meeting was to obtain feedback on the draft instruction booklets. Subsequent to this meeting, we sent AMI a template on which member companies could indicate which of the requested data items were available, which were available but would be difficult to provide, and which were not available. AMI received 11 completed templates (see Table 11-1), which they forwarded to RTI.

We reviewed the templates and the findings from the pretest interviews and revised the eight versions of the instruction booklets. The instruction booklets were revised to clarify instructions that were confusing to respondents; to clarify the definitions provided for the different types of purchase and sales methods, pricing methods, and other terms used; and to

Table 11-1. Pretest Respondents for the Transactions Data Collection

Industry Segment/Size	Number of Pretest Interviews	Number of Completed Templates
Beef packers	3	1
Lamb packers	2	0
Pork packers[a]	0	5
Processors	2	5
Wholesalers	2	–
Exporters	2	–
Retailers	1	–
Food service operators	1	–
Total	13	11

[a] Although several pork packers were contacted, we were unable to schedule a pretest interview with a pork packer. However, feedback was obtained from pork packers in the meeting with AMI and on the completed templates after the meeting.

reformat certain items to reduce respondent burden. Appendix D in Volume 2 provides copies of the final instruction booklets for the transactions data collection.

11.3 DATA COLLECTION PROCEDURES

We developed and used different data collection procedures for the mandatory (packers and processors) and voluntary (downstream market participants) components of the data collection. We describe our data collection procedures below.

11.3.1 Mandatory Data Collection: Meat Packers and Processors

Response to the transactions data collection was required for meat packers and processors as a special report under the Packers and Stockyards Act (7 U.S.C. § 222). To facilitate compliance with the mandatory data collection, we contacted sampled business units by telephone throughout the data collection period as a reminder to provide the required data by the designated date and to offer assistance with responding to the data request. For firms with more than one plant in the sample, these contacts were generally made to the corporate headquarters, unless otherwise instructed by the company. Three RTI project team members made the outgoing calls to plants and were available to answer incoming calls from plants. Each individual was assigned a set of plants and therefore

made the majority of outgoing and incoming calls to their assigned plants. We developed a control system in Microsoft Excel to track the status of each sampled plant (i.e., call date and outcome, date information packet and transactions data collection packet were sent, and contact information).

The steps in the data collection process are summarized below.

- Beginning on February 13, 2006, we contacted sampled business units by telephone to identify who should receive an information package from RTI containing the prenotice letter from GIPSA, the information form for identifying the responsible person for complying with the data collection, and an information brochure describing the study and our data security procedures (see Appendix E in Volume 2 for copies of these materials). We sent the materials by e-mail, fax, or Federal Express. If we did not receive the completed information form within approximately 5 business days, we contacted the plant to remind them to complete and return the form.
- After receiving the completed information form with the contact information for the responsible person, we sent the transactions data collection materials (instruction booklet, file templates on CD, and materials for sending the data to RTI) via Federal Express.
- Approximately 1 week after the mailing of the transactions data collection materials, we contacted plants by telephone or e-mail to ensure receipt of the package and to inquire if they had any questions about the data request.
- The week of March 27, 2006, we contacted all plants by telephone or e-mail to remind them of the due date for providing the required data.
- The week of April 10, 2006, we contacted plants again to remind them of the due date for the data collection. During these calls, we advised plants that expressed difficulty in meeting the April 14, 2006, deadline to call GIPSA and request a 1-week extension.
- The week of April 17, 2006, we contacted plants that did not meet the original due date and had not requested an extension in order to inquire about the status of their submission and to advise them to contact GIPSA for an extension.
- The week of April 24, 2006, we contacted plants that had not provided data and advised them that we would

notify GIPSA that they did not comply with the mandatory data request.

Throughout the data collection period, we provided a toll-free number and e-mail address that plants could use to contact RTI for assistance in responding to the data request. Many plants contacted RTI during this period with questions on how to comply with the data request.

Upon receipt of the data at RTI, the data were physically and electronically secured, following our data security procedures for the study. Table 11-2 shows the number of plants that provided transactions data, by type of data, and the number of plants that provided useable data. Some plants provided data that we were unable to use in our analysis because the data were in hard copy format or in an electronic format that was incompatible with preparation of the analysis data sets.

Table 11-2. Response to the Transactions Data Collection: Meat Packers and Processors

	Beef Packers	Pork Packers	Lamb Packers	Processors
Initial sample size	60	60	30	50
Revised sample size[a]	37	39	15	45
Provided data on purchases	37	39	12	45
Provided data on sales	33	38	11	25
Provided P&L statement data	37	37	12	20
Provided useable data on purchases	30	28	2	17
Provided useable data on sales	25	22	5	6
Provided useable P&L statement data	25	18	0	0

[a] Excludes plants that were determined to be ineligible for the data collection.

11.3.2 Voluntary Data Collection: Downstream Market Participants

Response to the transactions data collection was voluntary for wholesalers, exporters, retailers, and food service operators. Because the data collection was voluntary, our follow-up efforts were not as intensive as they were for packers and processors. RTI's telephone interviewers made the calls to sampled companies.

Beginning on February 20, 2006, we contacted sampled companies by telephone to identify the individual who should receive an information package from RTI containing the

prenotice letter from GIPSA, the information form for identifying the responsible person for complying with the data collection, and an information brochure describing the study and our data security procedures (see Appendix F of Volume 2 for copies of these materials). We sent the materials by e-mail or fax. We mailed the materials to companies that we were unable to reach by telephone. If we did not receive the completed information form within approximately 15 business days, we sent a postcard as a reminder to complete and return the form.

Only four companies returned the completed information form (Table 11-3). We sent these companies the transactions data collection materials (instruction booklet, file templates on CD, and materials for sending the data to RTI) via Federal Express. Because we believed it was unlikely that companies would provide proprietary data on purchases and sales on a voluntary basis, we did not attempt any follow-up calls with downstream companies. No downstream companies provided transactions data.

Table 11-3. Response to the Transactions Data Collection: Downstream Market Segments

	Wholesalers	Exporters	Retailers	Food Service Operators
Initial sample size	72	46	91	122
Revised sample size	35	31	44	36
Completed information form and received transactions data collection packet	0	2	0	2
Provided data on purchases and sales	0	0	0	0

12 Data Set Preparation for the Transactions and P&L Statement Data Collection

Collecting the transactions data was a complex and time-intensive process. For nearly all plants, we had to contact the plant or company to request clarification on their data or, in many cases, obtain entirely new data sets. Additionally, we found that many companies or plants did not track critical data that were necessary for some of our analyses.

This section describes the procedures used to prepare the data sets for the transactions data and P&L statement data for meat packers and processors. All data set preparation was conducted following our physical and electronic data security procedures. Throughout the study, all analysis data sets were encrypted using PGP software.

For nearly all plants, we had to contact the plant or company to request clarification on their data or, in many cases, obtain entirely new data sets. This demonstrates the complexity of obtaining the data required for conducting the study's analyses and shows that respondents provided substantial cooperation in a very short amount of time. This additional interaction occurred beyond the initial data collection period and delayed us from beginning many of the analyses required for the study.

Furthermore, we found that many companies or plants did not track critical data in their databases. For example, some did not maintain data on the date of purchase or the date of pricing—information that was necessary for some of our analyses. Additionally, some did not record the type of purchase or pricing method used, some did not differentiate the livestock owners' location from the location of the livestock, and some did not segregate shipping and other miscellaneous costs from livestock or total cost.

Below we describe our general rules for preparing the analysis data sets for the purchase transactions data, sales transactions data, and the P&L statement data. Other data set preparation was performed on a case-by-case basis.

12.1 PURCHASE TRANSACTIONS DATA

The general steps we followed to prepare the analysis data sets for the purchase transactions data are summarized below.

- If the data set was not in Excel or Access, we saved the data set to Excel or Access based on the file size (i.e., smaller files were saved to Excel and larger files were saved to Access).
- If the row headers were missing from the data set, we inserted them using the templates provided to respondents.
- We checked the variable format and codes against the specifications provided in the instruction booklet.
- We replaced the plant ID number with the unique survey ID on every record (i.e., observation) so that the transactions data and survey data could be linked.
- We added a company ID number for every record.
- We added the state in which the plant is located to every record.
- We determined if AMA information was available.
  - If no purchase AMA information was available and we were unable to use logical imputation to assign the data, we considered the observation to be unusable.
  - If qualitative information was available, we used it to map AMA data to all observations as appropriate.
  - If AMA information was included in the data set, we verified that data were provided for all fields.
- We checked the cost fields to ensure that total cost equaled the sum of all other costs; if not, we contacted the plant to reconcile the difference.
- To check the accuracy of the volume fields, we summed all of the purchase volumes and compared the total with the maximum capacity for the plant (i.e., maximum capacity times 50 weeks times 2.5 years). If the numbers were not consistent, we contacted the plant to ensure we had all of the available data for the study period.

- If the seller ID number was provided, we added the survey ID in front of the seller ID and then removed the seller name, address, and city (but kept the first three digits of the zip code and the state).
- If the seller ID number was not provided, we created an ID and then removed the name, address, and city (but kept the first three digits of the zip code and the state). The seller ID was equal to the survey ID and a numerical value, concatenated.
- We created a finisher or feedlot ID by concatenating the survey ID and a unique number for each finisher or feedlot name and then removed the finisher or feedlot name, address, and city (but kept the first three digits of the zip code and the state).
- We removed all other identifying information, such as named ranges and file properties.

Additional data set preparation was conducted during the analysis stage.

12.2 SALES TRANSACTIONS DATA

The general steps we followed to prepare the analysis data sets for the sales transactions data are summarized below.

- We imported the data files into SAS.
- We created one data set for each company.
- We checked the variable format and codes against the specifications provided in the instruction booklet.
- For records with negative values for weights or prices, we
  - found the matching record with positive values and deleted both records and
  - deleted any remaining observations with weights or prices less than or equal to zero.
- We suppressed buyer or receiver names that revealed a plant's identity (e.g., internal transfers, employee sales).
- For buyers, we removed the name, address, and city (but kept the first three digits of the zip code and the state).
- For receivers, we removed the name, address, and city (but kept the first three digits of the zip code and the state).

- We removed all other identifying information, such as named ranges and file properties.

Additional data set preparation was conducted during the analysis stage.

12.3 P&L STATEMENT DATA

The general steps we followed to prepare the analysis data sets for the P&L statement data are summarized below.

- We replaced company name and plant name with the survey ID.
- We removed all other identifying information such as named ranges and file properties.

Additional data set preparation was conducted during the analysis stage.

13 References

Dun and Bradstreet (D&B). <http:\www.dandb.com>.

U.S. Department of Agriculture, Food Safety and Inspection Service (USDA, FSIS). 2005. Enhanced Facilities Database. Washington, DC: USDA.

U.S. Meat Export Federation. 2005. *2005 Membership Directory*. Denver, CO: Meat Export Federation.