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A survey of meat slaughtering and processing in West Virginia

John P. Kuehn

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Survey of Meat Slaughtering and Processing West Virginia

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West Virginia University Agricultural Experiment Station

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SUMMARY

This study is part of a series of reports on the West Virginia livestock industry. The objectives were to determine the magnitude and importance of the State's meat slaughtering and processing establishments and to survey the marketing procedures and practices of these firms.

Personnel of 125 of the 126 slaughtering and processing establishments in West Virginia were interviewed. These plants were each classified into one of six different categories: (1) licensed commercial slaughterer-processors; (2) licensed commercial slaughterers; (3) licensed commercial processors; (4) licensed commercial ham and bacon processors; (5) custom slaughterhouses; and (6) custom processing plants.

Most of the slaughtering and processing in West Virginia was for wholesale and retail trade rather than for private custom services. However, custom slaughtering did account for an average of 24 per cent of the total State slaughter, and custom processing accounted for an average of 18 per cent of the total number of animals processed in West Virginia in 1971. Custom slaughtering and processing, however, is a service for an individual who owns the livestock. The slaughterer or processor, in this case, does not buy livestock from one particular source before he processes and sells it to another, as is the practice when self-slaughtering and processing.

The State's meat slaughtering and processing plants acquired most live animals from auctions, farmers, and by raising their own animals, whereas processors most commonly acquired carcasses from commercial wholesalers and their own slaughter plants.

The processors' major outlets for processed and packed meat, in addition to providing custom services, included retail stores owned by processors, restaurants, drive-ins, hotels and motels, institutions, jobbers and wholesalers, and chain stores.

West Virginia is a deficit producer of meat and meat products. Only 18 per cent of the meat consumed in the State was processed there. Furthermore, a proportion of the animals processed was slaughtered outside the State. Thirty-two per cent of the cattle and 12 per cent of the hog carcasses were brought in from outside sources to be processed.

There seems to be potential in the State for an increase in the size of the meat slaughtering and processing industry as well as in the live animal production sector.

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THE AUTHOR

John P. Kuehn is Assistant Agricultural Economist.

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The author expresses appreciation to Mr. Ernest Goff, Research Assistant in the Division of Resource Management, for administering the questionnaire to every respondent in this study.

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Agricultural Experiment Station
College of Agriculture and Forestry
Homer C. Evans, Acting Director
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A Survey of Meat Slaughtering And Processing in West Virginia

JOHN P. KUEHN

A series of studies of the State's livestock industry has been conducted by the West Virginia University Agricultural Experiment Station. The economic aspects of feeder calf production, livestock auctions, livestock transportation, and other facets of livestock marketing have been under continuous study.

The objectives of this study were to determine the magnitude and importance of West Virginia's meat slaughterers and processors and to survey the marketing procedures and practices of these firms.

In order to accomplish these objectives, all but one of the West Virginia meat slaughterers and processors listed with the West Virginia Department of Agriculture were personally interviewed. The complete list consisted of 126 establishments, each fitting under one of six different categories: (1) licensed commercial slaughterer-processors; (2) licensed commercial slaughterers; (3) licensed commercial processors; (4) licensed commercial ham and bacon processors; (5) custom slaughterhouses; and (6) custom processing plants.

These categories are defined in the *West Virginia Code*:

Commercial Slaughterer. a person engaged for profit in this State in the business of slaughtering or dressing animals for human consumption which are to be sold or offered for sale through a commercial outlet or establishment, and shall include a person who, in addition to such commercial slaughtering, also engages in the business of a custom slaughterer;¹

Custom Slaughterer. a person engaged for profit in this State in the business of slaughtering or dressing animals for human consumption which are not to be sold or offered for sale through a commercial outlet, commercial establishment, distributor, or to an individual, and shall include the boning or cutting up of carcasses of such animals and the grinding, chopping and mixing of the carcasses thereof;²

¹*West Virginia Code*, Chapter 19, Article 2-B, Section 2, Volume 7, 1971 Replacement Volume, Charlottesville, Virginia, The Michie Company, 1971, p. 353.

²*Ibid.*

Processor. a person who engages for profit in this State in the business of packing or packaging carcasses, meat, meat food products, or meat by-products for human consumption or a person engaged for profit in the business of curing, salting, smoking, processing, or other preparation of carcasses, meat, meat food products, or meat by-products for human consumption;³

Commercial Processor. a processor for commercial outlets or distributors and shall include the business of custom processing;⁴

Custom Processor. a processor in which the meat, meat food products, or meat by-products derived through processing cannot be sold or offered for sale through a commercial outlet, commercial establishment, distributor, or to an individual;⁵

All processors and slaughterers must be properly licensed by the Commissioner of Agriculture. A fee is charged based on the average annual number of animals slaughtered and/or processed. Each establishment is inspected for cleanliness and sanitary conditions. The equipment must be of a "proper" nature and the Commissioner must be "satisfied that the carcasses, meat, meat food products, or meat by-products to be sold or offered for sale therefrom through commercial outlets will be wholesome and unadulterated...."⁶

All Federally inspected plants are exempted from this licensing requirement since similar procedures are followed by the United States Department of Agriculture. In West Virginia, however, only six of the 126 establishments listed are under Federal Inspection, according to West Virginia Department of Agriculture personnel.

The Questionnaire

Several categories of information were obtained by means of a questionnaire (Appendix) which was administered to a representative of each West Virginia slaughterer and processor. The number of head of each species slaughtered and/or processed for both commercial and custom outlets was determined for each establishment in 1971. Another category of information was used to determine which sources of live animals were more prevalent. This category was also concerned with the nature and existence of any formal contracts or agreements with live animal suppliers. Another section of the questionnaire was concerned with the number and types of outlets slaughterers and processors use to market processed meat and meat products. The last major category of information was concerned with the nature and extent of vertical integration—

³*Ibid.*, p. 354.

⁴*Ibid.*

⁵*Ibid.*

⁶*Ibid.*, Section 4, p. 357.

where slaughterers or processors raise their own live animals and/or sell processed meat through their own retail stores.

Locations of Slaughtering and Processing Establishments

The various types of meat slaughtering and processing plants are distributed somewhat uniformly throughout the State. Table 1 shows the number of each of the six types of establishments and the counties where they are located. This information is also shown on the map in Figure 1. Only 10 counties had no slaughtering or processing establishments.

Number of Animals Slaughtered and Processed

Tables 2 through 12 show the number of animals of each species slaughtered and processed by each type of establishment in 1971. The number of plants conducting slaughtering and processing and the average number of head slaughtered and processed are also shown for that same time period.

The questionnaire was designed to determine the proportion of custom to self slaughtering and processing and what proportion each type of establishment contributed to the total number of animals slaughtered and processed in the State.⁷

Tables 2 and 3 show that licensed commercial slaughterer-processors are primarily self rather than custom slaughterers and processors. They account for the largest share of the State's slaughter of all livestock. They also accounted for the majority of cows, calves, heifers, bulls, and hogs processed in West Virginia in 1971. Furthermore, these plants are diversified in terms of the different species slaughtered and processed. The majority of the establishments in this category slaughter and process most of the six species of livestock included in the questionnaire, although only nine of the 28 plants self slaughter and process calves (Table 3).

Licensed commercial slaughterers conduct only custom and self slaughtering operations. They custom slaughter more cows, calves, steers, and hogs than they self slaughter (Table 4). They account, however, for a relatively small percentage of the State slaughter of all species. Only one plant reported the self slaughtering of calves and only one of the eight plants in the category reported the self slaughter of bulls (Table 5).

Licensed commercial processors conduct only custom and self processing operations. They carry on more self processing than custom processing and account for varying proportions of the State's total processing (Table 6). None

⁷The term "self slaughter" is used to describe the activity of slaughtering or processing livestock which are owned by the particular establishment and which are sold as packed or processed meat on the open market. "Custom slaughtered" or processed animals are not owned by the establishment and are not sold on the open market.

of the 16 plants reported the self processing of calves. All of the reporting plants,⁸ however, self processed steers which accounted for 41 per cent of the total number processed in the State (Table 7).

Custom slaughterhouses carry on both custom and self-slaughtering and processing operations. However, custom slaughtering and processing account for a significant proportion of the total number of animals slaughtered and processed (Table 8). Thirty-two per cent of the calves slaughtered in the State are slaughtered—and 33 per cent are processed—by custom slaughterhouses. Few of the 31 custom slaughterhouses self slaughter and process livestock, except in the case of hogs where 12 plants self slaughter and 15 plants self process (Table 9).

Custom processors conduct only custom and self processing operations. The 34 establishments custom process more calves, bulls, and hogs than they self process but they self process more cows, heifers, and steers than they custom process. Their total processing accounts for a relatively small percentage of the State's total, since most of these establishments are small independent groceries (Tables 10 and 11).

Licensed commercial ham and bacon processors were not included in State totals because these establishments usually purchase from packers hams and bacon which they then process for wholesale and retail markets. In 1971, the eight reporting establishments in this category processed 18,170 hams—9,204 for wholesale outlets, 8,570 for retail outlets, and 396 for custom processing. These establishments reported the processing of 310 bacons—190.5 for wholesale outlets, 47.5 for retail outlets, and 72 for custom processing.

In Table 12 the totals for both custom and self slaughtering and processing of livestock by all reporting establishments in West Virginia in 1971 are shown. The majority of both the slaughtering and processing is self rather than custom trade. However, custom slaughtering accounted for an average of 24 per cent of the total State slaughter, and custom processing accounted for an average of 18 per cent of the total processing in West Virginia.

In the cases of cows, heifers, steers, and hogs, more animals were processed than were slaughtered in licensed West Virginia establishments. This implies that 25 per cent of the cows processed, 23 per cent of the heifers, 46 per cent of the steers, and 12 per cent of the hogs came from sources other than West Virginia slaughter plants.

Primary Sources of Live and Slaughtered Livestock

Table 13 shows the sources of live animals and carcasses listed as primary sources by each category of slaughtering and processing plant. Each plant was

⁸Sixteen of the 17 commercial processors reported by the West Virginia Department of Agriculture to be licensed in 1971 were included in this survey.

asked to list its major sources which usually consisted of one to four separate sources of supply.

Commercial slaughterer-processors used auction markets primarily. Farmers provided the next most often used source of animals. Commercial processors reported that commercial wholesalers were the most common source of carcasses. Custom slaughterhouses, in addition to performing a service for private individuals, commonly reported raising their own livestock. Custom processors most commonly performed the service for private individuals, and ham and bacon processors all reported commercial wholesalers to be their major suppliers.

Contracts and Agreements. The use of verbal agreements and written contracts has been growing in the United States livestock industry. However, the extent of the growth in many areas has not been determined. A question on this subject was therefore added to the questionnaire.

In West Virginia, only one establishment reported having a verbal agreement and only one other establishment reported the use of a written contract. These included one commercial slaughterer-processor who reported having a verbal agreement with a cattle feeder and one commercial processor who reported a written contract with packers for carcasses. In each case the agreement and contract was used to insure a more stable supply of live animals and carcasses.

Vertical Integration. This marketing practice, generally credited as insuring a more stable supply of live animals and carcasses as well as providing a stable outlet for packed and processed animals, can be defined as a situation where one person or firm owns more than one stage of the production and/or marketing process. Examples of this were evident in this West Virginia survey. Several reporting establishments raise their own breeding stock, feeder animals, or finished animals (Table 14). There were also several firms which reported selling processed or packed meat through their own retail stores (Table 15).

Table 14 shows the number of establishments reporting a subsidiary enterprise of raising their own livestock. Licensed commercial slaughterer-processors reported raising their own breeding stock, feeder pigs, feeder cattle, finished slaughter hogs, and finished slaughter cattle. Licensed commercial slaughterers also reported the same activities. Commercial processors, on the other hand, raised none of their own animals. However, three of these establishments reported that they slaughtered animals in their own slaughter plants (Table 13). Custom slaughterhouses reported raising their own animals in each of the listed categories. Three custom processing plants reported raising breeding stock, four reported raising feeder cattle, and one reported the finishing of slaughter cattle. Only one ham and bacon processor reported a subsidiary enterprise and in this case it was that of raising feeder cattle.

Primary Outlets for Packed Processed Meat

Table 15 shows the number of plants reporting their major outlets for

packed and processed meat. Most plants reported several major outlets. Commercial slaughterer-processors reported their own retail stores as one of their primary outlets. This is an example of another case of vertical integration discussed earlier. These plants also reported the selling of packed and processed meat to drive-ins and restaurants. Commercial slaughterers used their own retail stores primarily. Commercial processors sold mainly to restaurants and institutions. Custom slaughterhouses and custom processing plants performed a service for individual patrons by slaughtering or processing their animals. However, three custom slaughterhouses and 16 custom processors operated their own retail stores. Ham and bacon processors sold primarily to restaurants, motels, and hotels.

Production Versus Consumption of Meat in West Virginia

One of the objectives of this report was to determine the magnitude and importance of the meat slaughtering and processing industry in West Virginia. The results of this survey were designed to be used for estimating how much of the meat consumed in the State is produced in the State and how much is acquired from outside sources.

In order to provide this estimate, the following data and assumptions were necessary:

- (1) The West Virginia population in 1971 was estimated to be 1,755,000 people.⁹
- (2) The United States per capita consumption of meat in 1971 was estimated to be:¹⁰

Beef	<u>113.0 pounds per person</u>
Veal	2.7 pounds per person
Pork	73.0 pounds per person
Lamb and Mutton	<u>3.1 pounds per person</u>

It was assumed that West Virginia per capita consumption would be similar to the United States average.

- (3) The average live weights of livestock in West Virginia in 1971 were:¹¹
Cattle	1,007 pounds per head
Calves	227 pounds per head
Hogs	249 pounds per head
Sheep and Lambs	102 pounds per head

⁹*Sales Management, The Marketing Magazine*, Vol. 109, No. 1, New York, Bill Publications, July 10, 1972, p. B-4.

¹⁰*National Food Situation*, NFS-145, Economic Research Service, United States Department of Agriculture, Washington, D. C., August, 1973, p. 15.

¹¹*Monthly Livestock Report*, West Virginia Crop Reporting Service, West Virginia Department of Agriculture, January 30, 1973.

- (4) The United States average dressing yields of livestock in 1971 were:¹²
Cattle	59.5 per cent
Calves	56.3 per cent
Hogs	77.1 per cent
Sheep and Lambs	49.2 per cent
- (5) From Table 12, the following numbers of animals were processed in West Virginia in 1971.

Unit	Number of Head Processed	Pounds of Meat Per Head	Total Pounds of Meat Processed in W. Va.
Cattle	104,287	599	62,407,913
Calves	4,139	128	529,792
Hogs	101,131	192	19,417,152
Lambs	3,400 ¹³	50	170,000

The number of pounds of meat per head was determined by multiplying dressing yields (Step 4) by average live weights (Step 3). The total number of pounds processed in West Virginia was determined by multiplying the number of head processed by the number of pounds of meat per head.

- (6) The total number of pounds of meat processed in West Virginia was divided by the West Virginia population to determine the number of pounds of West Virginia meat consumed per person.¹⁴

¹²*Livestock and Meat Statistics*, Stat. Bull. No. 522, Washington, D. C., E.R.S., S.R.S., A.M.S., United States Department of Agriculture, July, 1973, p. 193-194.

¹³Sheep and lamb processing in West Virginia was not determined by the questionnaire. In order to provide an estimate of production and consumption, however, the figure of 3,400 lambs slaughtered in West Virginia in 1971 was used from *Monthly Livestock Report*, *op. cit.* It should also be noted that on-the-farm slaughter of livestock was omitted from the analysis.

¹⁴Since only six of the 126 slaughtering and processing firms in West Virginia were Federally inspected, it was assumed that all meat produced in West Virginia was consumed in West Virginia. Non-Federally inspected meat may not cross state lines according to Federal law.

Unit	Processed Meat in W. Va. Per Person	U.S. Average Meat Consumption Per Person ¹⁵	Meat Consumed but not Produced in W. Va. Per Person
<i>Pounds</i>			
Cattle	35.19	113.0	77.81
Calves	0.30	2.7	2.41
Hogs	10.94	73.0	62.06
Lambs	0.10	3.1	3.00

The amount of meat consumed but not produced in West Virginia was determined by taking the difference between the United States average per capita consumption and the West Virginia per capita production of processed meat.

- (7) Assuming the deficit (amount of meat consumed but not produced in West Virginia) was made up by processed animals from out-of-state the total number of processed animals "imported" was determined by first multiplying the deficit per capita consumption by the number of people in West Virginia. This total number of pounds imported was then divided by the number of pounds of meat per head from Step 5 to determine the number of processed animals that were brought in from outside West Virginia:

Unit	Meat Consumed but not Produced in West Virginia (Per Person)	West Virginia Population in 1971	Total Pounds Imported	Pounds of Meat Per Head Processed	Number of Processed Animals Imported
Cattle	77.81	X	1,775,000 =	138,112,750 ÷	599 = 230,572
Calves	2.40	X	1,775,000 =	4,260,000 ÷	128 = 33,281
Hogs	62.06	X	1,775,000 =	110,156,500 ÷	192 = 573,732
Lambs	3.00	X	1,775,000 =	5,325,000 ÷	50 = 106,500

- (8) The number of processed animals brought in from out-of-state can then
 ✱ be compared to the number of animals processed within West Virginia:

¹⁵From Step 2 above.

Unit	Number of Animals Processed in West Virginia ¹⁶		* Number of Animals Which were Estimated to be Imported	Total Number of Animals Estimated to be Consumed in West Virginia in 1971	
	Number	Per Cent of Total	Number	Per Cent of Total	Number
Cattle	104,287	31	230,572	69	334,859
Calves	4,139	11	33,281	89	37,420
Hogs	101,131	15	573,732	85	674,863
Lambs	3,400	3	106,500	97	109,900

West Virginia processes only an average of 18 per cent of the total meat consumed in the State. Eighty-two per cent of the processed meat is brought in from out-of-state. Furthermore, (from Table 12) the carcasses of 9,770 cattle, 4,519 heifers, 19,497 steers, and 12,056 hogs were brought from sources outside West Virginia to be processed in West Virginia plants.

* West Virginia processes a relatively small percentage of the amount of meat it consumes. There is potential for an increase in the size of the meat slaughtering and processing industry in the State as well as in the live animal production sector. In order to determine the feasibility of these implications, however, the economic efficiency of West Virginia firms must be compared to that of out-of-state competition.

Research is now underway to determine the nature of West Virginia's meat consumption behavior, and further research is planned to determine specific means of improving the slaughtering and processing sector of the State's livestock economy.

¹⁶From Table 12.

Figure 1. Location of Livestock Slaughtering and Processing Establishments by County in West Virginia, 1971.

Location by Counties of West Virginia Livestock Slaughtering and Processing Firms by Type
of Establishment, 1971.

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County	Licensed Commercial Slaughterer- Processors	Licensed Commercial Slaughterers	Licensed Commercial Processors	Custom Slaughterhouses	Custom Processing Plants	Ham and Bacon Processors
Barbour	1					
Berkeley	3		1	2		2
Boone						
Braxton					2	
Brooke						
Cabell	2	1	1		2	
Calhoun						
Clay						
Doddridge						
Fayette	1					
Gilmer					1	1
Grant				1		
Greenbrier	1	1	1	1	4	1
Hampshire				1		
Hancock			1		2	
Hardy		1		1		1
Harrison	3	1	1		1	
Jackson				1		
Jefferson	1					

(continued on next page)

Table 1 (continued)

County	Licensed Commercial Slaughterer- Processors	Licensed Commercial Slaughterers	Licensed Commercial Processors	Custom Slaughterhouses	Custom Processing Plants	Ham and Bacon Processors
Kanawha	3		2	1		1
Lewis				1		
Lincoln				1		
Logan			1			
McDowell				1		
Marion	1			2		
Marshall				2	1	
Mason	1				1	
Mercer	1		1		4	
Mineral	1	1		1		
Mingo			1	1		
Monongalia	2			1		
Monroe						
Morgan						
Nicholas					3	
Ohio	2		1			
Pendleton					2	
Pleasants				1		
Pocahontas	1					
Preston		2	1	3		

Putnam				1	1	
Raleigh	2		2		1	1
Randolph		1			1	
Ritchie					1	
Roane					1	
Summers					1	
Taylor				1		
Tucker						
Tyler				1		
Upshur			1	2		1
Wayne			1	1		
Webster					2	
Wetzel				1	2	
Wirt						
Wood	2			2	1	
Wyoming						
Total	28	8	16	31	34	8

TABLE 2
Total and Proportional Custom and Self Slaughtering
and Processing of Livestock by 28 Licensed Commercial
Slaughterer-Processors in West Virginia, 1971.

Species	Custom		Self		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of State
<i>Slaughtered</i>						
Cows	1,920	8	23,674	92	25,594	89
Calves	770	34	1,515	66	2,285	53
Heifers	1,917	16	9,858	84	11,775	79
Steers	1,968	11	15,612	89	17,580	77
Bulls	250	8	3,032	92	3,282	82
Hogs	4,685	6	68,807	94	73,492	83
<i>Processed</i>						
Cows	1,734	7	23,774	93	25,508	66
Calves	653	30	1,515	70	2,168	52
Heifers	1,599	14	9,799	86	11,398	59
Steers	1,677	10	15,591	90	17,268	41
Bulls	194	6	3,032	94	3,226	81
Hogs	4,572	6	72,230	94	76,802	76

TABLE 3

Number of Licensed Commercial Slaughterer-Processors
Reporting Custom and Self Slaughtering and Processing
and the Average Number of Livestock Slaughtered and
Processed per Plant in West Virginia, 1971.^a

Species	Custom		Self	
	Number of Plants	Average Number of Head	Number of Plants	Average Number of Head
<i>Slaughtered</i>				
Cows	18	107	22	1,076
Calves	14	55	9	168
Heifers	24	80	24	411
Steers	23	86	23	679
Bulls	17	15	17	178
Hogs	22	213	21	3,276
<i>Processed</i>				
Cows	18	96	22	1,081
Calves	14	47	9	168
Heifers	23	70	24	408
Steers	22	76	23	678
Bulls	14	14	17	178
Hogs	21	218	23	3,140

^aEach of the 28 commercial slaughterer-processors reported by the West Virginia Department of Agriculture to be licensed in 1971 was included in this survey.

TABLE 4
Total and Proportional Custom and Self Slaughtering of
Livestock by Eight Licensed Commercial Slaughterers in
West Virginia, 1971.

Species	Custom		Self		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of State
Cows	577	57.0	432	43.0	1,009	4.0
Calves	606	98.0	12	2.0	618	14.0
Heifers	535	37.0	903	63.0	1,438	10.0
Steers	665	66.0	347	34.0	1,012	4.0
Bulls	30	37.5	50	62.5	80	2.0
Hogs	2,742	85.0	496	15.0	3,238	4.0

TABLE 5
Number of Licensed Commercial Slaughterers Reporting Custom
and Self Slaughtering and the Average Number of Livestock
Slaughtered Per Plant in West Virginia, 1971.^a

Species	Custom		Self	
	Number of Plants	Average Number of Head	Number of Plants	Average Number of Head
Cows	7	82	5	86
Calves	4	152	1	12
Heifers	7	76	8	113
Steers	7	95	7	50
Bulls	4	8	1	50
Hogs	7	392	5	99

^aEach of the eight commercial slaughterers reported by the West Virginia Department of Agriculture to be licensed in 1971 was included in this survey.

TABLE 6
Total and Proportional Custom and Self Processing of
Livestock by 16 of 17 Licensed Commercial Processors in
West Virginia, 1971.

Species	Custom		Self		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of State
Cows	192	3	7,166	97	7,358	19.00
Calves	2	100	—	—	2	0.05
Heifers	77	2	4,532	98	4,609	24.00
Steers	180	1	17,326	99	17,506	41.00
Bulls	29	42	40	58	69	1.74
Hogs	146	2	9,156 ^a	98	9,302 ^a	9.00

^aSelf hog processing was reported by licensed commercial processors in the form of total pounds rather than the total number of head. In order, therefore, to maintain consistency with the rest of the data in this report, total poundage was converted to number of head processed in the following manner:

1. The average dressing yield of hogs in the United States in 1971 was 77.1 per cent (*Livestock and Meat Statistics*, Statistical Bulletin 522, E.R.S., S.R.S., A.M.S., United States Department of Agriculture, July, 1973, p. 194).
2. The average liveweight of hogs slaughtered in West Virginia commercial plants in 1971 was 249 pounds (*Monthly Livestock Report*, West Virginia Crop Reporting Service, West Virginia Department of Agriculture, January 30, 1973).
3. 1,757,840 pounds were reported to have been processed in 1971. This figure converts to 9,156 head, based on the assumptions of a 77.1 per cent dressing yield and 249 pounds average liveweight.

TABLE 7
Number of Licensed Commercial Processors Reporting Custom
and Self Processing and the Average Number of Livestock
Processed Per Plant in West Virginia, 1971.^a

Species	Custom		Self	
	Number of Plants	Average Number of Head	Number of Plants	Average Number of Head
Cows	7	27	11	651
Calves	1	2	—	—
Heifers	5	15	11	412
Steers	5	36	16	1,083
Bulls	3	10	2	20
Hogs	4	37	15 ^b	610 ^b

^aSixteen of the 17 commercial processors reported by the West Virginia Department of Agriculture to be licensed in 1971 were included in this survey.

^bSee footnote a, Table 6.

TABLE 8
Total and Proportional Custom and Self Slaughtering and
Processing of Livestock by 31 Custom Slaughterhouses
in West Virginia, 1971.

Species	Custom		Self		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of State
<i>Slaughtered</i>						
Cows	2,101	99.0	20	1.0	2,121	7.0
Calves	1,374	99.6	6	0.4	1,380	32.0
Heifers	1,475	91.0	143	9.0	1,618	11.0
Steers	4,173	95.0	208	5.0	4,381	19.0
Bulls	629	98.0	10	2.0	639	16.0
Hogs	12,176	99.0	169	1.0	12,345	14.0
<i>Processed</i>						
Cows	2,056	90.0	230	10.0	2,286	6.0
Calves	1,375	99.6	6	0.4	1,381	33.0
Heifers	1,240	83.0	262	17.0	1,502	8.0
Steers	4,020	92.0	342	8.0	4,362	10.0
Bulls	609	98.0	10	2.0	619	16.0
Hogs	10,869	95.0	531	5.0	11,400	11.0

TABLE 9
Number of Custom Slaughterhouses Reporting Custom and
Self Slaughtering and Processing and the Average Number of
Livestock Slaughtered and Processed per Plant in
West Virginia, 1971.^a

Species	Custom		Self	
	Number of Plants	Average Number of Head	Number of Plants	Average Number of Head
<i>Slaughtered</i>				
Cows	27	78	1	20
Calves	23	60	1	6
Heifers	27	55	7	20
Steers	29	144	8	26
Bulls	24	26	1	10
Hogs	30	406	12	14
<i>Processed</i>				
Cows	25	82	3	77
Calves	22	63	2	3
Heifers	25	50	9	29
Steers	27	149	12	29
Bulls	24	25	1	10
Hogs	28	388	15	35

^aEach of the 31 custom slaughterers reported by the West Virginia Department of Agriculture to be in operation in 1971 was included in this survey.

TABLE 10
Total and Proportional Custom and Self Processing of
Livestock By 34 Custom Processors in West Virginia, 1971.

Species	Custom		Self		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
Cows	1,084	32	2,258	68	3,342	9
Calves	588	100	—	—	588	14
Heifers	909	49	932	51	1,841	10
Steers	1,257	38	2,077	62	3,334	8
Bulls	58	98	1	2	59	1
Hogs	2,564	71	1,063	29	3,627	4

TABLE 11
Number of Custom Processors Reporting Custom and Self Processing
and the Average Number of Livestock Processed per Plant
in West Virginia, 1971.^a

Species	Custom		Self	
	Number of Plants	Average Number of Head	Number of Plants	Average Number of Head
Cows	25	43	12	188
Calves	17	35	—	—
Heifers	27	34	11	85
Steers	32	39	18	115
Bulls	12	5	1	1
Hogs	31	83	13	82

^aEach of the 34 custom processors reported by the West Virginia Department of Agriculture to be in operation in 1971 was included in this survey.

TABLE 12
Total and Proportional Custom and Self Slaughtering and
Processing of Livestock by all Reporting Establishments^a
in West Virginia, 1971.

Species	Custom		Self		Total Number
	Number	Per Cent of Total	Number	Per Cent of Total	
Slaughtered					
Cows	4,598	16	24,126	84	28,724
Calves	2,750	64	1,533	36	4,283
Heifers	3,927	26	10,904	74	14,831
Steers	6,806	30	16,167	70	22,973
Bulls	909	23	3,092	77	4,001
Hogs	19,603	22	69,472	78	89,075
Processed					
Cows	5,066	13	33,428	87	38,494
Calves	2,618	63	1,521	37	4,139
Heifers	3,825	20	15,525	80	19,350
Steers	7,134	17	35,336	83	42,470
Bulls	890	22	3,083	78	3,973
Hogs	18,151	18	82,980 ^b	82	101,131 ^b

^aThese include 28 licensed commercial slaughterer-processors, 8 licensed commercial slaughterers, 16 of 17 licensed commercial processors, 31 custom slaughterhouses, and 34 custom processors.

^bSee footnote a, Table 6 for explanation of the derivation of this total.

TABLE 13

**Primary Sources of Live and Slaughtered Livestock for Slaughtering and Processing
by all Reporting Establishments in West Virginia, 1971.^a**

Sources	Number of Establishments Reporting Sources					Ham and Bacon Processors
	Commercial Slaughterer- Processors	Commercial Slaughterers	Commercial Processors	Custom Slaughterhouses	Custom Processing Plants	
Auctions	27	7		3		
Farmers	10	3				
Raise Own	3	2				
Slaughter Own			3	12		
Other Slaughter Plant			1		1	
Commission Buyers	2					
Commercial Wholesalers			12	4		8
Private Owners for Custom Slaughter				31		
Private Owners for Custom Processing					33	

^aThese include 28 licensed commercial slaughterer-processors, 8 licensed commercial slaughterers, 16 of 17 licensed commercial processors, 31 custom slaughterhouses, and 34 custom processors. Each establishment indicated its major sources of supply. In many cases there was more than one major source for a given plant.

TABLE 14
Number of Establishments Reporting a Subsidiary Enterprise of Raising Their
Own Livestock in West Virginia, 1971.

Enterprise	Number of Establishments					
	Commercial Slaughterer- Processors	Commercial Slaughterers	Commercial Processors	Custom Slaughterhouses	Custom Processing Plants	Ham and Bacon Processors
Breeding Stock	7	2	0	10	3	0
Feeder Pigs	3	1	0	1	0	0
Feeder Cattle	7	3	0	8	4	1
Finish Slaughter Hogs	7	1	0	3	0	0
Finish Slaughter Cattle	8	5	0	1	1	0

TABLE 15
Primary Outlets for Packed and Processed Meat by all Reporting Establishments in
in West Virginia, 1971.

Outlet	Number of Establishments Reporting Outlets					
	Commercial Slaughterer- Processors	Commercial Slaughterers	Commercial Processors	Custom Slaughterhouses	Custom Processing Plants	Ham and Bacon Processors
Own Retail Store	13	4		3	16	
Chain Stores	3	1				
Drive-Ins	10		9			
Restaurants	17		15			7
Motels and Hotels	3		7			6
Custom for Home Freezers	1	1		30	31	
Institutions	2		11			2
Jobbers and Wholesalers	2	2			1	

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APPENDIX (questionnaire)
CONFIDENTIAL
DIVISION OF RESOURCE MANAGEMENT
WEST VIRGINIA UNIVERSITY

Record _____
 Enumerator _____
 Date _____

Name _____
 Address _____

 Classification _____

Animal Output

	Cows	Calves	Heif- ers	Steers	Bulls	Hogs
1. A. Slaughter 1. custom 2. self (a) source						
B. Process 1. custom (a) source 2. self (a) source						
C. Other 1. explain						

2. What is your primary outlet for slaughtered and/or processed beef? pork?

3. Do you have any formal contracts ☐]
 agreements ☐] with:

Breeding stock producers ☐]

Feeder pig producers ☐]

Feeder cattle producers ☐]

Swine finishers ☐]

Cattle feeders ☐]

Feed dealers ☐]

Packers ☐]

4. Please explain why you **do** or **do not** use formal contracts or agreements:

5. When did you begin using formal contracts _____ ?
 agreements _____ ?

6. Do you plan to initiate or expand the use of formal contracts or agreements in the near future? (Please explain fully)

(continued on next page)

7. Do you:

raise breeding stock []

raise feeder pigs []

raise feeder cattle []

finish slaughter hogs []

finish slaughter cattle []

other _____

(explain)

8. Please explain why you do or do not carry on any of the activities listed above: _____

9. When did you begin:

raising breeding stock _____?

raising feeder pigs _____?

raising feeder cattle _____?

finishing slaughter hogs _____?

finishing slaughter cattle _____?

other _____?

(explain)

10. Do you plan to initiate or expand any of the activities listed above in the immediate future? (Please explain fully). _____

11. What per cent of the following items do you obtain from the indicated sources:

	Formal Contract	Agreement	Raise Yourself
Breeding stock			
Feeder pigs			
Feeder cattle			
Slaughter hogs			
Slaughter cattle			
Feed			
Other			

(Notes)

12. If no copy(ies) of your contract(s) is(are) available, please complete applicable portions of the remainder of this schedule.

(continued on next page)

13. General requirements of Contract — complete one for each species and type of contract.

1. Production items

Production Item	Provided by —		Notes
	Contractee	Contractor	
Physical facilities-----			
Labor-----			
Breeding stock-----			Basis of charge to contractee
Utilities-----			
Feeder animals-----			Charge to contractee
Credit for feeder animals-----			Interest rate or carrying charge
Feed-----			Charge to contractee
Credit for feed-----			Interest rate or carrying charge

Feed deliveries-----	:	:	:
	:	:	:
Market outlet-----	:	:	:
	:	:	:
Veterinary service and medicines-----	:	:	:
	:	:	:
Transportation-----	:	:	:
	:	:	:

14. What basis is used for paying the contractee? Explain in complete detail.

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