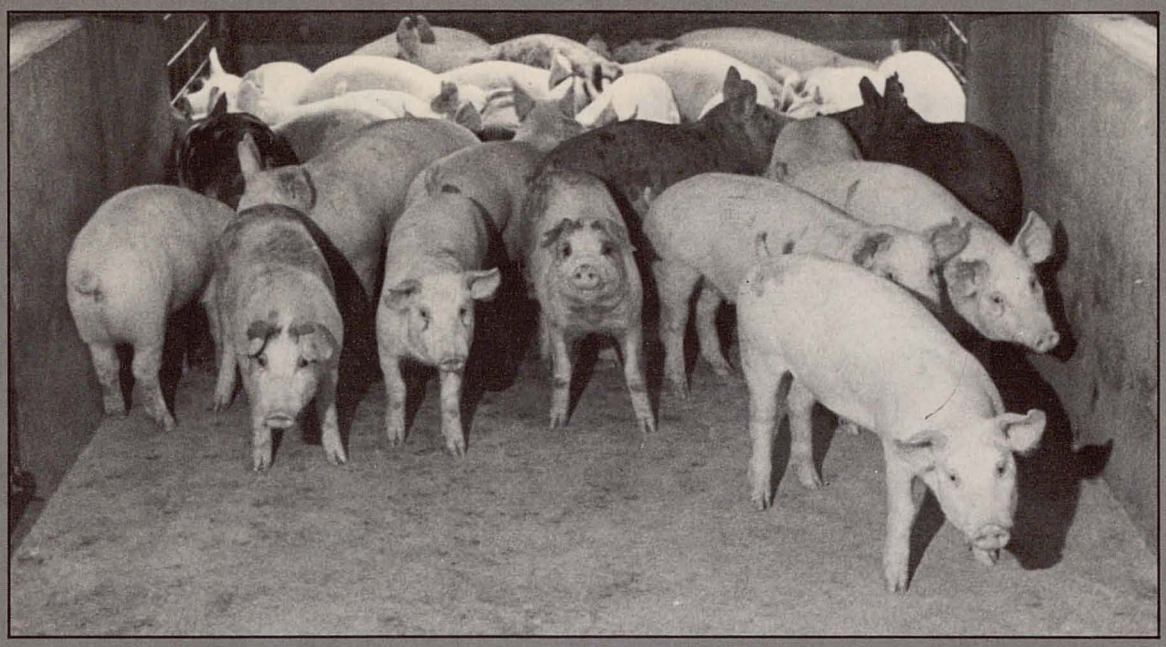

Medium Size and Larger U.S. Hog Producers

University of Missouri-Columbia
Agricultural Experiment Station

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Medium Size and Larger U.S. Hog Producers

by

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Since 1975, we have cooperated with the staff of *Hog Farm Management* magazine in periodic surveys of the nation's larger hog producers. This report summarizes data gathered in early 1984 on hog units marketing 3,000 head or more per year.

Our survey estimates a total of 4,264 medium and larger U.S. hog producers marketed a total of 23,200,000 hogs and pigs in 1983 (Tables 1 and 2). For convenience, we will designate the medium size producers (3,000 to 4,999 marketed) as the 3-4 size, the large size (5,000 to 9,999) as the 5-9 size and the largest size (10,000 and more) as the 10+ size.

Those who have read our previous studies[1] will recognize that these numbers represent fewer producers and marketings than before. The change is in the method of estimation rather than in the hog population. Put bluntly, our previous estimates were about double what our present estimates yield. While we warned readers in 1981 our estimates were about double the U.S. Census figures, they were our best effort at the time.

Here's what we changed. Any estimation method based on sampling uses multipliers. For example, if we drew a sample of one-third of a hog population, if one-half the sample responded, and if we found 300 operations of "X" size, we would multiply 3 times 2 times 300 to estimate a total of 1,800 operations of "X" size. Our problem is we sampled from a list of magazine subscribers rather than a list of hog operations. There are more subscribers than hog operations because two or more subscribers are sometimes associated with a given hog operation. We have not had data on subscribers per hog operation in previous studies. We collected that information in our last survey and that reduced greatly our multipliers compared to earlier studies. The main difference in results is in estimating totals. Average and percentage differences are very little affected by the size of multipliers. See Appendix A for a description of the sampling methodology and sample sizes.

Our total estimates for 1982 do not differ greatly from the totals in the 1982 Census. On one hand, our estimates should be smaller because the reader list of a trade magazine cannot include all the medium and larger hog producers. On the other hand, our method of size classification yields larger sizes than the Census method. We asked marketing data for 1981, 1982, 1983, and projected for 1984. If a unit's marketings were 5,000 or more in any one of those four years, it was classed 5-9. The Census would only classify it 5-9 if it had marketings of 5,000 or more in 1982 regardless of its marketings in other years. Table 3 indicates the difference made by the two methods of size classification. Using the Census one-year method to classify these data would reduce our estimated marketings by 14 percent and estimated number of units by 37 percent. Moreover, our analysis deliberate-

The assistance of Robert Jordan in computer analysis is gratefully acknowledged.

[1]For earlier surveys see *U.S. Hog Producers: Size Comparisons*, University of Missouri Agricultural Experiment Station Special Report 299, June 1983, and *Large and Medium Volume Hog Producers: A National Survey*, University of Missouri Agricultural Experiment Station Special Report 223, February, 1979.

ly excluded the half-million-head Tyson Food operation in order to avoid using a multiplier on the nation's largest known operation.

We have no way of appraising the relative reliability of our data compared to the Census. Because the Census effort involves hundreds of times as many resources, it is reasonable to assume its superiority. Our main interest in these surveys is to provide other data than that provided by the Census. Where our data overlaps, we have been able to provide it in a more timely fashion.

Location

About 80 percent of these units and 74 percent of the total marketings are located in the two North Central Regions and the Northeast (Tables 1 and 4). This distribution shows larger shares for those regions than was found in the 1981 survey. The larger the units, the greater the percentage of marketings outside the North Central-Northeast (NC-NE) area. Put another way, the 10 + group has nearly three-fifths of these marketings in the rest of the nation (RON) while having slightly more than one-third for the ENC-NE area (Table 5).

Organization

Not surprisingly, organization type is related to size of unit. As shown in Table 6, the percentage of corporations rises sharply with size while the percentage of individual proprietorships fell to only 15 percent for the 10+ size group. The distribution of marketings by various types is more related to unit size. Nearly 70 percent of the total marketings in 1983 of the 10+ groups were by corporations, including the sow cooperatives (Table 7).

Marketing mix

The major choice of hog producers is between selling slaughter hogs or feeder pigs. Most units will also sell cull breeding stock as 2 to 3 percent of total marketings. Many units also sell some hogs as breeding stock, although the average percentage runs only 1 to 2 percent for most groupings. The percentage of marketings as feeder pigs ranged from 6.5 percent of the ENC 3-4 group to 27 percent of the WNC 5-9 and 10+ groups (Table 8). Nationally the larger the units the higher the percentages of feeder pig sales (Table 9).

Hog production units tend to specialize as farrow to finish (FF) or pig producers (PP) or pig finishers (PF), although a few units engage in two or more of these activities. Pig producers marketed about one-fourth as many pigs as FF producers marketed hogs. However, pig producer marketings were much more important in the WNC region (especially among 10+ size units) than in other regions (Table 10).

While very large units of 15 years ago used to have lower farrowing ratios because several specialized in pig finishing and almost none in pig production, that pattern has changed. There is very little difference in farrowing percentages by size group (Table 11). The WNC region has the most relative specialization in pig finishing so it has the lowest percentage farrowing of the three regions (Table 11).

Capacity production and facility expansion

These units were operating in 1983 at close to full capacity. The 10+ group was operating at the fullest capacity—97 percent—while the 5-9 group was least full at 89 percent (Table 12). The percentage utilization of capacity was not systematically related to age of the unit. The 1983 percentage utilization of capacity was slightly larger for each size group than in our last survey of 1980 marketings, another year of high national slaughter.

Producers were asked to indicate specific facilities they expanded (or first constructed) in 1983. The percentages of units that had expanded at least one facility were: 3-4 size 44 percent, 5-9 size 43 percent, and 10+ size 60 percent (Table 13). Less than 10 percent of the producers admitted that a need to reduce their income taxes encouraged facility expansion in 1983.

Growth in marketings

Those operations providing marketing data for both 1981 and 1983 were compared regarding the growth in marketings during that period. The 5-9 units grew fastest—28 percent, the 3-4 units were next at 17 percent and the 10+ units grew 15 percent in the two years (Table 14). The newest units (established 1976-80) constantly grew faster than the older units, as was true in our 1981 survey. Units begun in 1982-83 contributed about 10 percent of the increased marketings 1981 to 1983 of these groups (Table 15).

Feed situation

As hog units grow larger and more specialized, some do not produce any feed grain at all. However, those units below 10,000 head marketed still produce a bit more than one-half of their feed grain needs (Table 16). Note that average degree of feed self-sufficiency falls as size increases and is higher in the North Central regions than elsewhere. These results by both size and region are generally consistent with our previous *HFM* surveys.

Larger units can easily economically justify their own feed-grinding facilities. On the other hand, larger

units less frequently raise most or all of their own feed grain needs. Will they rely more or less on complete feeds than smaller units do? The question was asked: "Which commercial feed do you buy for these uses?" The listed choices were: Complete ration, supplemental concentrates, and pre-mix. Within these size groups, size has only a small influence on kind of commercial feed purchased (Table 17). Pre-mix was the most frequent choice for sows and for finishing rations for all size groups, with supplements coming in second. Usage of the pre-mix declined with size of unit while usage of a complete ration rose. The complete ration and pre-mix were neck and neck favorites for pig starter rations with no systematic relation of usage to size of unit. This pattern of results is reasonably similar to that reported in the 1981 survey. In the 1981 survey, it was found older units were less likely than newer units to buy complete feeds. That same tendency was found again in this survey (Table 18) and it was particularly strong for the 10+ units.

The source of feed was also investigated. Feed dealers were a majority source of all three rations for the 3-4 and 5-9 groups but not for the largest group, which generally buys direct from the manufacturers or from a sales representative (Table 19).

Specialization of production

Hog and pig sales generally constitute a majority of gross sales of these units. The percentage relationship did not vary much by region but did rise as size of unit was larger (Table 20). The newer large units tend to have a greater reliance on hog sales than the older ones as illustrated by the data for the WNC region (Table 21).

Net financial results

For 1982 and 1983, respondents indicated whether their net financial results were profits, breakeven, or losses. Because hog prices were better in 1982 than in 1983, the 1982 results showed a higher ratio of profit reports to loss reports. Results were not greatly different by size, although the 10+ group had the highest ratio of profit reports to loss reports in both years (Table 22). Except for the 3-4 group in 1983, all other size-year combinations had a majority reporting profits.

Marketing of slaughter hogs

"Do you routinely contact one or more buyers for bids or price quotations before marketing hogs?" About one-half of the answers were yes: 52 percent for 3-4 group, 42 percent for 5-9 group, and 51 percent for the 10+ group.

"What percentage of your market hogs were sold by forward contract or agreement made a month or more prior to delivery?" For those answering, the average percentage sold was quite small: 3 percent for the 3-4 group, 4 percent for the 5-9 group, and 7 percent for the 10+ group. These figures could be as low as 3 percent for the 5-9 group and 5 percent for the 10+ group when calculated as a fraction of all production rather than just that production represented by respondents. These small averages reflect the fact that most units did no forward contracting.

"What percent of your market hogs were hedged in 1983 directly on the futures market?" The average percentages of volume of these answering were a little higher than for forward contracts. The answers were: 7 percent for the 3-4 group, 13 percent for the 5-9 group (23 percent for this group in the WNC region), and 8 percent for the largest units. These figures could be as low as 6 percent for the 3-4 group, 10 percent for the 5-9 group, and 6 percent for the 10+ units when calculated as a fraction of all production rather than just that production represented by respondents.

The option of selling hogs by carcass grade and weight has been available in some areas for many years although some buyers still do not provide that alternative. About one-seventh of the nation's hogs are purchased grade and weight according to USDA Packers and Stockyards data. Producers were asked: "Is it possible to sell carcass grade and weight (carcass merit) at a market outlet that you sell to?" Thus a producer who cannot sell grade and weight at any outlet *to which he sells* would answer "no" even though there might be an outlet in the area that does buy on carcass merit. The percentage of yes answers was generally above 50 percent, and generally rose with size. It was highest in the WNC region and lowest in the RON (Table 23).

Producers were then asked: "Have you sold any hogs by carcass grade and weight in the past three years?" The average answers by size and region mostly matched the carcass pricing availability. More of the larger units than the smaller ones had sold carcass weight and grade. Sale by carcass weight and grade was considerably more frequent in the WNC region than elsewhere (Table 24).

We wanted to know generally why most hogs are sold live weight. Rather than ask producers their reasons, we asked this less direct question: "Why do most producers prefer to sell mostly by live weight?" The number one reason was distrust of packers in relation to grade and yield selling. Second was the belief that many producers recognize their hog quality is such that live pricing yields a better price (Table 25). Attitudes did not vary much by the size of the hog operation.

Producers were given a check list (based on previous research) and asked to check *the* most important characteristic of a good market outlet. Some

people gave more than one answer. Not surprisingly, top competitive price ranks first for all size units (Table 26), with honest, dependable, accommodating personnel ranking second. Size of unit did not greatly affect responses, although larger units seemed to put greater emphasis on top price and less on a nearby location and less on market personnel.

Producers were asked the distance their slaughter hogs were hauled to the outlet most often used. Average distances were 28 miles in the two North Central regions for the 3-4 group and about 57 miles for the two larger groups. Distances hauled were much larger for the rest of the nation—about 153 miles for the two larger groups in those areas.

Feeder pig marketing

Feeder pig marketing outlets related strongly to the size of production unit. The importance of sow corporations was highly related to size (Table 27). Direct sales to other producers, and sales through auctions or dealers fell as unit size increased. These results are generally similar to our 1981 survey although the volume of the 3-4 size group through dealers is larger in this survey. The family corporation is the type of organization marketing the most feeder pigs with sow corporations in second place (Table 28).

Waste handling

"What type of waste handling is principally employed in your finishing operation?" Partial slats were noted most often by the 3-4 and 5-9 size groups, while the flush system was reported most often by the largest size group (Table 29). The pattern of responses is quite similar to our 1981 survey except for a small shift toward liquid manure systems and particularly the flush system.

Procurement of breeding stock

Hog producers have traditionally produced their own gilts but purchased boars. New conditions can change those traditions. Gilts may be purchased in large numbers to stock a new farrowing unit. On the other hand, a unit concerned about disease may decide not to buy any outside stock.

These units bought only about one-sixth of their breeding gilts with perhaps a slight relation to size of unit (Table 30). These units bought about two-thirds of the boars added to their herds in 1983 with larger units buying a smaller fraction than the 3-4 group. Generally, the specialized pig producers rely more heavily on purchased gilts than do farrow to finish producers (Table 31). However, there is no consistent difference in their use of purchased boars.

TABLE 1: Number of Medium and Larger Volume Units by Size and Region, 1983

Region	Size Group 3-4	5-9	10+	Total	% of Total Units
WNC	1,075	388	176	1,639	38.5
ENC & NE	1,228	352	183	1,763	41.3
RON	560	177	125	862	20.2
Total	2,863	917	484	4,264	100.0

Note: WNC indicates West North Central
ENC & NE indicates East North Central and Northeast
RON indicates rest of nation--most of the units are in the Southeast

TABLE 2: Total Marketings of Medium and Large Volume Units, 1981-84

	Size Group 3-4	5-9	10+	Total
		(000 Head)		
1981	7,331	3,871	7,925	19,127
1982	7,880	4,324	8,523	20,727
1983	8,633	4,957	9,610	23,200
1984 (Projected)	9,403	5,168	10,526	25,097

TABLE 3: Effects of Classification Method on Estimates of 1982 Data

Number of Operations by Size	(1) Our Size Estimation Method	(2) Size Classified on Basis of 1982 Marketings Only	(2)/(1)
3-4	2,863	1,764	62%
5-9	917	564	62
10+	484	357	74
Total	4,264	2,685	63
Number Marketed by Size (in 000)			
3-4	7,880	6,439	82
5-9	4,324	3,838	89
10+	8,523	7,604	89
Total	20,727	17,881	86

Note: The 1982 Census estimates for the group 5,000 head or more (our 2 larger groups) compares as follows:

	1982 Census	Our Study Based on 1982 Data Only	Our Study Based on 4 Year Method
# Units	1,199	921	1,401
# Marketed (000 Head)	11,187	11,442	12,847

TABLE 4: 1983 Total Marketings by Size and Region (in 000 Head)

Size	WNC	ENC & NE	RON	Total	% of Total Marketing
3-4	3,254	3,794	1,584	8,632	37.2
5-9	2,070	1,967	920	4,957	21.4
10+	3,091	2,884	3,634	9,609	41.4
Total	8,415	8,645	6,138	23,198	100.0
%	36.3	37.3	26.4	100.0	

TABLE 5: Percentage of 1983 Marketings by Size and Region

Size Unit	WNC	ENC & NE	RON
3-4	38.7%	43.9%	25.8%
5-9	24.6	22.8	15.0
10+	36.7	33.3	59.2
Total	100.0%	100.0%	100.0%

TABLE 6: Organizational Type by Size of Operation

Farm Type	Unit Size 3-4	5-9	10+
Individual Proprietorship	48.8%	32.0%	15.3%
Partnership	27.4	24.8	18.9
Cooperative	--	1.3	1.2
Family Corporation Chapter S	6.5	4.7	19.1
Family Corporation Regular	14.4	21.7	23.0
Non-family Corporation Chapter S	0.7	4.4	8.3
Non-family Corporation Regular	0.3	4.7	13.6
Other	1.9	6.4	0.6
	100.0	100.0	100.0

TABLE 7: Percentage 1983 Total Marketings by Size and Organizational Type

Legal Organization	Unit Size 3-4	5-9	10+
Individual Proprietor	45.3%	30.1%	9.0%
Partnership	30.6	25.1	21.0
Cooperative	--	2.0	0.8
Family Corporation	21.5	28.1	50.2
Non-family Corporation	0.8	12.5	18.6
Other	1.8	2.2	0.4
	100.0	100.0	100.0

TABLE 8: Percentage Distribution of 1983 Marketing by Size, Region and Kind Sold

	3-4			5-9			10+		
	WNC	ENC & NE	RON	WNC	ENC & NE	RON	WNC	ENC & NE	RON
Slaughter Hogs	80.9	88.6	86.9	69.8	81.8	81.2	69.8	77.0	86.5
Feeder Pigs	15.9	6.5	9.6	27.0	13.7	15.7	27.0	18.5	10.7
Cull Breeding Stock	2.2	3.0	2.4	2.1	2.8	1.6	2.1	2.3	2.1
Breeding Stock	1.0	1.9	1.1	1.1	0.7	1.5	1.1	2.2	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 9: Percentage of Kind of Marketings by Size of Unit

Size Unit	Slaughter Hogs	Feeder Pigs	Cull Breeding Stock	Breeding Stock	Total
3-4	85.4	10.6	2.6	1.4	100.0
5-9	77.0	19.7	2.3	1.0	100.0
10+	70.4	26.4	2.0	1.2	100.0

TABLE 10: Total Marketings 1983 by Type and Size of Producer and Region

Size Operation	Producer Group:	Farrow to Finish	Pig Finishers	Pig Producers
		Total Marketings (000 Head)		
		West North Central Region		
3-4		2,152	522	439
5-9		1,290	265	515
10+		603	705	1,587
Regional Total		4,045	1,492	2,541
		East North Central & Northeast		
3-4		2,953	628	150
5-9		1,378	289	259
10+		1,764	600	431
Regional Total		6,095	1,517	840
		Rest of Nation		
3-4		1,381	80	99
5-9		648	147	110
10+		3,095	178	163
Regional Total		5,124	405	372
National Total		15,264	3,414	3,753

TABLE 11: Percentage of Total Marketings Farrowed on that Unit by Size of Unit and Region

Region	3-4	5-9	10+
WNC	81.2	86.4	71.3
ENC & NE	82.5	85.2	81.6
RON	94.2	92.8	92.0
Nation	84.2	85.3	82.2

TABLE 12: Degree of Full Capacity Operation in 1983 by Size of Unit

	Size Unit		
	3-4	5-9	10+
% of Units Operating at Full Capacity	73.7%	67.8%	90.3%
Total Group Marketings as % of Total Group Capacity	90.3	88.6	97.2

TABLE 13: Percentage of Units Expanding Facilities in 1983 by Size of Units

Type Facilities	3-4	5-9	10+
Breeding	13.3%	16.4%	13.9%
Farrowing	15.2	7.8	25.3
Nursery	19.4	12.6	35.1
Finishing	14.8	13.3	16.7
Feed Handling & Storage	15.7	17.8	13.2
Manure Storage	5.3	6.9	8.4
Pollution Control	2.9	3.3	5.6
At Least One of Above	43.8	42.5	60.2

TABLE 14: Growth in Total Marketings by Size and Date Unit Began

Date Unit Began	3-4		5-9		10+	
	1981 Marketings (1,000 Head)	1983 Marketings As % of 1981 Marketings	1981 Marketings (1,000 Head)	1983 Marketings As % of 1981 Marketings	1981 Marketings (1,000 Head)	1983 Marketings As % of 1981 Marketings
1981-83	64	431*	106	275*	97	475*
1976-80	1,508	112	964	128	1,997	109
1966-75	2,011	114	1,367	115	2,408	110
Before 1966	3,371	114	1,324	130	3,172	111
All Units	6,954	117	3,760	128	7,673	115

Note: Data from those units reporting marketings in both 1981 and 1983 and also providing date the unit began.

*These percentages are inflated by the fact that many of the units had no production in 1981.

TABLE 15: Contributions of 1982-83 Entrants to Growth in Marketings 1981-83

Size Of Unit	Units Begun Prior to 1981			Units Begun 1982-83		Combined % Increase 1981-83
		Increase in Marketings 1981-83		1983 Marketings		
	# Marketed 1981 (1,000 head)	Number (1,000 head)	% of 1981 Group Marketings	Number (1,000 head)	% of 1981 Group Marketings	
3-4	6,953.7	1,056.3	15.2	104.6	1.5	16.7
5-9	3,760.3	890.4	23.7	158.5	4.2	27.9
10+	7,673.5	1,066.5	13.9	84.0	1.1	15.0
Total		3,013.2		347.1		

TABLE 16: Average Percentage of Feed Grain Needs Grown on the Unit by Region and Size of Unit

Region	Size of Unit 3-4	5-9	10+
WNC	62%	51%	43%
ENC & NE	71	64	41
RON	35	30	16

Note: Means are for all those replying to the question.

TABLE 17: Percentage of Units Buying Kind of Feed by Size of Unit and Feed Use

Size Unit	Feed Use	Complete Ration	Supplemental Concentrate	Pre-Mix	Combination	Total
	Maintaining Sows					
3-4		8%	38%	50%	4%	100%
5-9		11	27	58	4	100
10+		25	33	40	2	100
	Starting Pigs					
3-4		38	20	32	10	100
5-9		40	14	41	5	100
10+		36	26	32	6	100
	Finishing					
3-4		8	34	56	2	100
5-9		11	26	59	4	100
10+		23	33	42	2	100

TABLE 18: Percentage of Units Buying a Complete Feed by Size and Age of Unit and Feed Use

Date Unit Began	Feed Use	3-4	5-9	10+
	Maintaining Sows			
1976-80		8%	26%	46%
1966-75		4	9	31
Pre 1966		14	--	5
	Starting Pigs			
1976-80		46	58	61
1966-75		30	43	41
Pre 1966		32	32	14
	Finishing			
1976-80		21	21	35
1966-75		--	9	31
Pre 1966		10	--	9

TABLE 19: Percentage of Units Purchasing Feed by Source, by Kind of Feed, and by Size of Unit

Size of Unit	Source of Feed	Kind of Feed: Complete Ration	Kind of Feed: Supplement	Kind of Feed: Pre-mix
	Direct from Manufacturer			
3-4		41%	35%	38%
5-9		37	26	32
10+		57	43	43
	Feed Dealer			
3-4		56	50	47
5-9		58	68	58
10+		14	29	14
	Sales Representative			
3-4		3	9	9
5-9		5	5	11
10+		29	29	43

TABLE 20: Hog and Pig Sales as an Average Percentage of Gross Farm Sales by Size of Unit and Region

Region	Size of Unit: 3-4	Size of Unit: 5-9	Size of Unit: 10+
WNC	72%	68%	83%
ENC & NE	70	80	87
RON	66	79	85

TABLE 21: Hog and Pig Sales as an Average Percentage of Gross Sales by Size and Age of Unit in WNC Region

Date Unit Began	Size of Unit 3-4	5-9	10+
1976-80	71%	92%	99%
1966-75	80	87	94
Pre 1966	69	55	77

TABLE 22: Distribution of Units Reporting Financial Results by Size 1982 & 1983

Size of Unit	Year	Profits	Breakeven	Losses	Ratio of Profit/Loss Reports
3-4	1982	75%	12%	13%	5.7/1
5-9		67	17	16	4.3/1
10+		68	22	10	6.8/1
3-4	1983	48	29	23	2.1/1
5-9		57	19	24	2.3/1
10+		53	26	21	2.6/1

TABLE 23: Distribution of Units Reporting They Can Sell Grade and Weight at a Customary Market Outlet by Region and Size of Unit

Region	Size of Unit		
	3-4	5-9	10+
Nation	60%	74%	77%
WNC	75	94	96
ENC & NE	54	65	70
RON	44	49	62

TABLE 24: Distribution of Units Reporting They Have Sold Any Hogs Carcass Grade and Weight in Past 3 Years by Region and Size of Unit

Region	Size of Unit		
	3-4	5-9	10+
Nation	55%	70%	73%
WNC	71	88	91
ENC & NE	76	61	66
RON	45	53	56

TABLE 25: Distribution of Reasons for Selling Live Weight by Size of Operation Providing the Answer

Reason	3-4	5-9	10+
1. Don't understand carcass pricing or don't trust packers	42%	45%	45%
2. Want immediate payment	28	25	28
3. Habit	28	20	19
4. Expect a better net price for live weight	37	25	30
5. Live weight less trouble	5	9	3
6. Grade and yield vary among packers or over time	--	1	--
7. Other	7	5	3

Note: Percentages are percent of those answering the question.

TABLE 26: Percentage of Respondents Identifying a Good Market Characteristic as the Most Important by Size of Unit

Good Market Characteristics	Size of Unit 3-4	5-9	10+
Top Price and/or Several Competitive Buyers	53%	46%	60%
Honest, Dependable, Accommodating Personnel	40	39	26
Pay Merit Premiums	19	27	20
Nearby Location	16	12	10

Note: Percentages total more than 100 because respondents sometimes checked more than one characteristic.

TABLE 27: Percentage of Volume of Feeder Pig Marketings by Outlet and Size of Unit

Size Units	Market Outlet Direct to Other Producers	To Owners of Sow Corporation	Auction	Dealers and Others	Total
3-4	48%	--	31%	21%	100%
5-9	38	38	13	11	100
10+	18	66	4	12	100

TABLE 28: 1983 Marketings of Feeder Pigs by Size and Organizational Type

Legal Type	Number Marketed 1981-84			
	3-4	5-9	10+	All 3 Size
	(Marketings in 1,000 Head)			
Individual Proprietorship	463	276	149	888
Partnership	319	127	309	755
Family Corporation	117	128	1,228	1,473
Non-family Corporation*	18	86	241	345
Sow Corporations:				
Non-family Corporation	--	218	506	724
Coop and Other	--	109	93	202
	917	944	2,526	4,387

*Exclusive of sow corporations.

TABLE 29: Percentage of Volume of Marketings by Principal Method of Waste Handling in Finishing Operation

Waste Handling Method	Size of Units 3-4	5-9	10+
Solid Waste	18%	11%	10%
Liquid Manure, Total Slatted Floors	24	26	30
Liquid Manure, Partial Slats	54	49	30
Liquid Manure, Flush System	17	21	39
Other	--	3	2

Note: Answers total to more than 100% because of people giving more than one answer.

TABLE 30: Purchases of Breeding Stock, 1983, by Size of Unit

Percentage Purchased	Size of Unit 3-4	5-9	10+
Of Gilts	13%	15%	17%
Of Boars	77	56	68

TABLE 31: Breeding Stock Added to Herd by Source and by Type and Size of Producer, 1983

Type of Producer	% of Gilts Purchased by Size Operation			Total Gilts Placed in Herd* (000 Head)
	3-4	5-9	10+	
Farrow to Finish	8%	14%	9%	490%
Sow Corporation	N/A	38	28	22
Other Pig Producers	31	18	54	70
Type of Producer	**% of Boars Purchased by Size Operation**			**Total Boars Placed in Herd* (000 Head)**
	3-4	5-9	10+	
Farrow to Finish	79%	53%	67%	38.8%
Sow Corporation	N/A	84	75	1.4
Other Pig Producers	43	65	77	4.2

*Includes both purchased and self-produced breeding stock.

Appendix A

Sampling Methodology & Sample Sizes

Because our research interest focused on the larger hog operations we pulled a stratified sample weighted toward the larger sizes. The magazine's subscribers were grouped in these expected size groups (A) 5,000 head and above, (B) 3,000 to 4,999 head, and (C) 1,000 to 2,999 head. While we weren't directly interested in the smallest group, our previous experience showed it would include numerous larger operations. We sampled one-third of the A group sending out 1,335 mail schedules. We sampled one-fourth of the B group with 1,212 schedules and one-twentieth of the C group with 1,468 schedules. We received 300 replies from the A group, 325 from the B and 378 from the C. These responses were totals from two mailings. We then took an additional sample of 150 of the nonrespondents from the A group and interviewed them by telephone.

The magazine sizes frequently did not correspond to our final size classification (based on schedule data). For example, from the 150 telephone interviews, we obtained 43 out of 10+ size, 59 of the 5-9 size, 11 of the 3-4 size, seven of the smaller size (1,000 to 2,999), 29 either gone out of business or less than 1,000 in size, and one that was unusable.

Each respondent was asked: "Other than yourself, how many people associated with your hog operation receive their own copy of *Hog Farm Management?*" On the basis of those replies, we tabulated the total number of subscribers represented. For each survey group, this number (A, B and C) became the denominator of our group sampling multiplier. On the advice of station statistician Dr. Gary Krause, we adjusted the number surveyed to remove the fraction who should not have been surveyed because they were out of business or marketed fewer than 1,000 head. This adjusted number surveyed became the numerator. Thus the multiplier for survey group A for example was:

$$\frac{\text{Adjusted number surveyed}}{\text{Total subscribers represented by responses}} = \frac{3435}{1204} = 2.853$$

The multiplier for the B group was 8.34 and for the C group was 54.65.

When the units were grouped according to size on the basis of data provided by the operators, we had data on 145 units of the 10+ size, 216 of the 5-9 size, 240 of the 3-4 size, and 342 of the smaller size not reported in this study (Table A).

The analysis tables typically have three to six cells per size group so the average number of responses per cell was seldom below 24 (for the 10+ size) and often as high as 80 (for the 3-4 size). For example on the question of type of feed purchased, the percentages distributed among four feed types in Table 17 were based on these total responses (multipliers not yet applied) by size group:

Feed Use	10+	5-9	3-4
Maintain sows	118	173	200
Starting pigs	126	190	214
Finish ration	117	178	222

Hence the number of responses is judged reasonably adequate for the analysis reported. We did not report by states because the numbers become quite small for states with fewer hog operations (subscribers were located in 46 states and Puerto Rico).

TABLE A NUMBER OF RESPONSES BY SIZE GROUP

Magazine Size Group	Actual Size 10+	5-9	3-4
A	140	169	37
B	4	46	180
C	1	1	23
TOTAL	145	216	240

Appendix B

1. This operation is: (check one)
   - ☐ Individually owned
   - ☐ A partnership (family or otherwise)
   - ☐ A cooperative
   - ☐ Other (specify) _____

   A Corporation
   - ☐ Family owned, Sub Chapter S
   - ☐ Family owned, Regular Corporation
   - ☐ Non-family owned, Sub Chapter S
   - ☐ Non-family owned, Regular Corporation

2. *IF* owned by a cooperative or non-family corporation, is this a sow corporation that farrows pigs for its owners to finish at other locations? ☐ YES ☐ NO

3. a. Did your operation produce at full capacity (in terms of facilities) in 1983? ☐ YES ☐ NO

   b. If *NO* to 3a; How many head could you have produced in 1983 at full capacity?

   _____

   c. How many hogs and pigs were marketed by this operation in each of the last 3 years; and how many do you plan to market in 1984?

	(Barrows & gilts) Slaughter Hogs	Feeder Pigs	Cull Sows & Boars	Sold to use as breeding stock	Total Marketed
1981:					
1982:					
1983:					
Plans for 1984:					

   d. What percent of the total hogs and pigs marketed in 1983 were farrowed on this operation?

   _____%

4. a. How many litters of pigs in 1983 were farrowed by first litter gilts?

   _____

   b. How many litters of pigs in 1983 were farrowed by sows?

   _____

5. Circle any of the following *facilities* that you expanded (or first constructed) in 1983:
   breeding farrowing nursery finishing
   feed handling and storage manure storage pollution control

6. Did a need to reduce your income taxes encourage you to expand facilities in 1983?
   ☐ YES ☐ NO

7. If you are strictly a dealer in pigs and hogs, and feeding is only incidental to your trading, write dealer here.

   _____

8. How many hogs and/or pigs did you market from this operation in 1975?

   _____

9. What year did this operation begin marketing hogs? (If it goes back many years, please indicate an approximate date.)

_____

10. How many acres of land are used in this total farm operation? (Count owned land and land rented in, but not land rented out to others.)

_____ acres

11. Of the feed grain fed to your hogs, what percent is grown on your operation?

_____%

12. Which commercial feed do you buy for these uses?

(Make one check per line)	Complete Ration	Supplemental Concentrate	Pre-Mix	None
1. Maintaining sows				
2. Starting pigs				
3. Finishing ration				

12. a. Where do you purchase most or all of these commercial feeds:

(One check per feed purchased)	Complete Ration	Supplemental Concentrate	Pre-Mix	None
1. Direct from manufacturer				
2. Dealership				
3. Sales representative				

13. In 1983 hog and pig sales were what percent of all gross sales of this operation?

_____%

14. The net financial results from this operation have been:

(Check one for each year)						
	1983	☐ profits	☐ breakeven	☐ losses
	1982	☐ profits	☐ breakeven	☐ losses

15. How many breeding stock were placed in the herd in 1983?

_____ self-produced gilts

_____ purchased or leased gilts

_____ self-produced boars

_____ purchased or leased boars

OR [ ] none, because we don't farrow

16. Did you at any time in 1983 report inventory numbers to the USDA for use in the Hog and Pig Crop Reports?
☐ YES ☐ NO ☐ DON'T RECALL

SLAUGHTER HOG INFORMATION (SKIP TO NEXT SECTION IF YOU DO NOT SELL MARKET HOGS)

17. Is it possible to sell carcass grade and weight (carcass merit) at a market outlet that you sell to?
☐ YES ☐ NO

a. Have you sold any hogs by carcass grade and weight in the past 3 years?
☐ YES ☐ NO

b. Why do most producers prefer to sell mostly by live weight?
- ☐ Don't understand carcass pricing or don't trust packers
- ☐ Want immediate payment
- ☐ Habit
- ☐ Expect a better net price for live weight
- ☐ Other, please specify _____

18. What percent of your market hogs were sold by forward contract or agreement made a month or more prior to delivery?

_____ %

19. What percent of your market hogs were hedged in 1983 directly on the futures market? (Do not include arrangements made with packers included in 18.)

_____%

20. How many miles are your hogs hauled to the market outlet used most often?

_____miles

21. Do you routinely contact one or more buyers for bids or price quotations before marketing hogs?
☐ YES ☐ NO

22. Which of these is *the* most important characteristic of a good market outlet?
- ☐ top price and/or several competitive buyers
- ☐ nearby location
- ☐ honest, dependable, accommodating personnel
- ☐ pay merit premiums
- ☐ other (specify) _____

23. What type of waste handling is principally employed in your *finishing operation*? (check one)
- ☐ solid waste
- ☐ liquid manure, total slatted floors
- ☐ liquid manure, partial slats
- ☐ liquid manure, flush system
- ☐ other, please specify_____

FEEDER PIG SALES (SKIP TO Q25 —— IF YOU DID NOT SELL FEEDER PIGS IN 1983)

24. What percent of your feeder pigs in 1983 were sold:

To feeder pig dealers?	_____%
To the auction market?	_____%
Direct to producers owning this sow corporation?	_____%
Direct to other producers?	_____%
Other, please specify: _____	_____%
TOTAL	100 %

25. Other than yourself, how many people associated with your hog operation receive their own copy of Hog Farm Management?

_____

26. If this same questionnaire was received by someone else associated with your hog operation, please return only one and indicate the name of the other person here:

_____