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Structure of U.S. Hog Production: A 1992 Survey¹

by

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Summary

We estimate that 29,650 operations, each marketing 1,000 or more hogs/pigs in 1990 and/or 1991, marketed 68,880,000 market hogs in 1991, or 78.1% of the market hogs marketed by all U.S. producers. These totals compare to the 28,737 operations of that size marketing 60,080,000 market hogs in 1988 which was 68.4% of all market hogs that year.² While contractors constituted only 4.2% of the 29,650 operations, their market hog marketings were 20% of the survey total.

The largest three thousand operations, independent and contractor, marketed about one-third of the nation's market hogs in 1991 but the median size producer in the survey was one marketing a few less than 2,000 hogs/pigs annually.

As already noted, this group of medium and large operations has gained market share 1988 to 1991 from operations marketing less than 1,000 hogs/pigs annually. That growth can be seen in another way by comparing the growth in average marketings of surveyed operations from 1990 to 1991. The average marketings of hog/pigs for the set of 26,832 operations providing positive marketings for both years grew 9.5% from 1990 to 1991. This growth rate ranged upward to 25% for those super producers marketing 50,000 head or more. Growth in marketings ranged from 7% for independents to 21% for contractors. It ranged from 7% in each of the North Central regions to 18% in the South Atlantic. While the average growth rate for this survey group was 9.5%, national slaughter only rose 3.6% from 1990 to 1991.

Analysis

To describe the structure of hog production a probability sample of 11,240 subscribers of PORK'92 were sent questionnaires. This report and a companion report, *U.S. Contract Production of Hogs: A 1992 Survey*, are based upon the 2,484 usable returns. The survey procedures and definitions are explained in the appendix.

We estimate that 29,650 U.S. operations marketing 1,000 or more hogs in 1990 and/or in 1991 marketed 68,880,000 hogs, which was 78.1% of total

commercial slaughter of hogs (including culled breeding stock). Most (28,394 or 95.8%) of these operations were non-contractors that will be referred to as "independents" while 1,256 were contractors. The independent and contractor shares of survey market hogs at 55,148,000 and 13,732,000 head were 80% and 20% (See Table 1 following the appendix). The contractor total included 7,865,000 head contract produced by growers and 5,867,000 finished in the contractors own facilities.

Nearly 36 million of the market hogs were produced by the traditional hog producer, an independent producing on a single farm. Next in importance were independents producing with multi-units (on two or more farms) with almost 14 million market hogs in 1991 (Table 1).

The top three thousand (actually 2,947) operations (size groups 5, 6 and 8) marketed almost 29 million hogs or almost 33% of the nation's market hogs in 1991 (Table 2). Of the six size groups, size 1 (1,000-1,999 head) was most numerous with 16,647 operations (56% of this survey's operations) and almost 18 million market hogs (26% of the survey's hogs and 20% of national slaughter).

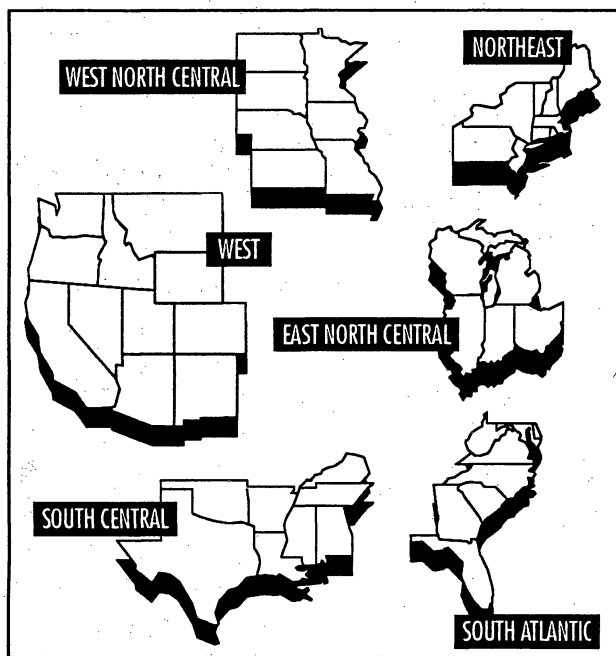
Sizes:

1 = 1,000 - 1,999 head
2 = 2,000 - 2,999 head
3 = 3,000 - 4,999 head
5 = 5,000 - 9,999 head
6 = 10,000 - 49,999 head
8 = 50,000 and more head

The percentage distribution of survey market hogs by regions:

Region	Survey (operations of 1,000 head up)
West North Central	48.2%
East North Central	28.6%
East Coast (South Atlantic and Northeast)	13.5%
Rest of Nation	9.7%
	100.0%

With 76.8% of all market hogs and 87.9% of all operations in the two North Central regions, they obviously tend to dominate many of the survey results (Table 4).



Single unit independents tend to be a smaller size than other classes of producers. These percentages of operations in a class by size group tell the story. See Table 5 for the numbers behind them.

Class of operation	Size	
	1,000-1,999 head	10,000-plus head
Independents		
(1) Single Unit	62.6%	1.9%
(2) Multiple Unit	49.0%	2.9%
(3) Other Independents	51.2%	3.6%
(4) Sow Corporations	0.0%	49.7%
(5) Multiplier	17.6%	13.2%
Small Contractor	18.4%	22.7%
Large Contractor	0.0%	100.0%
All Classes	56.2%	3.7%

Independents 1-3 (excludes the sow corporation and multipliers) are found mostly (88.3%) in the two North Central regions (See Table 6 for the numbers). The West North Central region has the larger proportion of size 1 independents with 64% compared

to 55% for the East North Central, 46% for the East Central and 46% for the rest of the nation.

The two North Central regions also have 80% of the small contractors but only 29% of the large ones (Table 7). The two North Central regions in 1991 had 47% of the contractor produced hogs compared to 82% of all the independent produced market hogs (Table 8). Marketings of contractor hogs were only 8% of the market hog marketings of all survey producers in the East North Central (92% were independents), 15% in the West North Central, and 5% in the West, while they were 52% in the Northeast, 38% in the South Central, and 57% in the South Atlantic. (See map of regions in left column.)

Growth in Marketings

Almost 55% of the operations marketed more total hogs and pigs in 1991 than in 1990, according to a comparison of those reporting positive marketings for those two years. This percentage varied from 51% of the single-unit independents to 78% of the contractors and from 40% in the South Atlantic to 67% in the South Central region (Table 9).

Growth from 1990 to 1991 in average marketings of total hogs and pigs per operation averaged 9.5% for all operations and ranged from 4% for size 5 operations (5,000 to 9,999 head) to 25% for size 8 (Table 10). This growth rate by region varied from a low of 7% in each North Central region to 18% in the South Atlantic (Table 11). While 60% of the operations in the South Atlantic region did not grow from 1990 to 1991, the larger operations tended to grow fast. This growth rate by class ranged from only 2% for sow corporations to 25% for the large contractors (Table 12).

The growth rate over time for any group is affected by both the growth in average marketings and the net effects of entry into and exit from the group. There is a considerable amount of entry. Some 8,215 operation of this survey group of 29,650 reported that they began hog production since 1980. Entry may often not mean new facilities and new business but rather a son replacing a father or a young couple buying a neighbor's farm.

The numbers and 1991 marketings of the entrants,

or new starts, of the 1988-91 period by class were as follows:

Class of operation	Number of "new" operations	Number of hogs and pigs marketed in 1991 (thousand head)
Independent, Single Unit	1,214	2,564
Independent, Multiple Unit	403	1,005
Contractor	159	1,145
All Others	167	764
All Classes	1,943	5,478

Since the 29,650 operations in this 1992 survey exceeded the 28,737 in our 1989 survey by only 913, these 1,943 entrants implies 1,030 (1,943-913) "exits." Given that 11.4% of this survey's operators (excluding growers) are 60 years of age or older and given that younger people sometimes quit enterprises for economic or health reasons, a thousand exits in a three year period does not seem unreasonable.

The 1991 market hog marketings of those operations begun after 1979 constituted 15,850,000 head or nearly 24% of the survey total (for which we have dates begun). That percentage of marketings from relatively new operations varied from 18% in the East North Central and 21% in the rest of the nation to 25% in the West North Central and 33% in the East Coast.

PRODUCTION CHARACTERISTICS

Importance of Farrowing and Finishing

About 20% of contractors and 12% of independents 1-3 do no farrowing, while about 5% of independents 1-3 and 16% of sow corporations and multipliers do no finishing (Table 13).

Certain Other Production Characteristics

The relative importance of these activities was distributed as follows (percentages of operations reporting):

Activity	Not done at all	Some importance	Great importance	Total
Production and sale of breeding stock				
Independents 1-3	78%	18%	4%	100%
Contractors	82%	9%	9%	100%
Production of grain for hog feed				
Independents 1-3	12%	18%	70%	100%
Contractors	27%	27%	46%	100%
Other farm production				
Independents 1-3	27%	34%	40%	100%
Contractors	47%	26%	27%	100%
Sale of commercial feed (dealer or manufacturer)				
Independents 1-3	93%	5%	2%	100%
Contractors	81%	6%	13%	100%

The relative importance of the sale of breeding stock was much the same for regions with the exception of being low for East Coast contractors. It also tended to be higher for larger size operations. Feed grain production was, of course, much more important in the two North Central regions than elsewhere, although the regional differences were greater for independents than contractors. The relative importance of feed grain production declines as size of operation increases—only four of the 36 reporting super-producers (size 8) rated it of great importance and 27 reported no feed grain production.

Other farm enterprises than hogs and feed grain are relatively more important in the two North Central regions than elsewhere. Likewise, the relative importance of these other farm enterprises declines as size of operation increases. Sale of

commercial feed was unusual among independents in all regions; it was more common among East Coast contractors than others. The pattern of sales of commercial feed was irregular by size group (Table 15).

Ideal Size of Operation

Operators were asked: Assuming you had the necessary capital and labor what size of operation would be your ideal upper limit? For those farrowing, what number of sows? For those finishing, what number of market hogs per year. It was striking how much the average answers reflected the current size of the operation. The Size 1 operations gave an average of 180 sows, the Size 2 averaged 300 and the Size 8 averaged 43,222 (Table 14). Likewise the ideal upper limit on market hogs per year ranged from 3,018 for size 1, to 14,838 for size 5, to 791,000 for Size 8. There was a weak tendency for younger producers to give higher limits than older ones did. The class of operation also affected responses. At each size level, the single-unit independents gave smaller numbers than the contractors of that size (Table 14).

Age of Operators

The average age nationally was 44 while the averages by region were West North Central 43, East North Central 45, East Coast 45, the rest of the nation 44. Contractors and managers of sow corporations averaged lowest at 40 while the single-unit independents were oldest at 45. Average age did not vary by size of operation.

Age of Pork Operation

The average beginning date of independent pork operations in the survey was 1972. Growers and contractors had newer operations with average beginning dates of 1980 and 1976. About 13% of the independents, 48% of the growers and 28% of the contractors began their pork operations after 1984.

Methods of Recently Increasing Output

Those operators who said they had increased marketings compared to three years ago were asked

how they had done it according to this four-item check list:

1. Built some new facilities and/or expanded existing ones.
2. Leased or purchased additional facilities.
3. Contracted for production in other farmers' facilities.
4. Managed to run more head through the same facilities.

For independents 1-3, some 37% had built, another 37% had managed to run more head through existing facilities, 3% had leased or purchased, and the rest had done a combination of these. Contractors had relied mainly on a combination of activities that usually included more contracting.

Capacity Utilization

A majority of operations (63% of independents and 77% of contractors) in early 1992 were operating at essentially full capacity. Only 19% of independents and 8% of contractors said that they could expand production more than 10% with current facilities.

Expectations for Future Operation

Operators were asked if they expected their hog business to be operating in 1997, assuming prices average about the same for 1992-97 as for the past 5 years. Those 93% who answered yes were then asked whether they wanted to market more, about the same, or fewer head by 1997. Of that group 42% wanted to market more, 51% wanted the same, and 7% wanted to market fewer hogs by 1997.

Those 42% who were wanting to market more hogs were invited to give reasons for that desired change. These open-ended reasons were classified and the results were:

- 50% to increase efficiency
- 28% to increase income
- 17% to permit full-time operations or to have enough output to bring in another family member
- 1% to be able to market better
- 4% miscellaneous reasons.

The interest in full-time operations, etc. was important for smaller size operations only. The

emphasis on reasons had no systematic relation to age of the operator.

Those 7% who expected to cease operation and the other 7% who wanted to cut back output by 1997 were asked to give their reasons. Not surprisingly 44% of the responses of this relatively small group (only 7.5% of all operators) mentioned the operator's age or health, 35% mentioned low income from hogs, 20% said they wanted to emphasize alternative enterprises and only 1% mentioned neighborhood environmental pressures. Not surprisingly most of the age or health reasons came from those over 50 years of age.

Changes Needed by 1997 to Maintain Current Production

Respondents checked one or more of seven descriptions of facility changes needed by 1997 just to maintain current output. Percentage of responses were:

- 66.4% Minor upgrading and minor repairs
- 21.0% Major repairs and/or remodeling up to 50% of the facilities
- 3.1% Major repairs and/or remodeling of 51 to 100% of the facilities
- 3.8% Complete replacement of up to 50% of facilities
- 2.2% Complete replacement of 51 to 100% of facilities
- 1.8% Lease additional facilities
- 1.7% Contract with growers to use their facilities and labor.

The needs for minor or major repairs were much the same for all size operations. The need for complete replacements was lower at larger sizes while contracting was mentioned by 15% of size 8 compared to only 1% of size 1 and 2. Not surprisingly those operators of age 60 plus emphasized almost entirely minor repairs or repairs and remodeling of up to 50% of the facilities. Those operators under age 40 gave a relatively high emphasis (19%) to major repairs and remodeling of 51 to 100% of the facilities.

Full Time, Non-Family Labor

Some 28% of independents 1-3 and 57% of contractors reported the employment of full-time,

non-family labor (FTNFL). These percentages rose from 16% and 7% at size 1 (for independents and contractors) to 100% at size 8. For both classes combined, the national average was 30% with regional averages ranging from 25% for West North Central to 48% for the South Atlantic

Those 70% of the operators who did not hire FTNFL were asked to rate on a five-point scale (1 = Very Negative, 3 = Neutral, 5 = Very Positive) their feelings about hiring it. About 40% answered very negative or negative with 46% neutral and only 14% positive or very positive. The very negative or negative percentage stood at 44 for size 1 and fell to 31 for size 3 (there were few answers in larger sizes than size 3 because most hire FTNFL). Younger (under age 40) producers were a little less negative (36%) compared to the oldest group (60 plus) at 44%. Thus, it appears that negative attitudes toward hiring FTNFL are a limiting factor on expansion of as many as 40% of the operations not now hiring it.

Circumstances Limiting Further Expansion

Respondents had a checklist of nine possible circumstances that might limit expansion as well as an alternative of no limiting circumstance and the opportunity to write in other answers. The distribution of the 78,724 responses was as follows:

- 3.8% Nothing limits me
- 9.7% Limited availability of loans for facilities
- 5.6% Limited availability of loans for hogs, feed and operating costs
- 15.7% Hassles of hiring and keeping good help
- 15.3% Hassles of environmental regulations
- 16.0% Personal considerations such as age or health
- 6.2% No one in family to take over when I retire
- 6.7% Concerns there may not be competitive outlets for hogs within hauling distance within a few years
- 15.4% Profits in next few years probably won't support expansion
- 2.3% Don't want to develop and keep the records essential to a larger operation
- 3.3% Others
- 100.0%

For independents 1-3, personal concerns such as age and health were the most frequently mentioned limitation except at larger size operations where environmental concerns were most frequent. Concerns about prospective poor profits were second for the smaller independents while the availability of credit for facility loans were second for the larger independents.

For contractors the most frequently mentioned concern was inadequate profits, and environmental concerns were second.

For all producers, concerns about credit and environmental regulations rise with size while personal concerns such as age, health or family successor decline with size of operation.

Basis of Payment for Slaughter Hogs

Respondents were asked: Are you paid for your slaughter hogs on the basis of lean value? Their answers on a three-way check list were as follows:

- 30% Yes, I mostly sell grade and yield, or in the meat.
- 28% Yes, I sell on live weight but the packer pays for their lean value.
- 39% No, I get the going live-weight price.
- 3% (Various combinations of the above three).
- 100%

The practice of accepting the going market price fell sharply as size of operation increased (Table 16). The West North Central region with 29% accepting the going price was the only region below the national average of 39%. The East Coast had 61% accepting the going price which is surprising given its higher proportion of larger operations. The explanation is that 74% of the East Coast's size 1 and 84% of its size 2 operation accepted the going price in contrast to 34% and 28% of the West North Central's size 1 and size 2 operations. A considerably smaller proportion of contractors than independents accepted the going price.

Attitudes Toward Contracting

Independents were asked: "Would you consider raising hogs or pigs on contract where you are the grower working for another party?" The checklist answers and the percentages of responses were:

- 1% I am currently considering contract raising.
- 19% I might consider contract raising in the future
- 24% I would consider contract raising only if financially forced to.
- 56% I would not consider contract raising under any circumstances.
- 100%

These answers appear to reflect a bit more negative attitude than in our survey in 1989 when 50%, rather than 56%, said "no way." It should be noted, however, that many growers are recruited from the ranks of non-producers.

1992 HOG SURVEY APPENDIX

Procedures

To ascertain both the current structure of hog production and the current status of contract production, we sent questionnaires to a sample of U.S. producers in early 1992. Because the proportion of producers involved in contracting is relatively low, we mailed to a large sample of 11,240 hog producers.

Of the usable responses, 2,058 were from independent producers, 208 were from contractors and 218 were from growers (those who provide the facilities and day to day labor and management to care for the contractors' hogs). Copies of the questionnaires are attached. As indicated, all producers were asked to fill out the two-page form 1, while growers were asked to complete also the one-page form 2, and contractors were asked to complete also the two-page form 3.

Our "population" was the owners and/or managers of hog production units subscribing to *PORK92* of Vance Publications.

There are pros and cons to using a trade magazine list for a national survey. Its subscribers may not include the entire population of producers and they may be less representative of some geographic areas or size groups than others. Moreover, there is no readily available way of checking small discrepancies. For example, one could discover quickly if a list contained no operations in a particular state, but if it contains 200 units there is no easy way to check whether 200 is 99 percent or

only 85 percent of the actual operation. Thus, the population to which we project is technically the subscribing units of PORK92 which is similar but not identical to the U.S. population of hog producers.

Another problem with hog magazine lists is that the number of subscribers typically exceeds the number of operational units. One reason is illustrated by this example: The two co-owners, the assistant manager and two of the other employees of a single large unit may subscribe. Another reason is that some people associated with the industry may pretend to be producers in order to subscribe to a limited circulation magazine. Vance publications rigorously validates its subscription lists, which largely eliminates this respondent list problem. The validation links a subscriber to a unit and his/her role in that unit (e.g., owner, manager, herdsman). The list from which we sampled was restricted to owners and managers and to one person per operation. Of course, the on-going validation process is not completely foolproof, so there are probably a few errors.

The reasons for using a subscription list for a national survey is simple. It is the only method a nongovernmental agency can afford. A list and especially a list stratified by size is much cheaper than a geographic sampling approach. Few lists are available, and all have the shortcoming of an unknown degree of incompleteness.

The sample sizes were as shown in the following:

Size (hogs marketed annually) certified by subscribers	Number of hog units in magazine size classification	Number in sample
10,000 -more	1,205	1,205
5,000 -9,999	2,258	2,258
3,000 -4,999	3,989	1,952
2,000 -2,999	7,007	1,775
1,000 -1,999	19,198	2,058
500 -999	17,748	1,992
Total		11,240

The analysis projects to a national population (of the magazine). The projection is based on multipliers in the following way. If we had 500 returns from a size X category that included 3,000 units, then each

return is multiplied by (3,000/500) and thus each return is treated as six returns. The multipliers were small for the larger size units (3.377 for the 5,000-9999 group) and progressively larger for the small size unit groups containing many more units (33.157 for the 1,000-1,999 group). We adopted a rule to prevent overestimating the number and marketings of the really large producers. The rule was that any operation with marketings of 50,000 or more would have a multiplier of only 1.0. We chose not to project for the 500-999 size group. We did use any larger units found in that mailing and we included data for the growers of that size.

A projection ordinarily assumes that non-respondents are like the respondents. In some previous work, we have telephoned a sample of the non-respondents and have found them reasonably similar to the respondents.

We used questionnaires that were individually identified by the size unit reported earlier by the subscriber. Thus we could link for every questionnaire the expected size (subscription list size) and the size reported on the questionnaire for 1990 and 1991. This linkage enabled us to apply the appropriate multiplier to each schedule. We emphasize that each multiplier was based on expected size because the expected size groups generally had different sampling rates, as indicated earlier. Expected size and questionnaire size agreed reasonably well.

Our definition of size in terms of 1990 or 1991 marketings, which ever was greater, yields slightly more producers and more marketings in the larger size group than would a definition based on one year alone. One justification is that we did not have to throw out questionnaires that gave us only 1990 data unless, of course, they then quit production. Another justification is that a size definition based on two years may be more realistic. A unit marketing 6,000 head in 1990 that dropped to 4,500 head in 1991 because of some temporary problem (a family illness or a fire in a confinement building or a repopulation) is still a 5,000-9,999 size unit.

We tried to identify business units, not places of production. The Agricultural Census counts "places,"

which is one of the reasons its counts will ordinarily exceed ours. For example, if Contractor X has growers (contractees) on 25 farms as well as farrowing on three different farms of his own, the Census probably counts 28 "places," which are then reported as "farms." We would count one operation for Contractor X. We would count the same total marketings for our one "operation" as the Census would divide among the 28 farms, so the size structure would be different.

Another difference between our results and the Census is that it shows results for hogs and pigs combined rather than separate market hogs and feeder pig categories.

In order to locate a sufficient sample of people involved in contracting, we obtained large samples of people not involved in contracting. For most purposes the non-contracting operations at the national level can be treated as having small sampling error, provided respondents and non-respondents are alike. Sampling errors for the contractor and grower data are larger, although workable for most users. We cannot guarantee against non-sampling error. Producers can report erroneous data—either in good or bad faith. Non-respondents can differ from respondents for a particular questions. Various mechanical mistakes can be made in mailing, coding and analysis. Some of these errors may be offsetting. The study has been done carefully and we believe the results are about as good as can be obtained with this approach.

We lack any other set of structural data of known validity that these survey data can be compared to. The latest Agricultural Census data is for 1987, and its classifications were not entirely comparable for reasons indicated above. The NASS pig crop reports have size divisions based on inventories rather than marketings. Probably the best data are the market hog data by states obtained by the National Pork Board in conjunction with check-off fees for product research and promotion. Their national total of market hogs coincides closely in 1991 with USDA's national slaughter. The Pork Board method of obtaining the data appears consistent with good state data. We cannot make a precise comparison because

their data is for market hogs from all size operations while ours is for such hogs from operations marketing 1,000 head or more. As shown in Table 3, the regional percentages of the survey and the Pork Board are not identical. Because the two North Central regions have long had less concentration of production in large units than the East Coast and the rest of the nation, we would expect our survey percentages to be larger than the Pork Board data for the East Central and the rest of the nation, and smaller in the two North Central regions. Only the East North Central has a higher percentage than expected. Thus the regional estimates of marketing hog numbers are likely not entirely accurate but they appear reasonably close.

Explanatory Notes

Our interest in contracting was strictly in *production contracts* in which the *contractor* provided pigs and/or other inputs to a grower and paid some sort of fixed or variable fee (rarely a specific share of profits) for the grower's efforts. We excluded any marketing or forward delivery contracts that independent producers used to sell their own feeder pigs or slaughter hogs or breeding stock to a buyer.

Anyone who contracts with growers to produce and/or feed his pigs is classified as a "contractor" regardless of the number of pigs/hogs that he may produce in his own facilities. Contractors were asked to indicate separately the marketings from their contract units and from their own units. Many contractors had several of their own production units besides their contract units. Any contracting operation of more than 50,000 head was defined, as in our 1989 survey, as a "large contractor" and those smaller were classed as a "small contractor."

A "large contractor" sometimes is a formerly small contractor now grown large. It may be a large agribusiness that engages in various other activities. Currently most large contractors are *not* big feed manufacturers nor meat packers. A "grower" (contractee) produces pigs, or more often finishes pigs, owned by a contractor. A few growers operate more than one production place, and some may also produce hogs of their own.

Because of the growing importance of the very large producers (of whom a majority are contractors), we contacted personally everyone known, or reputed, to be in that category. We believe that we obtained data from every producer exceeding 100,000 hogs/pigs per year and probably from all but two or three exceeding 50,000. In this size category we used only data from identified questionnaires in order to prevent duplication and double-counting. Of course,

data are not identified in this report by producer name, nor are they available from the authors.

Attached Chart A indicates a classification of states into regions that is often used by the USDA. We sometimes combine the Northeast and South Atlantic regions into the East Coast, and we combine the South Central and the West into the rest of the nation.

Regions

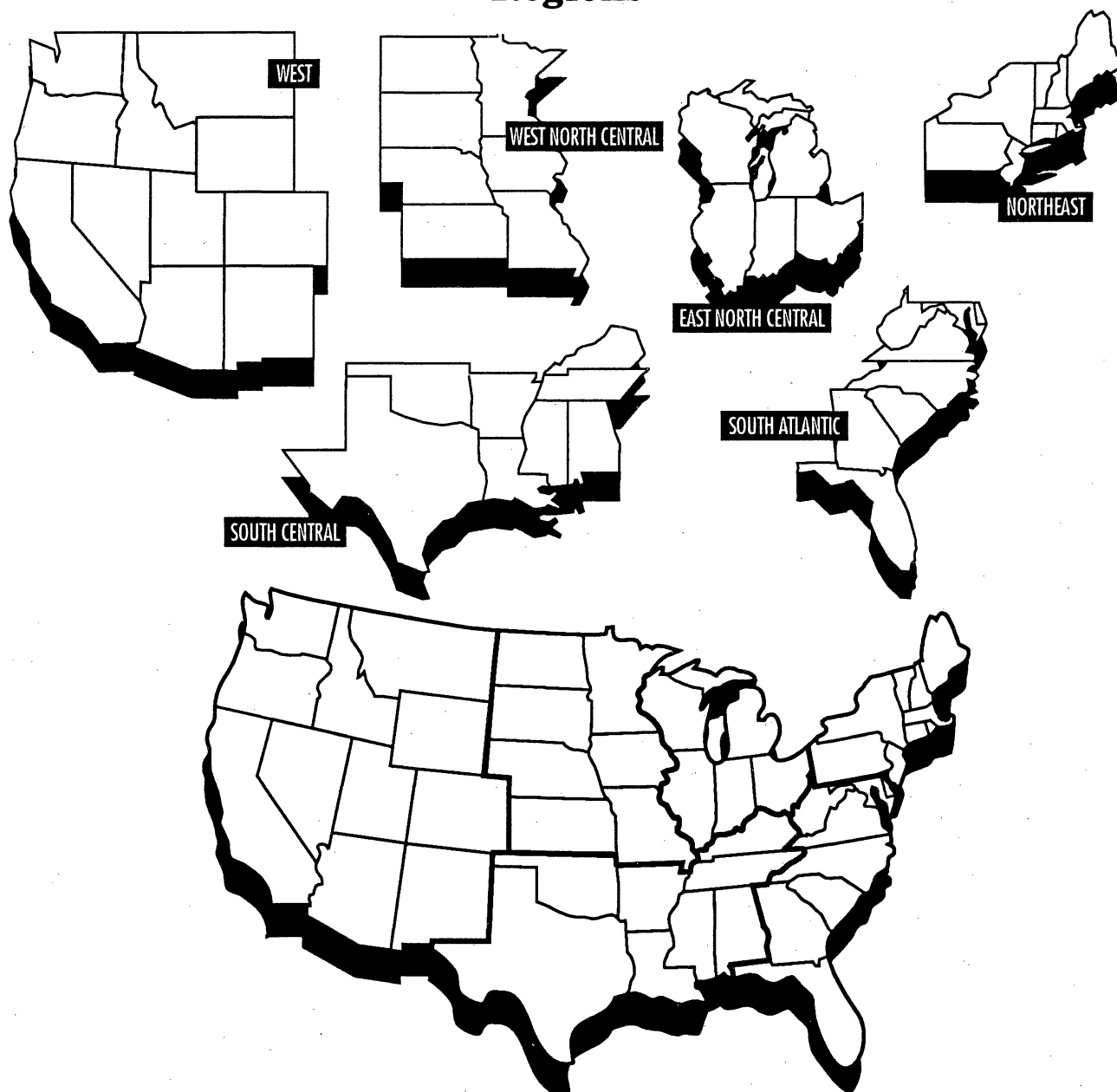


TABLE 1

**Number of U.S. Operations and
1991 Marketings of Hog Operations Marketing
More Than 1,000 Head Annually by Class**

Class of operation	Total 1991 marketings (thousand head)		
	Number of operations	Market hogs	Total hogs and pigs
Independents	28,394	55,148	71,608
(1) Single Unit	(20,397)	(35,819)	(44,969)
(2) Multiple Unit	(5,714)	(13,982)	(16,983)
(3) Unit Number Unclear	(1,458)	(2,890)	(3,843)
(4) Sow Corporations	(171)	(35)	(1,880)
(5) Multiplier of Breeding Stock	(703)	(2,422)	(3,932)
Contractors	1,256	13,732	15,580
Total	29,650	68,880	87,188

U.S. commercial domestic slaughter including cull seed stock was 88,169,000.

TABLE 2

**Number of U.S. Operations and
1991 Marketings of Hog Operations Marketing
More Than 1,000 Head by Size of Operation**

Size of operation	Total 1991 marketings (thousand head)		
	Number of operations	Market hogs	Total hogs and pigs
1 1,000-1,999 head	16,647	17,904	21,998
2 2,000-2,999 head	6,435	11,686	14,568
3 3,000-4,999 head	3,621	10,300	12,849
5 5,000-9,999 head	1,861	8,622	11,858
6 10,000-49,999 head	1,045	11,427	15,964
8 50,000-plus head	41	8,942	9,950
Total	29,650	68,880	87,188

TABLE 3

**Number and Percentage of Market Hogs by Region,
1992 Survey versus Pork Board Data**

Region	1992 survey		1991 NPPC percentage
	Number of market hogs (thousand head)	Percent of known market hogs	
West North Central	32,583	48.2%	53.1%
East North Central	19,294	28.6%	26.7%
East Coast	9,110	13.5%	12.8%
Rest of Nation	6,565	9.7%	7.4%
Unknown	1,328	—	—
Nation	68,880	100.0%	100.0%

Note: That Pork Board distribution is of all market hogs while those in the surveys are restricted to those hogs marketed by operations selling 1,000 or more head.

The unknown origin hogs were spread over the four regions in proportion to their identified marketings to obtain a distribution to compare to the Pork Board distribution.

TABLE 4**Number of Operations, Excluding Growers, By Class and Combined Regions**

	Class of operation							Total
	Single unit	Multiple units	Number of units unclear	Sow corporation	Multiplier unit	Small contractor	Large contractor	
North Central	17,730	5,355	1,216	168	599	977	9	26,054
East Coast	1,009	159	143	—	29	83	19	1,442
Rest of Nation and Unspecified	1,608	200	99	3	75	165	3	2,154
Total	20,347	5,714	1,458	171	703	1,225	31	29,650*

*Compares to 27,303 producers, excluding growers, in 1989 survey.
The one class with a sizable decline in numbers was the sow corporation.

TABLE 5**Number of Operations of a Class (excluding Growers)**

Size of operation	Class of operation							Total	1989 survey
	Single unit	Multiple units	Number of units unclear	Sow corporation	Multiplier unit	Small contractor	Large contractor		
1 1,000–1,999 head	12,748	2,802	747	—	124	225	—	16,647	15,959
2 2,000–2,999 head	4,228	1,324	358	—	227	297	—	6,435	5,428
3 3,000–4,999 head	2,088	924	213	3	186	206	—	3,621	3,183
5 5,000–9,999 head	900	498	88	83	72	220	—	1,861	1,668
6 10,000–49,999 head	381	161	52	85	89	278	—	1,045	1,065
8 50,000-plus head	1	5	—	—	4	—	31	41	
Total	20,347	5,714	1,458	171	703	1,225	31	29,650	27,303

TABLE 6**Number of Operations of a Class by Size and Region**

See U.S. map preceding Table 1 for regions

Size	Independents 1-3							
	West North Central	East North Central	Northeast	South Atlantic	South Central	West	Unidentified	Nation
1 1,000–1,999 head	10,234	4,554	168	438	530	274	99	16,298
2 2,000–2,999 head	3,247	1,855	91	216	422	53	28	5,911
3 3,000–4,999 head	1,608	1,196	43	129	153	97	—	3,225
5 5,000–9,999 head	658	508	31	123	82	81	3	1,486
6 10,000–49,999 head	220	219	19	51	33	18	33	594
8 50,000-plus head	1.4	1	—	2	—	1.6	—	6
All regions	15,969	8,332	351	959	1,219	524	164	27,519

TABLE 7**Number of Operations of a Class by Size and Region**

Size	Contractors					
	West North Central	East North Central	East Coast	Rest of Nation	Region unidentified	Nation
1 1,000-1,999 head	119	40	0	0	66	225
2 2,000-2,999 head	200	55	0	0	42	297
3 3,000-4,999 head	156	43	0	0	7	206
5 5,000-9,999 head	120	50	28	10	11	220
6 10,000-49,999 head	157	37	54	25	4	278
8* 50,000-plus head	4.8	4.2	19.4	2.6	0	31
All	757	229	101	38	130	1,257

*Fractional numbers by regions for large contractors result from several of them operating in two or more regions.

TABLE 8**1991 Market Hogs of Independent Producers and Contractor by Size and Region (Thousand Head)**

Size of operation	Region							
	West North Central	East North Central	Northeast	South Atlantic	South Central	West	Unspecified	Nation
1 Independent	10,967	5,079	121	441	599	265	114	17,587
1 Contractor	189	49	—	—	—	—	78	316
2 Independent	6,201	3,522	92	404	726	106	67	11,118
2 Contractor	353	113	—	—	—	—	101	567
3 Independent	4,685	3,737	145	400	433	263	27	9,692
3 Contractor	445	135	—	—	—	—	28	607
5 Independent	2,992	2,694	110	649	389	446	17	7,297
5 Contractor	738	277	21	151	79	—	58	1,324
6 Independent	2,265	2,603	183	744	616	228	796	7,438
6 Contractor	2,086	442	436	661	245	78	42	3,989
8 Independent	597	132	—	665	72	548	—	2,014
8 Contractor	1,064	510	261	3,625	1,439	29	—	6,928
Total Independent	27,709	17,767	652	3,303	2,837	1,856	1,021	55,148
Total Contractor	4,874	1,526	718	4,437	1,763	107	307	13,732

Note (1). The sum of independent and contractor hogs in each box is by definition all market hogs from operations marketing 1,000 more hogs and pigs in 1990 and/or 1991.

TABLE 9**Percentage of Operations that Marketed More Total Hogs in 1991 than in 1990 by Class and Region**

Class of operation	Region						
	West North Central	East North Central	Northeast	South Atlantic	South Central	West	Nation
Independent, Single Unit	49.4%	51.8%	65.1%	37.0%	70.4%	52.3%	50.9%
Independent, Multiple Unit	65.6%	67.9%	—	53.7%	47.6%	80.9%	65.3%
Multiplier	59.0%	47.7%	—	42.0%	62.0%	—	52.9%
Contractors	75.0%	82.6%	95.9%	55.2%	84.9%	78.9%	77.8%
All	54.4%	55.3%	59.6%	40.3%	66.7%	53.4%	54.8%

Note: The independents with unit number unclear, sow corporations and those of unspecified region were omitted as categories but they are included in the totals.

TABLE 10**Growth 1990 to 1991 in Average Size of Contractors and Independents Marketings of Total Hogs (Market Hogs, Breeding Stock and Feeder Pigs) by Size of Operation**

Size of operation	Mean Marketings Per Operation			
	Number of operations	1990	1991	Percentage growth
1 1,000–1,999 head	14,923	1,243	1,327	7%
2 2,000–2,999 head	5,942	2,061	2,247	9%
3 3,000–4,999 head	3,332	3,293	3,529	7%
5 5,000–9,999 head	1,677	6,120	6,369	4%
6 10,000–49,999 head	921	13,849	15,406	11%
8 50,000-plus head	37	207,119	258,436	25%
All	26,832	2,700	2,957	9.5%

Note: These data are restricted to those operations providing positive marketings data for both 1990 and 1991. The growth in total marketings of this matched group was 6,888,000 head.

TABLE 11**Growth 1990 to 1991 in Average Size of Contractors and Independents Marketings of Total Hogs by Region**

Region of operation	Mean Marketings			
	Number of operations	1990	1991	Percentage growth
West North Central	15,603	2,345	2,519	7%
East North Central	8,141	2,459	2,633	7%
Northeast	331	4,210	4,898	16%
South Atlantic	924	7,341	8,696	18%
South Central	1,203	3,904	4,413	13%
West	465	4,210	4,806	14%
Unspecified	164	6,184	6,293	2%
All	26,832	2,700	2,957	9.5%

Note: data are restricted to those operations providing positive marketings data for both 1990 and 1991. The growth in total marketings of this matched group was 6,888,000 head.

TABLE 12

**Growth 1990 to 1991 in Average Size of Marketings of Total Hogs
(Market Hogs, Feeder Pigs and Breeding Stock) by Class of
Producer**

Class of operation	Number of operations	Mean Marketings Per Operation		Percentage growth 1990-1991
		1990	1991	
Independent, Single Unit	18,613	2,068	2,189	6%
Independent, Multiple Unit	5,361	2,712	3,025	12%
Unit Number Unclear	973	2,600	2,735	5%
Sow Corporation	161	10,782	10,944	2%
Multipliers	637	5,226	5,766	10%
Contractors, 1-6	1,059	5,674	6,592	16%
Super-contractors	27	215,620	270,260	25%
All	26,832	2,700	2,957	9.5%

Note: These data are restricted to those operations providing positive marketings data for both 1990 and 1991. The growth in total marketings of this matched group was 6,888,000 head.

TABLE 13

Importance of Farrowing and Finishing by Class of Operation

Degree importance	Farrowing			Finishing		
	Independents 1-3	Growers	Contractors	Independents 1-3	Sow Corporations and Multipliers	Contractors
Not done at all	11.7%	45.7%	20.1%	5.0%	15.9%	0.3%
Some	2.0%	0.5%	1.5%	10.1%	10.8%	8.3%
Great	86.3%	53.8%	78.4%	84.9%	73.3%	91.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Answers to question 4, form 1. Percentages of replies by operators.

TABLE 14**Average Number of Sows Considered to be the Ideal Upper Limit for an Operation by Class and Size of Operation of the Respondent**

Size of operation	Class of operation					All
	Independent, Single Unit	Independent, Multiple Unit	Sow Corporation	Multiplier and Breeding Stock	Contractors	
1 1,000-1,999 head	175	196	—	179	216	180
2 2,000-2,999 head	324	370	—	241	364	330
3 3,000-4,999 head	383	417	300	264	522	393
5 5,000-9,999 head	655	617	647	805	1,851	764
6 10,000-49,000 head	1,210	3,345	1,207	1,268	2,567	1,875
8 50,000-plus head	3,000	44,000	—	40,850	44,985	43,222
All	271	435	924	670	2,408	399

Comment: Attained size is obviously the most important influence upon an operator's idea of an optimal upper limit on size. However, there are some variations by class as well.

TABLE 15**Percentage of Hog Operations Not Selling Commercial Feed by Class and Size of Operation**

Class of operation	1	2	3	5	6	8	All
Independents 1-3	94	94	88	92	88	100	93
Contractors	92	88	78	75	69	77	81

Sizes: 1 = 1,000-1,999 head 2 = 2,000-2,999 head 3 = 3,000-4,999 head 5 = 5,000-9,999 head 6 = 10,000-49,999 head 8 = 50,000 and more head

TABLE 16**Distribution of Producers According to How Paid for Slaughter Hogs by Size**

How paid	Size of operation						Total
	1	2	3	5	6	8	
Lean Value in Meat	24%	34%	38%	42%	49%	42%	30%
Lean Value Alive	29%	24%	29%	30%	31%	48%	28%
Going Price	44%	38%	28%	23%	18%	10%	39%
Various Combinations	3%	4%	5%	5%	2%	0%	3%
Total	100%	100%	100%	100%	100%	100%	100%

Sizes: 1 = 1,000-1,999 head 2 = 2,000-2,999 head 3 = 3,000-4,999 head 5 = 5,000-9,999 head 6 = 10,000-49,999 head 8 = 50,000 and more head

PORK INDUSTRY SURVEY - FORM 1

This Questionnaire Is For All Pork Producers. Only A Few Of You Will Be Asked To Fill Out The Other Enclosed Questionnaire On Contract Production.

1. What is your personal involvement in producing pigs and/or hogs? (*Check one of the following*).
- a. I own and/or manage a hog operation.
 - b. I work with hogs or hog producers but now I do not own nor manage a hog operation. (**If you marked (b) please stop here and return this questionnaire in the enclosed, postpaid envelope.**)

2. Your age? _____

If you are involved in more than one hog operation, please report on only the largest operation in which you are involved.

3. What year did this pork operation begin?

4. **Make one check on each line** indicating the relative importance of that activity in this business:

<u>Relative Importance</u>		<u>Activities</u>
<u>Not Done at all</u>	<u>Some Importance</u>	<u>Great Importance</u>
_____	_____	_____ Farrowing of pigs
_____	_____	_____ Finishing of hogs
_____	_____	_____ Production for sale of breeding stock
_____	_____	_____ Production of grain for hog feed
_____	_____	_____ Farm production other than feed grain & hogs
_____	_____	_____ Sale of commercial feed (as a dealer or manufacturer)

5a. How does the number of hogs/pigs marketed by this operation in 1991 compare to the number marketed three years ago?

- about the same
- more head marketed in 1991
- fewer head marketed in 1991

b. If you answered "more in 1991," how have you changed your facilities to increase your production in the last three years? (*Check all that apply*).

- Built some new facilities and/or expanded existing ones
- Leased or purchased additional facilities
- Contracted for production in other farmers' facilities
- Managed to run more head through the same facilities

c. With the facilities currently used, do you have the capacity to further expand production by? (*Check one*)

- 0-5% 6-10% 11-20% more than 20%

6a. Let's think ahead to 1997. If prices average about the same for 1992-1997 as for the last five years:

Do you expect this hog business to be operating in 1997? Yes No (*If "No", please go to 6c*)

b. Compared to last year, do you want to: (*Check one*)

- (1) Market more head by 1997?
- (2) Market about the same number by 1997?
- (3) Market fewer head by 1997?

c. If you answered either "more" or "fewer," or "out of business by 1997" please explain why you want to make that change.

7. By 1997, what facility changes will you need to make just to maintain the present level of production? (*check all that apply*)

- Minor upgrading and minor repairs
- Major repairs and/or remodeling of up to 50% of the facilities
- Major repairs and/or remodeling of 51 to 100% of facilities
- Complete replacement of up to 50% of facilities
- Complete replacement of 51 to 100% of facilities
- Lease additional facilities
- Contract with growers to use their facilities and labor

8a. Do you hire any full-time, non-family labor for this farm business?

() No () Yes (*If "Yes", go to question 9*)

b. If "No", indicate on this scale how you feel about hiring full-time, non-family labor.

Very Positive		Neutral		Very Negative
5	4	3	2	1

9. Assuming you had the necessary capital and labor, what size of operation would be your ideal upper limit?

For farrowing, what number of sows _____?
(Skip if you don't farrow)

For finishing, what number of market hogs per year _____?
(Skip if you don't finish pigs)

10. Check each of the following circumstances that might limit your further expansion.

- () Nothing limits me
- () Limited availability of loans for facilities
- () Limited availability of loans for hogs, feed and operating costs
- () Hassles of hiring and keeping good help
- () Hassles of environmental regulations
- () Personal considerations such as age or health
- () No one in family to take over when I retire
- () Concerns there may not be competitive outlets for hogs within hauling distance within a few years.
- () Profits in next few years probably won't support expansion.
- () Don't want to develop and keep the records essential to a larger operation.
- () Other (please specify)

11. Are you paid for your slaughter hogs on the basis of their lean value?

- () Yes, I mostly sell grade and yield, or in the meat
- () Yes, I sell on live weight, but the packer pays for their lean value
- () No, I get the going live-weight price

12. This hog operation: (*Check all that apply*)

- () Involves only a single farm.
- () Does **not** involve any contract production of pigs/hogs.
- () Produces hogs on more than one farm but does no contract production.
- () Is a farrowing cooperative (corporation) that supplies feeder pigs to its owners.
- () Is a multiplier operation for a producer of breeding stock. (Commercial or Individual)
- () Is a growing (contract) operation for another person or firm that provides the pigs or breeding stock (*Please go to the Grower Form 2. Do not complete questions 13 and 14.*)
- () Contracts for the production of some pigs/hogs by growers (contractees) - (*Please go to the Contractor Schedule Form 3. Do not complete questions 13 and 14.*)

13a. What were your marketings of pigs and hogs in 1991?

Slaughter hogs _____
Feeder pigs _____
(For use as) Breeding stock _____
Total Head _____

b. What were your total marketings of pigs and hogs in 1990: _____ Number of head?

c. In what state were these pigs/hogs produced?
_____ (If production in more than one state, please indicate which states and the percentage of 1991 sales per state)

14. Would you consider raising hogs or pigs on contract where you are the grower working for another party?
(*Check only one*)

- () I am currently considering contract raising.
- () I might consider contract raising in the future.
- () I would consider contract raising only if financially forced to.
- () I would not consider contract raising under any circumstances.

Thanks very much. If you are not involved in any way in contracting, do not go to the other questionnaires. Please return all forms in the postpaid envelope.