Production and Marketing Characteristics of U.S. Pork Producers – 2003

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Bertold Brecht once said, "Because things are the way they are, things will not stay the way they are." Because things in the U.S. pork industry never seem to "stay the way they are," researchers at the University of Missouri and Iowa State University have documented and analyzed changes in the U.S. pork industry for three decades. Thirty years ago, a pork producer could get a fairly good perspective on changes in the industry by looking out the window on a drive to the county seat. Today, hogs have moved indoors. Fewer neighbors are raising hogs, and those that are may have specialized in different methods have chosen to become very large, or have chosen to contract, thereby making what is happening in one region bear little resemblance to what is happening elsewhere. This report highlights the results of the most recent survey conducted as part of research by the University of Missouri and Iowa State University into the structure of the U.S. pork industry.

As always, we are very appreciative of the hundreds of producers who responded to the survey. Outstanding participation by producers and assistance from Vance Publishing and the National Pork Board have once again made it possible for the University of Missouri and Iowa State University to chronicle the evolution of the swine industry.

In February and March of 2004, two surveys were conducted regarding pork production and marketing practices in 2004. Questions centered on production, practices, and results for 2003 and production plans for 2004 through 2006. One survey was mailed to 5,040 pork producing operations marketing between 3,000 and 50,000 hogs annually. This sample was based on *PORK Magazine's* mailing list, with a random sample drawn from five sized categories of producers according to their reported annual market volume. The survey was also mailed to approximately 1,200 producers on the National Pork Board's (NPB) mailing list who were classified as marketing between one and three thousand hogs per year. Approximately 21 percent of the mail surveys were returned. In total, there were 1,196 usable responses from the combined *PORK Magazine* and NPB lists. Of the usable responses, 970 were owner-operators and 326 were contract growers. Producers on a third survey list of 159 operations marketing 50,000 or more hogs a year were contacted by telephone. The list was obtained from earlier surveys, personal contacts, and input suppliers to these large firms. If the producers confirmed marketing over 50,000 hogs annually, they were faxed a survey and returned it by fax. Twenty-three of the twenty-five operations marketing 500,000 hogs a year or more participated in the study, as did 70 of the 134 operations marketing between 50,000 and 499,999 head annually. It should be noted that the tables and figures created from this data were separated by owner-operator and contract grower responses. The contract grower data was used to create the tables and figures in the "Production Contracts" section.

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Structural Changes: 2004

Table 1 reports the number of operations and market share of independent hog producers in the U.S. by size category based on the number of head of slaughtered hogs marketed in 2003**.** The total number of operations of 70,130—which is the United States Department of Agriculture (USDA) estimate of owner operators--is down ten percent from the 2000 survey.

The category of largest producers—those marketing more than 500,000 head annually - are estimated to have marketed 40 percent of all slaughtered hogs in 2003. In 2003, there were 25 entities in this category, up from 20 firms marketing 35 percent of all hogs in the year 2000. It is estimated that the two categories of largest producers, which equals 159 producers or about one fourth of one percent (0.23%) of all producers, sold approximately 60 percent of slaughter hogs in 2003. Combined with the firms marketing 10,000 to 50,000 hogs per year, the largest three categories, totaling 1,074 operations (1.5% of total operations), and produce 78 percent of the hog slaughter. Conversely, the two smallest categories of producers, those marketing less than 3,000 hogs per year, represented almost 95 percent of all producers but produced less than 10 percent of the U.S. hog slaughter in 2003.

Table 1. Estimated Total Number of Operations & Share of U.S. Slaughter in 2003 by Size Category

Firm size (thousand head mktd.)	Number of operations	Market share
Less than 1	59,950	1%
1 – 3	6,630	8%
3 – 5	950	4%
5 – 10	1,526	9%
10 – 50	915	19%
50 – 500	134	19%
500+	25	40%
Total	**70,130**	**100%**

Table 2 presents the changes in the share of U.S. hog slaughter of the various size classes of producers. In 1988, the smallest producers raised almost one third of the U.S. hog slaughter, but over 15 years, this group's share of production has dwindled to only one percent. Over the same period, those producers in the over-50,000 category went from marketing 7 percent to almost 60 percent of all slaughter hogs.

Since 2000, only the largest two size categories, those marketing over 10,000 head per year, gained market share. The largest declines in market share since 2000 was that lost by the operations marketing between one and five thousand head per year. The five to ten thousand group has remained the most stable group since 1988 and may represent an economic breakpoint.

Table 2. Share of Annual U.S. Hog Slaughter by Year and Size Category

<table>
<tr><th>Firm size (thousand head mktd.)</th><th>1988</th><th>1991</th><th>1994</th><th>1997</th><th>2000</th><th>2003</th></tr>
<tr><td>Less than 1</td><td>32%</td><td>23%</td><td>17%</td><td>5%</td><td>2%</td><td>1%</td></tr>
<tr><td>1 – 2</td><td>19</td><td>20</td><td>17</td><td>12</td><td>7</td><td rowspan="2">8</td></tr>
<tr><td>2 – 3</td><td>11</td><td>13</td><td>12</td><td>10</td><td>5</td></tr>
<tr><td>3 – 5</td><td>10</td><td>12</td><td>12</td><td>10</td><td>7</td><td>4</td></tr>
<tr><td>5 – 10</td><td>9</td><td>10</td><td>12</td><td>10</td><td>10</td><td>9</td></tr>
<tr><td>10 – 50</td><td>12</td><td>13</td><td>13</td><td>16</td><td>18</td><td>19</td></tr>
<tr><td>50+</td><td>7</td><td>9</td><td>17</td><td>37</td><td>51</td><td>59</td></tr>
</table>

The change in composition of the two categories of largest producers and their market share is chronicled in Table 3 and Table 4. From 1994 to 2000, the number of producers in both categories has more than doubled. The number of firms in the 50 to 500 thousand head category actually declined from 2000 to 2003, but this is due to those firm's increased marketings and/or mergers which put them into the largest category.

Market share of operations marketing over 500 thousand head quadrupled from ten percent in 1994 to 40 percent in 2003, going from 10 percent of marketings to 40 percent. Over the same period, operations marketing 50 to 500 thousand head saw their market share almost triple, from 7 percent to 19 percent. Both categories saw similar levels of growth relative to 2000. The 50 to 500 thousand head group market share grew by about 12 percent while the 500+ group market share grew by about 14 percent.

Table 3. Number of Large Firms Producing Hogs

Firm size (thousand head mktd.)	1994	1997	2000	2003
50 – 500	57	127	136	134
500+	9	18	20	25

Table 4. Percent of U.S. Slaughter Hogs Marketed by Large Firms

Firm size (thousand head mktd.)	1994	1997	2000	2003
50 – 500	7%	13%	17%	19%
500+	10%	24%	35%	40%

The distribution of hog marketings between market hogs, feeder pigs (including weaner pigs), and seedstock, are presented by size group in Table 5. A "marketing" refers to each time a hog is sold. The Total column is a summation of the number of times hogs were sold, whether as a feeder pig and/or as a fat hog, therefore allowing for some double counting.

The market hogs column reflects the market share numbers discussed above. The number of feeder pigs sold by the larger producers, in terms of annual marketings is significant. The largest sellers of market hogs (500+ thousand head per year) also sell over five million head of feeder pigs. Producers marketing 10 to 50 thousand head per year market over a third of all feeder pigs. The 10 to 50 thousand head group also has the highest proportion of marketings sold as feeder pigs with almost one in four marketings being feeder pigs.

Seedstock marketings represent slightly more than one half of one percent of total marketings and seedstock is now almost totally the realm of producers selling over ten thousand head of market hogs per year. All three of the largest size categories sell 170 to 200 thousand head of seedstock per year which represents almost 97 percent of the total seedstock marketings.

Table 5. Hogs Marketed in 2003 by Type (million head)

Firm Size (thousand head mktd.)	Market hogs	Feeder pigs	Seedstock	Total
1 – 3	7.9	0.7	0.01	8.5
3 – 5	3.9	0.4	0.00	4.4
5 – 10	8.9	1.4	0.01	10.3
10 – 50	18.7	5.9	0.17	24.8
50 – 500	18.3	1.9	0.20	20.4
500+	39.7	5.1	0.20	44.9
Total	**97.4**	**15.4**	**0.59**	**113.2**

Table 6 reports the percentage of U.S. marketings by the type of firm or organization that owns the hog operations for the two categories of largest hog producing firms. The most notable total in Table 6 is that large hog operations owned by packers, and/or processors account for almost 25 percent of the total U.S. hog slaughter. Hog marketings by large firms owned by veterinarians, feed companies and/or international firms accounted for less than ten percent of marketings in 2003. Thus within the largest two categories, 28 percent of market hogs are associated with a vertically integrated entity, either a supplier or a packer.

Table 6. Percent of U.S. Slaughter Hog Marketings by Type of Owner

Operation wholly or partly owned by:	Firm Size (thousand head mktd.)	
	50 - 500	500+
Veterinarian	0.20%	1.02%
Feed company	1.23%	2.82%
Packer or processor	0.47%	23.30%
Foreign firm or person	0.43%	3.54%

In our 2000 survey, producers were asked to reveal their growth plans for the 2000-2003 period. Table 7 reports that in 2000 all groups of producers indicated that they had planned expansion through 2003, albeit some more than others. However, the three smallest categories of producers actually saw their marketing decline significantly over the period. The producers in the 10 to 50 thousand head category did manage slight growth (3%) over the period relative to the planned 12 percent growth. This number is perhaps tempered by operations in this category that did grow significantly over the period and jumped into the next higher category. Growth for the largest firms was on target with expectations. Again, much of the growth was likely achieved through acquisition of operations in the 10 to 50 thousand head category.

Table 7. Growth* Planned 2000-03 as Reported in 2000 Study Compared to Actual Growth 2000-03

Firm Size (1,000 head mktd annually)	Planned in 2000	Actual
1 – 3	+6%	- 41%
3 – 5	+5	- 43
5 – 10	+12	- 12
10 – 50	+12	+3
50 or more	+14	+16

***Percent increase in number of head marketed.**

Looking forward, Table 8 presents the growth plans for the 2003-2006 period reported by producers in each category. Over the 2003-2006 horizon, producers in every size category but the three to five thousand head category and the 500,000 plus category, plan for double digit growth in marketings. For size categories exceeding 5,000 head, growth plans for 2004 are similar, ranging from six to nine percent. However for the 2003-2006 period, there are significant differences in plans. The 20 percent growth projected by the 50 to 500 thousand hog category is most consistent with their immediate growth plans. For the largest category (500+), plans are for only one percent growth from 2004 to 2006, which may reflect the difficulty in growing from a large base.

The growth questions reflect attitudes of producers the day the survey was completed, and implication for hog supplies are not clear. Based on survey responses, it appears most producers plan growth through acquisitions, which if that is the only mode pursued, all of the planned growth in each category can not occur and total hog marketings may expand primarily through productivity gains. It will be interesting to watch the follow-through on the growth plans projected. When the 2000 survey was being completed by producers (February – March 2001), hog prices were fairly strong. When the current survey was arriving on the farms, hog prices were fairly weak prior to the 2004 run-up in prices.

Table 8. Growth* Planned by Each Size Group 2003-04 and 2003-06

Firm Size (1,000 head mktd annually)	Planned 2003-04	Planned 2003-06
1 – 3	13%	18%
3 – 5	0.5	3
5 – 10	9	22
10 – 50	6	11
50 – 500	7	20
500+	6	7

***Percent increase in number of head marketed.**

The manner in which firms plan to expand over the 2003-2006 horizon is revealed in Table 9. From the first line of the table, it can be seen that on average, producers in all size categories plan to market more hogs in the 2003-2006 period, but the feeling is much stronger among the largest producers. Only 16 percent of producers in the 50 to 500 head category and only 19 percent of producers in the 500+ category said they did not plan to market more hogs per year through 2006.

Except for producers in the very largest size category, the primary game plan is to market more hogs through existing facilities, i.e. efficiency gains. In these smaller categories, seven to thirteen percent of producers planned to build new facilities and one to four percent anticipating buying existing facilities. For the largest size category (500+), only nine percent of respondents planned to build new facilities. The respondents in the largest category, who planned to market more hogs, were roughly split between increasing marketings through existing facilities, purchasing existing facilities, and contracting for more finishing space. While some existing finishing space may convert to contract space, it appears that the largest producers will be seeking new contract producers and/or buildings over this period.

Table 9. How Firms Plan to Expand 2003-06 (percent of firms responding in each size category)

	Firm Size (thousand head mktd.)					
	1-3	**3-5**	**5-10**	**10-50**	**50-500**	**500+**
Do not plan to market more hogs	39%	40%	41%	32%	16%	19%
Market more through existing facilities	46	39	37	34	62	25
Construct new facilities	8	11	9	13	7	9
Purchase existing facilities	3	1	4	3	4	22
Contract for more finishing space	3	8	10	19	11	25

Figure 1 reports the producers generalized financial results from 2001 through 2003. In 2001, well over 80 percent of the firms in the two largest size category reported that they had made a profit, while approximately half of the producers in the four smaller sized categories reported a profit. However, in 2002, it appeared that only about one third of producers in each size felt they made a profit. The exception in 2002 was the firms in the 50 to 500 thousand head category, where only 11 percent claimed they made a profit. In 2003, half of producers in the four categories, marketing less than 50 thousand hogs per year, reported a profit. In a stark contrast to 2001, of the largest producers (50 to 500 thousand and 500+), only about one fourth felt that 2003 was a profitable year.

The results presented in Figure 1 do not seem to follow a consistent pattern. When looking at all three years, it is hard to conclude that the largest firms are consistently more profitable than the smaller firms. A number of issues could be distorting responses and results. For example, many of the largest firms are likely to be on fiscal years and thus the 12 months being referenced may differ from the calendar years that most smaller producers referenced. Secondly, larger firms likely refer to profit after all cash and non-cash costs such as depreciation, whereas smaller firms may be referring to positive cash-flow. Finally, it might be that many of the smaller producers are likely to think of profit of “the farm” which may include enterprises besides swine.

Figure 1. Percent of Firms Reporting a Profit by year

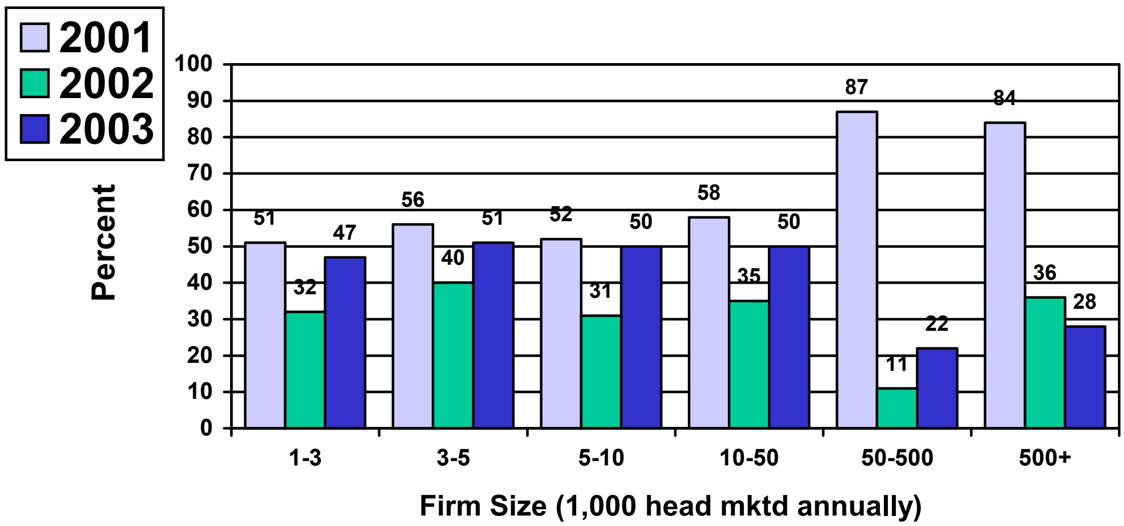
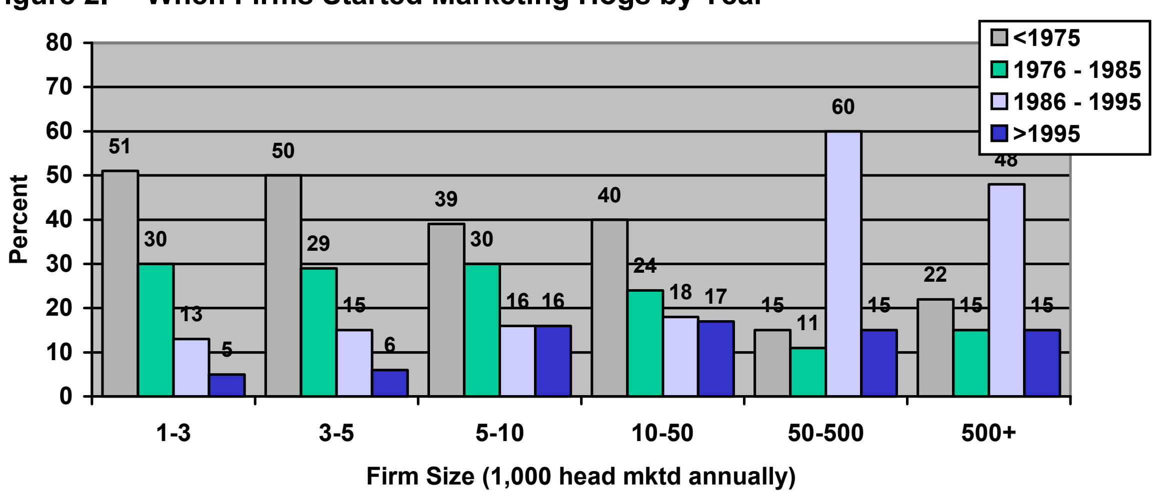


Figure 2 provide insights into the tenure of U.S. hog producing firms. Half or more of the firms selling fewer than 5,000 hogs per year in 2003 started prior to 1975. Approximately 40 percent of firms selling 5 to 10 and 10 to 50 thousand hogs annually have been in operation since prior to 1975, while 15 percent or less of the very largest firms have been selling hogs that long. About 30 percent of the firms who are now in the three smallest size categories started selling hogs in the 1976 to 1985 period. Eleven percent of the firms now marketing between 50 and 500 thousand hogs and fifteen percent of the very largest producers began marketing in this period. The 1986 to 1995 period was when the greatest percentage of the large firms started selling hogs. Sixty percent of firms selling between 50 to 500 thousand hogs per year, started between 1986 and 1995. Six percent of the surveyed firms in the two smallest categories started selling hogs since 1995. Fifteen to seventeen percent of the larger firms have started since 1995.

Figure 2. When Firms Started Marketing Hogs by Year



A number of questions were directed toward production practices employed on the surveyed farms. Table 10 reports the prevalence of practices related to input procurement, facilities, and feeding practices. Except for those producers marketing 50 to 500 thousand head per year, most respondents indicated that they prepare their own feed. Only 40 percent of respondents in the 50 to 500 thousand head category produce their own feed.

Conversely, with regard to replacement gilts, firms in the 50 to 500 thousand head per category were the only category where a clear majority purchases their replacement gilts. In the one to three, three to five, and five to ten thousand head categories, approximately one third in each, indicated that they purchased replacements. Only a small percentage (10%) of the firms marketing over 500 thousand head purchased replacement gilts. These firms have their own gilt multiplier units.

Not surprisingly, survey results indicated that the overwhelming majority of hogs marketed in the U.S. are raised in indoor facilities. In the four largest categories, from five to ten through 500+ thousand head marketed, 90 to 98 percent of respondents indicated that their hogs were raised indoors. If Table 10 is interpreted with the market shares of each category in Table 1, a rough estimate of U.S. hogs raised outdoors at some stages of their life would be around eight percent.

Except for the respondents in the very smallest category, most firms indicated that they fed barrows and gilts separately. Perhaps the most interesting result in Table 10 is that while split sex feeding is generally considered economically advantageous, approximately one fourth of hogs raised by the largest producers are not fed in male/female groups.

With respect to facility types, firms were asked what percentage of their finishing buildings was wean-to-finish (W-F). The level of W-F facilities was surprising given that three site production (farrowing-nursery-finishing) models have dominated the structural change in U.S. hog production in the last two decades and is for the most part fixed. The average responses by category were surprisingly high considering that W-F is relatively new and the amount of construction in recent years has been much lower than in the 1990's.

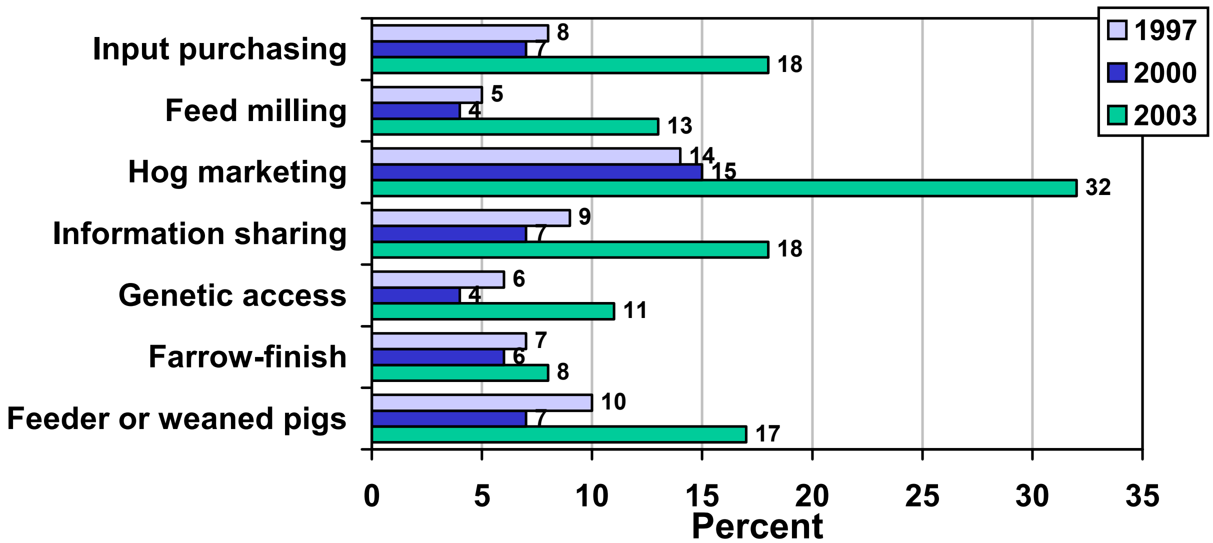
Table 10. Production Information 2003 (average of percentages reported by individual firms)

Percent of the firm's --	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
feed is self-prepared	83%	78%	65%	65%	40%	59%
replacement gilts are purchased	31	29	38	51	67	10
hogs are raised indoors	78	84	90	91	91	98
feeding is split sex	35	54	69	76	77	72
facilities are wean-finish	21	16	16	26	22	20

In the most recent survey, firms marketing 50 thousand head or less per year were asked about involvement in networking activities such as input/feed purchasing, marketing, information sharing, genetic access, and pig procurement. The responses relative to prior years are presented in Figure 3. The results from the 1997 and 2000 surveys did not indicate a high level of network activity, nor were significant changes observed from 1997 to 2000. However, in the most recent survey, there appears to be a surprising shift in the level of collective action among small and medium sized producers. In all but one form of networking, the level of networking appears to more than double from 2000. The biggest surge in networking was in hog marketing where nearly one third of the respondents indicated that they were involved in group marketing. While a great deal of networking discussion and education programs began in earnest in 1995, it appears that producers may finally be moving up a learning curve or into a comfort zone where more rapid adoption of networking practices is beginning to occur.

Only network farrow-finish, where one firm specializing in farrowing might connect with another to finish, exhibited little change over the three survey periods. This is probably indicative of the difficulty of establishing and governing such a relationship. This close, narrowly focused relationship clearly poses the greatest challenges in terms of personal compatibility and difficulty in negotiating risk sharing and dividing any economic gains that might emerge from the relationship.

Figure 3. Networking Activities of Producers Marketing 1,000-50,000 Head Annually



In the 2003 survey, small to medium sized producers were questioned about the other farm enterprises on their operations. Table 11 and 12 present the results of these questions. As could be expected, these responses may reflect the traditional geographic location of hog production, particularly for the small and medium sized farms. For example a very high percentage of respondents (Table 11) indicated that they also had corn and soybean operations on their farms. This relationship weakened for the larger farms, which reflect specialized investment in larger operations in recent decades within and outside of the Corn Belt region.

Not surprisingly, for farms marketing relatively few hogs, there was significant diversification. Half or more of all small to medium sized producers considered corn production their other most important enterprise (Table 11). Roughly one fourth of the producers in the 1-3 and 3-5 thousand head marketed per year categories, had beef enterprises, and nearly a third also grew wheat.

Table 11. Percent of Hog Operations Producing Other Commodities

Commodity	Firm Size (thousand head mktd.)			
	1-3	3-5	5-10	10-50
Corn	94%	90%	84%	73%
Soybeans	90	89	80	68
Wheat	29	30	26	24
Dairy/milk	5	2	4	5
Beef cow/calf	27	23	16	20
Beef stockers	7	7	5	6
Beef fed cattle	23	21	18	16

Table 12. Other Commodity Considered Most Important Produced on Hog Operation (percent of total firms in size category)

Commodity	Firm Size (thousand head mktd.)			
	1-3	3-5	5-10	10-50
Corn	52%	61%	56%	50%
Soybeans	5	4	3	2
Dairy/milk	3	1	1	1
Beef cow/calf	8	3	2	2
Beef fed cattle	7	4	3	2

The changes in the usage of artificial insemination (A.I.) from 1997 to 2003 are reported in Table 13. The largest producers had almost completely moved to A.I. by 2000. In 2003, it appears that A.I. is used on almost all litters produced by firms marketing over 50 thousand head annually. While the percent of litters sired by A.I. on the small and medium sized firms increased significantly from 1997 to 2000, the adoption of A.I. since 2000 has been dramatic. A.I. usage by firms marketing three to five and five to ten thousand head per year doubled from 2000 to 2003. For firms marketing ten to fifty thousand head, A.I. usage increased almost 50 percent and the usage rate for these firms is approaching that of the largest firms.

Table 13. Percent of Litters Sired by Artificial Insemination 1997, 2000, 2003

Firm size (thousand head mktd. annually)	1997	2000	2003
1 – 3	10%	23%	60%
3 – 5	21	33	66
5 – 10	39	40	79
10 – 50	58	65	91
50 – 500	75	95	98
500+	84	91	100

In addition to asking producers about A.I. usage, a follow-up question was asked regarding the source of semen on farms using A.I. The results in Table 14 show which sources of semen were employed by firms in each size category. Some firms utilize multiple sources, thus the percentages indicate the percent of firms that utilized a given source, not the percent of semen acquired from a source (A column total of 100% indicates all respondents in the category indicated a single source).

Most firms (61 to 76%) in all the categories that marketed less than 500 thousand head per year purchased semen from another firm. Less than 20 percent of the farms that marketed less than ten thousand collected on the farm and roughly a quarter of firms in the ten to fifty and 50 to 500 thousand head categories collected semen. The fact that almost 90 percent of the largest firms indicated that they collected semen on the farms, is indicative of the closed herd nature of many large firms, and economies of scale their size provides in semen collection.

While 14 percent of the 50 to 500 thousand head group and 22 percent of the 500+ category indicated a part-owned stud source, few (less than 10%) of the smaller categories indicated investments in boar studs.

Table 14. Where Firms Acquired Semen (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Collected by firm	18%	14%	16%	30%	23%	87%
Purchased	76	76	76	61	68	26
Part-owned stud	6	7	6	8	14	22
Other		3	1	1		

The level of imports of Canadian-born feeder pigs has been a "hot button" issue in recent years and was the subject of two questions on the most recent survey. Tables 15 and 16 reveal the prevalence of Canadian pig sourcing and pricing practices in 2003.

Ten percent or less of firms marketing fewer than 50 thousand hogs per year indicated that they finished Canadian-born pigs. The highest prevalence of Canadian-born sourcing was with firms marketing 50 to 500 thousand head per year. Over 60 percent of these firms indicated that they utilized pigs from Canada. Forty-three percent of the very largest firms indicated that they finished Canadian pigs in 2003.

Of the firms that indicated they finished Canadian pigs, spot market pricing was utilized by most of the firms except for the respondents in the 500+ thousand head category. Over two-thirds of the largest firms finishing Canadian pigs purchased them under a marketing contract which contrasts sharply to the 50 to 500 thousand head category, where only two percent of firms purchased Canadian pigs under a marketing contract. The heavy reliance on the spot market by Canadian weaner pig producers is surely indicative of the significant price and currency risks these producers face in their own industry.

Table 15. Firms Finishing Canadian-born Pigs

Firm Size (1,000 head mktd annually)	Percent of Firms
1 – 3	5%
3 – 5	4%
5 – 10	10%
10 – 50	10%
50 – 500	61%
500+	43%

Table 16. Method of Pricing Canadian-born Pigs (percent of firms that fed Canadian pigs by size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Spot market	89%	67%	72%	71%	96%	42%
Under marketing contract	11	33	28	24	2	67
Transfer from own facility in Canada					2	

Marketing Practices

Table 17 through Table 24 and Figure 4 report the results of questions related to marketing practices of firms in the various size categories. Two-thirds to three-fourths of firms marketing less than ten thousand head per year indicated that they sold hogs on a "load by load" contract. Twelve to sixteen percent of farms in these same categories indicated that they marketed through a group contract. Over half of the firms marketing between ten and fifty thousand hogs per year indicated that they marketed on a load by load basis in 2003. For the 50 to 500 and 500+ thousand head categories, over three-fourths of the firms marketed under a negotiated contract. Almost 30 percent of the very largest firms indicated that they marketed hogs to their own slaughter plant.

Table 17. How Firms Marketed Slaughter Hogs, 2003 (percent of firms in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Load by load	77%	70%	66%	55%	13%	33%
Negotiated contract	4	6	5	5	82	76
Group contract	13	12	16	13	57	0
Own packing plant	3	2	1	2	3	29
Other	4	6	5	5	4	0

Except for the very smallest firms, most of the respondents to the survey indicated that they sold to more than one packer (Table 18). Not surprisingly, larger firms sold to a greater number of packers. Approximately three-fourths of the firms in the 50 to 500 thousand head category and two-thirds of the 500+ thousand head category marketed to three or more packers. Almost one fourth of the largest firms marketed to seven or eight packers.

Table 18. Number of Different Packers Sold to in 2003 (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
1 packer	58%	47%	42%	38%	15%	24%
2 packers	32	36	33	33	10	10
3 packers	10	14	17	13	61	19
4 packers	1	2	7	9	8	10
5 packers		1		4	6	10
6 packers				2		5
7 packers						19
8 packers						5

While many survey respondents indicated that they sold to multiple packers, most of the hogs sold by firms selling less than 50 thousand head were sold to the firm's largest buyer. The average percent of respondent's hogs sold to their largest buyer is presented in Table 19. Eighty-five percent of hogs sold by firms in these categories went to their largest buyer.

Table 19. Percent of Marketings Sold to Producer's Largest Buyer

Firm Size (1,000 head mktd annually)	Average Of Firms Reporting
1 - 3	88%
3 - 5	88%
5 - 10	84%
10 - 50	82%
1 - 50	85%

The average distance that firms haul hogs is presented in Table 20. The survey asked firms to check one of the distance categories for the average distance that they typically ship hogs. For larger, more spread-out operations, this would be a difficult question to answer. For example, the fact that no firms in the 500+ thousand head category indicate that they shipped hogs an average of less than 50 miles, does not mean that these firms do not haul any hogs less than 50 miles.

For the smaller firms, most firms indicated that they shipped hogs less than 100 miles. However a surprising number (over 25%) of the firms in the categories marketing between three and fifty thousand head had average hauls of over 150 miles. Firms in the 50 to 500 thousand head category appear to be most consistently located in terms of distance to market in that two-thirds of firms in this category indicated that they shipped hogs between 50 and 99 miles. For the largest firms, (500+ thousand), 80 percent of firms responded that they haul hogs 100 miles or more on average.

Table 20. Average Distance Hogs Are Hauled for Slaughter (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Less than 50 mi.	42%	29%	21%	18%	4%	0
50-99 mi.	24	22	31	21	66	20
100-149 mi.	17	19	20	26	11	44
150-199 mi.	9	16	14	17	6	24
200-299 mi.	5	10	9	10	6	4
300 mi. or more	3	4	6	7	7	8

The 2003 survey asked firms how they established prices on their hog marketings (Table 21). This year's survey expanded and perhaps clarified pricing and contract categories, so the category changes make direct graphic comparison to the 2000 survey difficult.

Since the 2000 survey, usage of the spot (cash) market by firms marketing less than 50 thousand head per year have continued to decline. Spot market sales by these small and medium sized firms declined by 14 to 24 percentage points.

In what might be one of the most striking changes since the last survey in 2000, it appears that the largest firms (50 to 500, 500+) are marketing considerably more hogs on the spot market. Firms marketing over 500 thousand head reported that they sold 15 percent of their hogs on the spot market, which is up from one percent in the 2000 survey. A number of factors could be leading larger producers to sell on the spot market, and the impetus may be coming from the producer side, the packer side, or both. The "thinning" of the spot market in recent years has caused numerous proposals for related legislation, and this trend could be in response (by both packers and large producers) to that threat. It is certainly in the best interest of seller firms to maintain volume in the cash market as many of their formula contracts price off various daily cash market quotes. The move to more spot purchases by packers could be a response to experiences in the 1990s where those packers with less fixed price or window contractual obligation fared much better given the opportunity to buy cheap cash market hogs. Finally, a contributing factor could be that some larger firms are achieving a level of financial strength which allows more risk exposure to cash market.

A relatively new pricing mechanism has emerged in recent years in which wholesale meat prices are used to determine the value of the hogs delivered to packers. This year's survey included this pricing category with the pricing question and the results were somewhat surprising. Firms of all sizes appear to be embracing this pricing option. For all the firms marketing up to 50 thousand head per year, between five and eight percent of their hogs were priced off meat prices. Four percent of hogs marketed by the largest firms were valued off meat prices, which is still significant given the market share of this group.

In the 2000 survey question related to pricing and contracts, respondents could not indicate if their window contract included a ledger. In the most recent survey, there was a ledger and a non-ledger response. While the extent of window contracts with ledgers was not measurable in the 2000 survey, it appears that very few hogs were marketed under these types of agreements in 2003. Only two percent of hogs marketed by the 50 to 500 thousand head group and one percent of hogs marketed by the firms selling between three and ten thousand head were marketed under window contracts with a ledger. Overall it appears that there has been a significant decline in window contracts. The only exceptions were among firms in the 50 to 500 thousand head category, where the decline was only one percentage point and in the three to five thousand head category where it appears that the usage of window contracts increased by one percentage point over the 2000 survey. Since the 2000 survey, pricing under window contracts declined by two-thirds or more for firms in the five to ten and ten to fifty thousand head category and by 50 percent for the largest firms category.

Table 21. Percent of Hogs Sold on Spot Market and Under Marketing Contracts (average of percentages reported by size category)

	Firm Size (thousand head mktd.)						
	1-3	3-5	5-10	10-50	50-500	500+	ALL
Spot market – negotiated	53%	40.0%	29%	26%	11%	15%	21.5
Contract - futures market	9	8	8	11	9	2	6.4
Formula - hog prices	22	27	32	37	39	68	47.4
Formula - meat prices	8	6	7	5	8	4	5.6
Formula - feed/ledger	2	5	6	5	9	1	4.0
Formula - feed/no ledger		4	4	5	5	6	4.8
Window – ledger		1	1		2		.05
Window - no ledger	1	4	3	5	16	4	6.1
Other	5	5	7	5	2		2.6

Except for the very largest firms, most respondents indicated that they had some flexibility when choosing marketing dates (Table 22). While it is not clear if packers impose the tight schedule, or if logistics on the farm drive marketing dates, the percentage of firms indicating that they must market on a "tight schedule" increased with the size categories of firms. Almost two-thirds of firms in the 500+ thousand head category indicated that they marketed on a tight schedule.

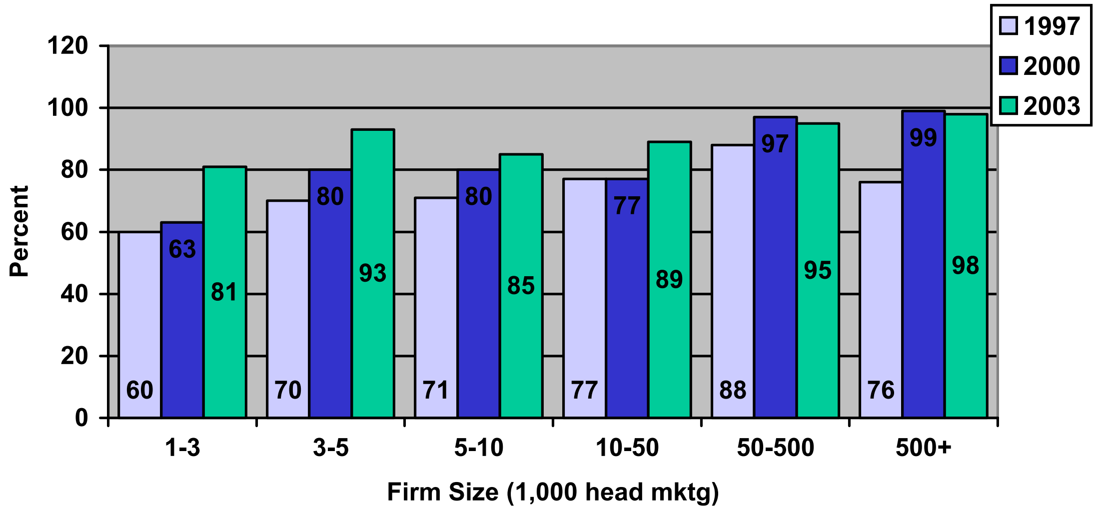
Most firms marketing between one and five thousand head per year indicated that they had the flexibility to market hogs at the desired weight. For firms selling between five and five hundred thousand head, 33 to 41 percent of firms indicated that they marketed hogs at the desired weight.

Table 22. Flexibility in Marketing Dates (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Tight schedule	10%	15%	26%	35%	45%	61%
Somewhat flexible	27	31	32	32	14	17
Market at desired weight	63	54	41	33	41	19

The trend toward carcass merit pricing appears to be intact through 2003 (Figure 4.). The larger firms were selling virtually all their hogs on a carcass merit basis in 2000, and there was only a slight change in 2003. The percentage of hogs sold on a carcass merit basis increased significantly and exceeded or was near 90 percent for the small and medium sized firms.

Figure 4. Percent of Hogs Sold on Carcass Merit Basis



Use of the futures market appears to increase with the size of firm. (Table 23) A high percentage of the largest firms indicated that they use the futures market at times. Eighty-three percent of firms in the 50 to 500 thousand head category and 67 percent of the firms in the 500+ thousand head category use futures at times. Somewhat surprising is that almost a quarter of the very largest firms indicated that they never use the futures market.

The primary reasons firms don't use the futures market (Table 24) appear to be related to bad results in the past or the opinion that option contract premiums are too high. Less than 25 percent of respondents in every category indicated that the use of futures markets was too complicated.

Table 23. Use of Hog Futures Market by Hog Firms (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Use contract tied to futures	19%	28%	33%	28%	4%	14%
Use futures at times	17%	27%	33%	44%	83%	67%
Never use	64%	45%	34%	27%	13%	24%

Table 24. Why Hog Producers Do Not Use Futures or Options (percent of firms responding in size category)

	Firm Size (thousand head mktd.)					
	1-3	3-5	5-10	10-50	50-500	500+
Bad results in the past	23%	34%	30%	35%	30%	69%
Option premium too high	26	30	34	28	40	6
Don't like margin calls	12	11	8	15	10	6
Too complicated	21	5	11	5	20	19
Other	17	20	18	18		

Marketing Contracts

The 2003 survey repeated a series of opinion questions relating to marketing contracts. Figure 5 through Figure 13 compare the responses from 2000 to the most recent survey.

Respondents appear to be less inclined to agree that marketing contracts help coordinate slaughter to better meet industry needs (Figure 5). The lower hog prices may have been a factor in the reduced number. However responses appear to be relatively neutral on the statement. The most significant change in attitude appeared to be among firms in the 50 to 500 thousand head marketed per year.

The opinions of respondents in the small to medium sized categories changed little with respect to how they felt they had been treated under their marketing contract (Figure 6). For the larger firms however, there appears to be less agreement in 2003 that they had been treated fairly under their contract. Given the downturn in hog prices between surveys, this apparent shift may reflect the expiration of older contracts and downward pressure on returns under the terms of new agreements. Whatever the case, there was little change in opinion as to whether firms would continue to use marketing contracts (Figure 7).

In what might be related to the fairness question, there was slightly more agreement among firms in the ten to fifty thousand head category that USDA should more closely monitor marketing contracts (Figure 8). The largest firms, ones that are the largest users of contracts, still strongly disagree with the idea of USDA monitoring of agreements.

With respect to the statement, “I prefer to market all my hogs on the cash market,” the level of agreement declined with size (Figure 9). Opinions on this statement only changed among the largest firms, with firms tending to disagree more than in 2000.

Of all the opinion questions, the biggest shift occurred relative to the notion that marketing contracts have caused lower cash prices (Figure 10). Across the board by size category, respondents more strongly agreed that contracts have caused lower prices. The magnitude of the opinion shift from 2000 to 2004 seemed to increase with the size of firm and was most pronounced among respondents in the 500+ category. Again the producers may be comparing the low hog prices of 2002 and 2003 with marketing contracts as they form opinions, but there may or may not be any cause and effect.

Respondents somewhat agreed that producers with contracts get higher prices (Figure 11) and this opinion had changed little since 2000. The largest producers were not asked this question in 2000, but the firms in the 50 to 500 thousand head category appeared to have the strongest agreement on this statement.

The largest firms disagreed most strongly to the idea that packers show undue preference in offering contracts (Figure 12). Smaller firms were more in agreement with this statement than the medium to large firms. There appeared to be little change in opinion on this question since the 2000 survey.

In the 2003 survey, it does not appear that any respondents felt strongly that marketing contracts should be made illegal (Figure 13). In fact, the largest firms most strongly disagreed with this statement. Overall, respondents’ feelings on this question seemed to soften from the 2000 survey.

Figure 5. Opinions on Marketing Contracts: Contracts Help Coordinate Slaughter

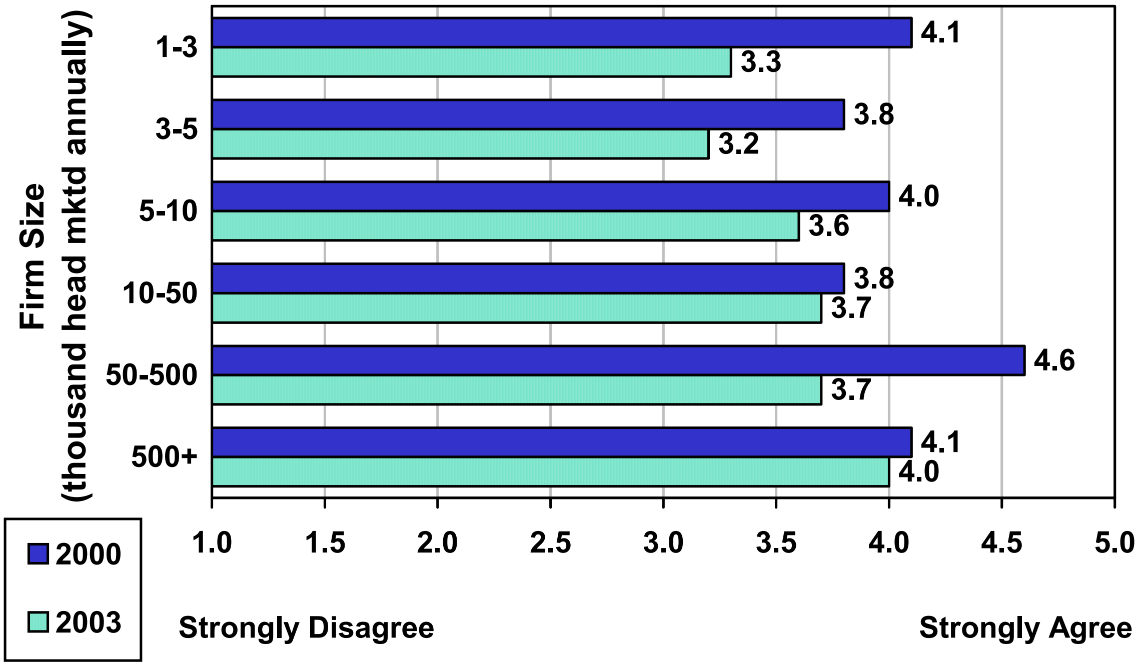


Figure 6. Opinions on Marketing Contracts: Felt They Were Treated Fairly under Contract

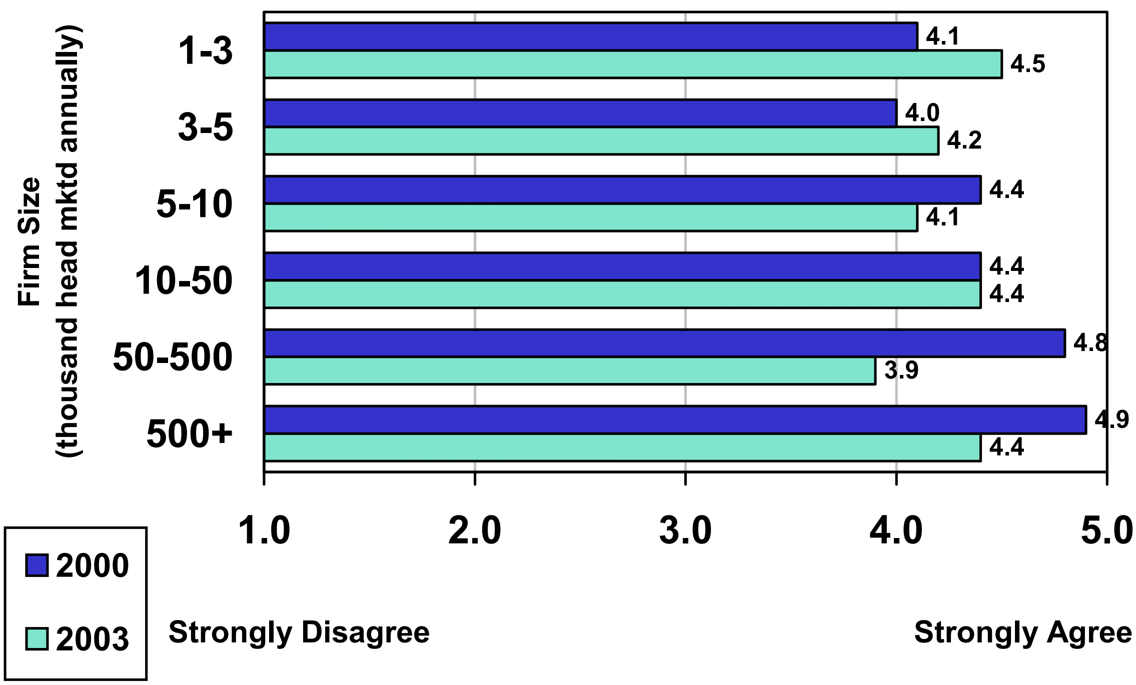


Figure 7. Opinions on Marketing Contracts: Plan To Continue Marketing with a Contract after Current One Matures

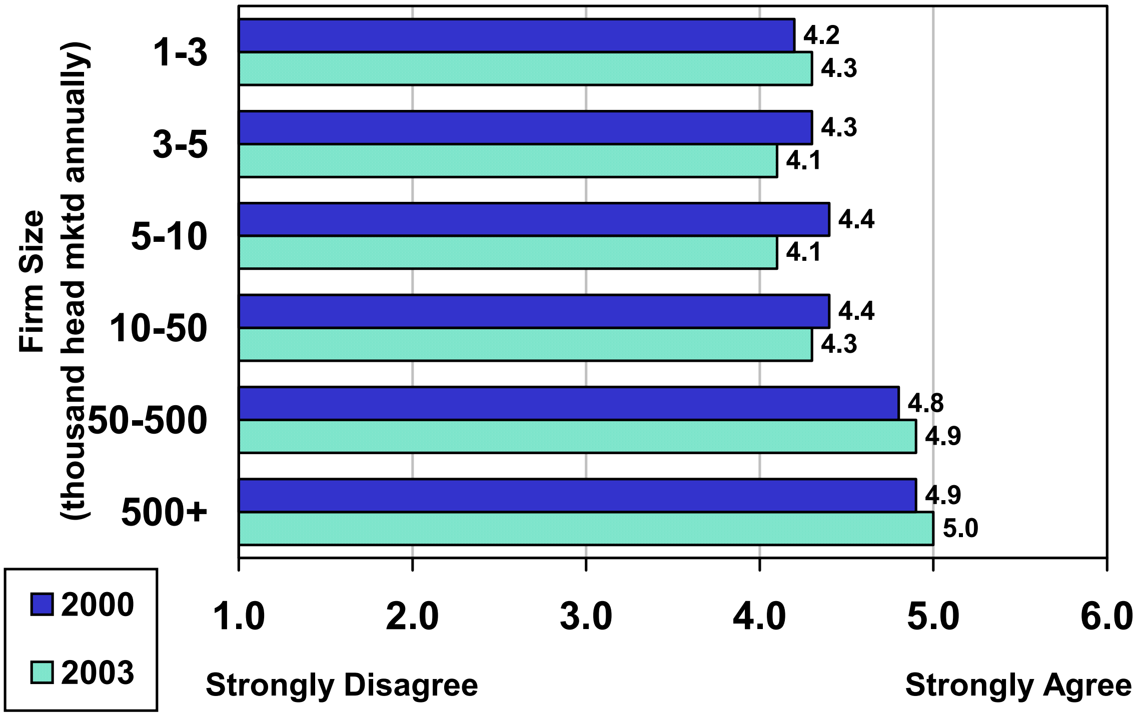


Figure 8. Opinions on Marketing Contracts: Should Be More Closely Monitored by USDA

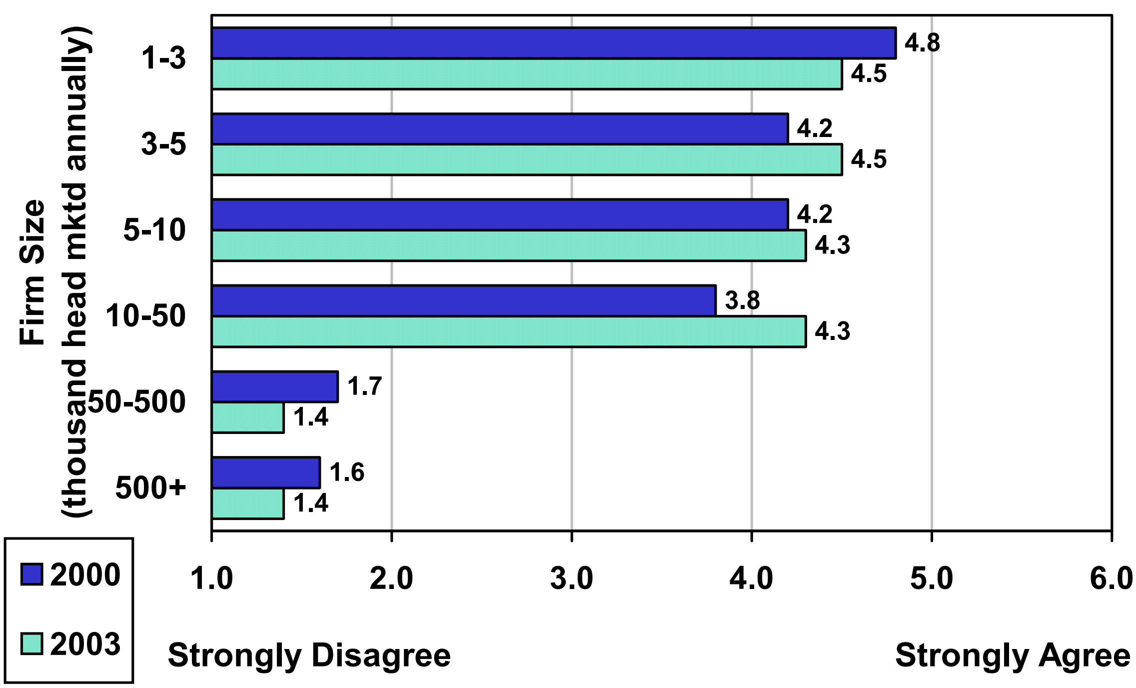


Figure 9. Opinions on Marketing Contracts: Prefer To Market All Hogs on Cash Market

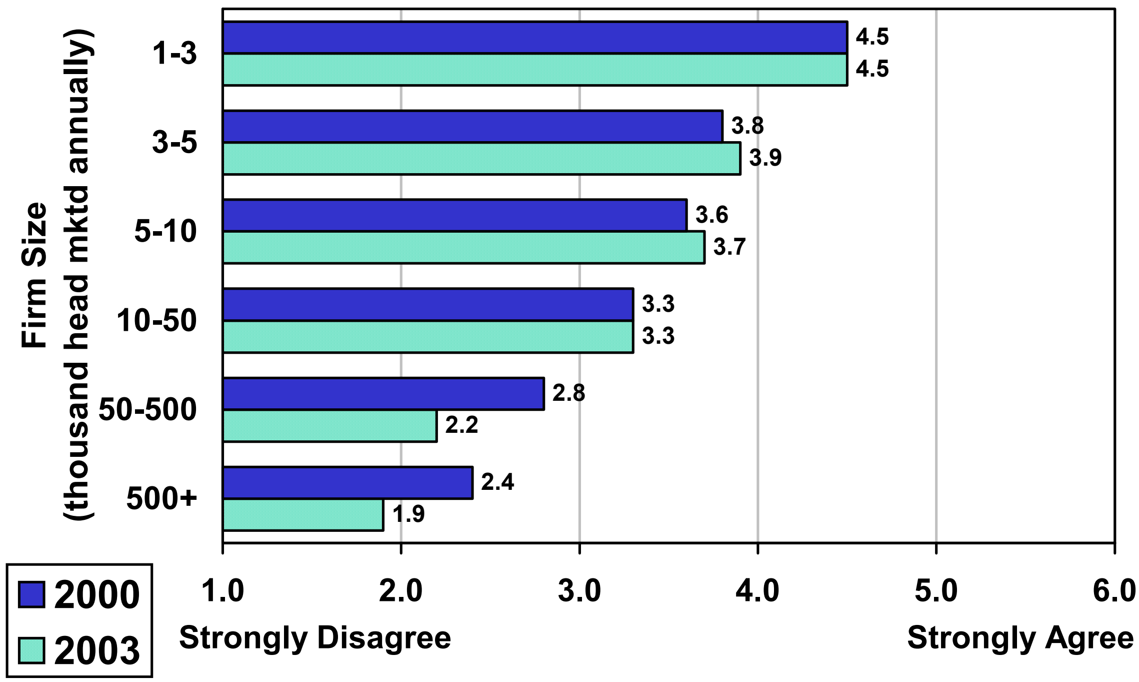


Figure 10.Opinions on Marketing Contracts: Have Caused Lower Cash Market Prices

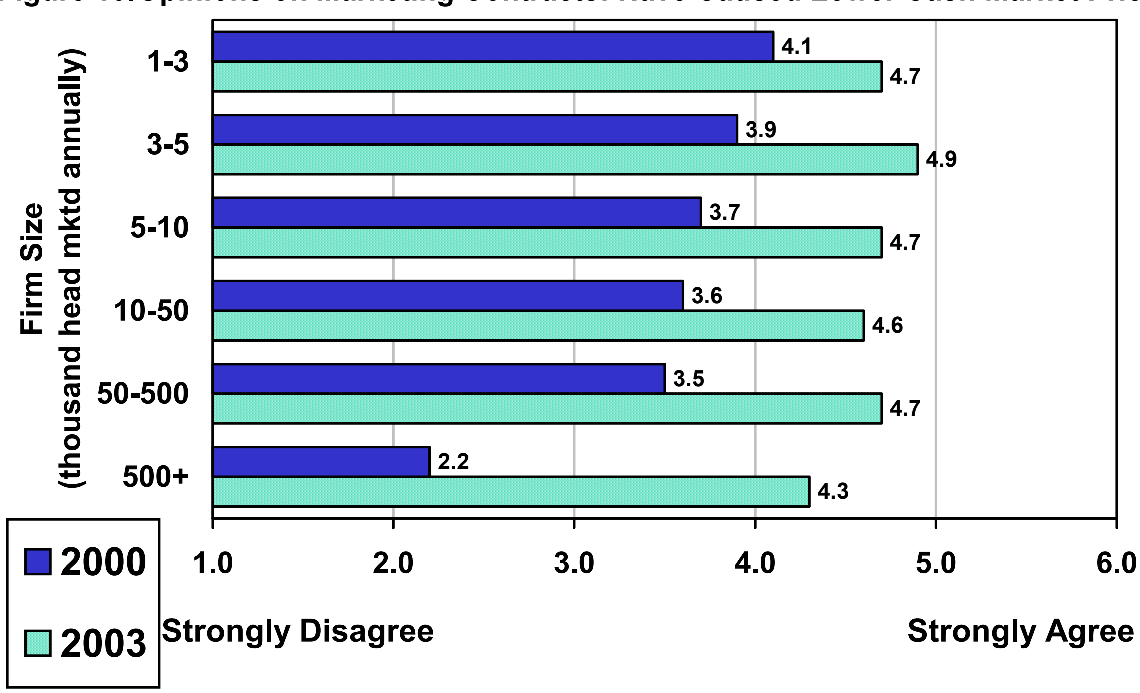


Figure 11. Opinions on Marketing Contracts: Producers with Contracts Get Higher Prices

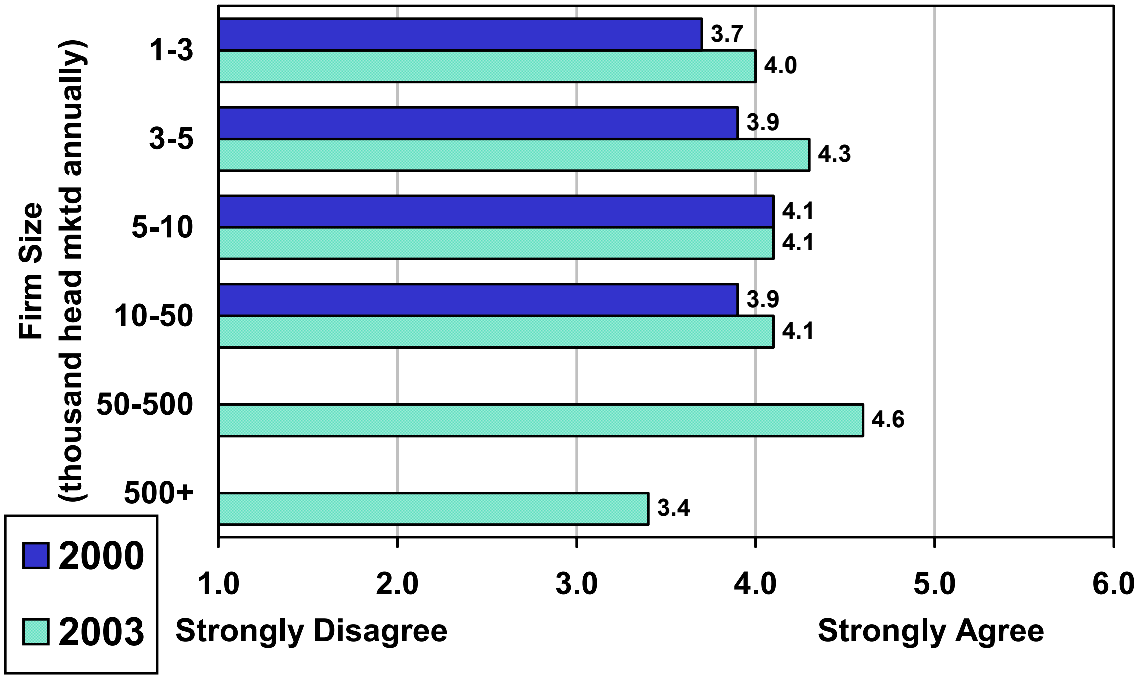


Figure 12. Opinions on Marketing Contracts: Packers Showed Undue Preference in Offering Contracts

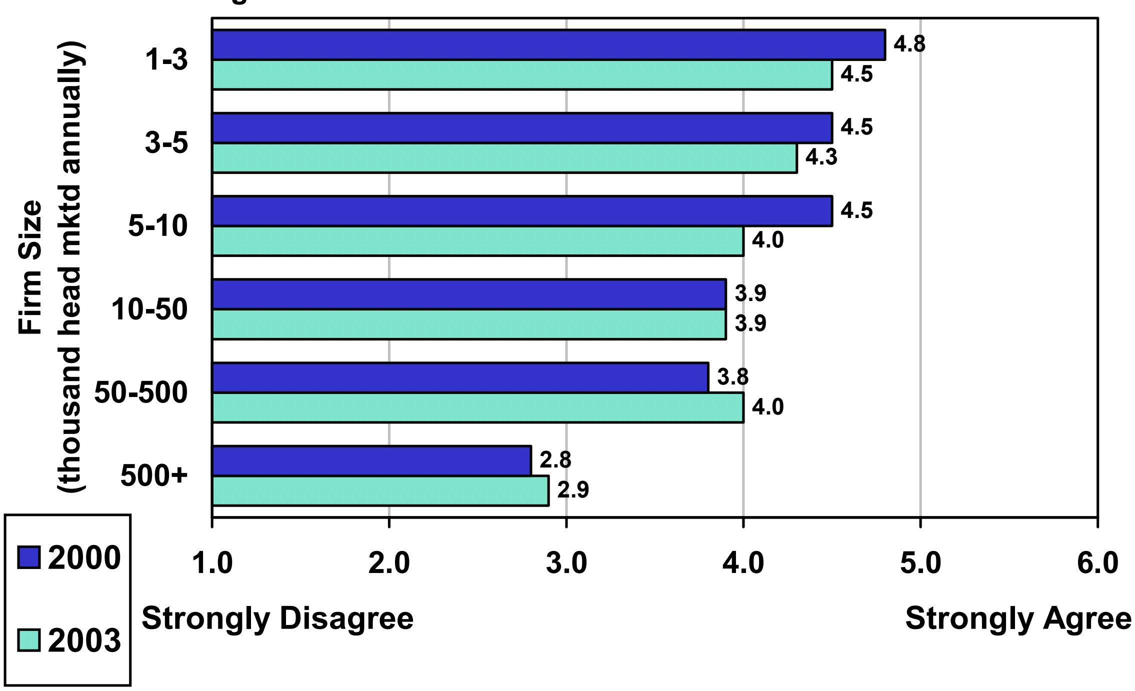
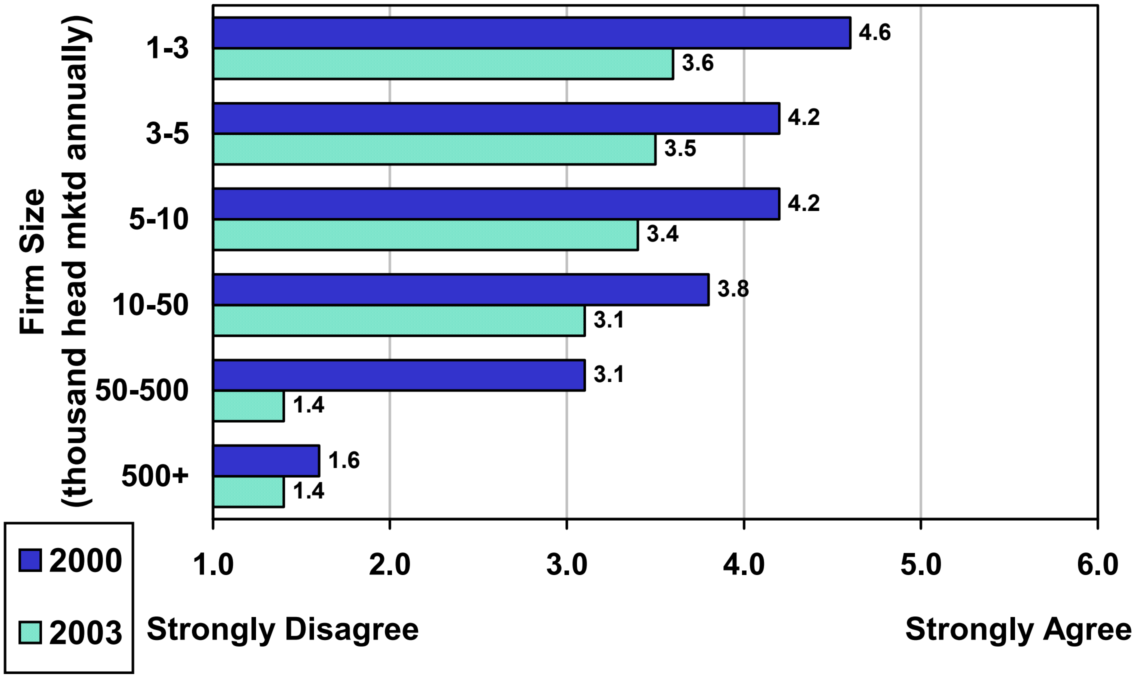


Figure 13.Opinions on Marketing Contracts: Should Be Made Illegal



Production Contracts

Contract production in the U.S. swine industry continues to expand. Beginning with the 1997 Industry Structure Study, we have attempted to measure the scale and scope of contract production. For this discussion we refer to the parties involved in the contracting transaction as the "contractor" and the "grower". The contractor is the party that typically owns the animals, pays for the feed and healthcare, and takes the market risk associated with owning the animals. The grower is the party that typically owns the facilities, provides labor to care for the animals, and pays fixed and variable expenses associated with owning and operating the facilities, such as taxes, utilities, and hired labor in return for a known payment (or payment schedule).

Table 25 provides information on firms that are involved in hog production and that also accomplish some or all of this production through contractual arrangements with growers. The percentages in Table 25 represent the portion of all slaughter hogs in the U.S. raised by these firms from 1997 through 2003 for various sizes of operations. The farrowings are as a percentage of all farrowings reported by USDA. The size categories are based on the annual marketings of these firms and reflect the fact that firms of various sizes engage in contracting activities. In the middle farrowing section, for example, it can be seen that of all slaughter hogs marketed in the U.S. in 2003, 15 percent were farrowed by sows owned by firms that marketed between one and fifty thousand head and engage in contracting transactions. In total for 2003, 68 percent of the hogs raised in the U.S. were farrowed by contracting firms, up from 39 percent in 2000.

The right hand section of Table 25 presents the extent of U.S. hog production that is finished by contracting firms. Again, the percentages represent the proportion of all U.S. slaughter hogs marketed by these firms, some of which were raised in facilities owned by the contractors (i.e. not finished under a contract) and/or finished by growers in relationship with the contractor firm. In 2003, 13 percent of U.S. hogs were raised by contracting firms that sold less than 50 thousand head per year, which was slightly higher than the proportion raised by firms in the 50 to 500 thousand head category. In total for 2003, 64 percent of U.S. hogs were raised by contracting firms.

Table 25. Percent of U.S. Hogs Raised by Firms That Are Contractors, 1997-2003

Firm Size (thousand head mktd)	Farrowed by contractors			Finished by contractors		
	1997	2000	2003	1997	2000	2003
1 - 50	10%	5%	15%	14%	9%	13%
50 - 500	8	8	13	9	13	12
500+	22	26	40	22	33	39
Total	40	39	68	45	55	64

Table 26 is related to Table 25 in that it reflects the proportion of all U.S. hogs sold by contractors that are actually raised by growers under a production contract. In terms of contract farrowing, 29 percent of all hogs farrowed in the U.S. were farrowed in a facility owned by a contract grower. This number relates to Table 25 in that while 68 percent of U.S. hogs are farrowed by contractors (Table 25), 29 percent, or less than half, are from sows on grower farms, farrowed under a contract.

On the finishing side, 41 percent of U.S. hogs were finished under a contract in 2003 which is up from 30 percent in 1997. The most significant growth was by contractor firms in the 500+ thousand hogs marketed, referring to the size of the contractor firm or firm that owned the pigs.

Table 26. Percent of U.S. Hogs Raised under Contract, 1997-2003

Firm Size (thousand head mktd)	Farrowed			Finished		
	1997	2000	2003	1997	2000	2003
1 - 50	1%	2%	7%	8%	3%	5%
50 - 500	4	7	5	7	10	11
500+	11	13	17	16	21	25
Total	17	22	29	30	34	41

The length of contracts offered by contractors to growers varies depending on the size of the firm and contract enterprise type (Table 27). In general it appears that smaller firms offer shorter contracts. The firms selling between one and fifty thousand hogs per year had standard contract lengths of fewer than four years on average for the nursery and finishing phase of production and slightly over four years for farrowing or farrow-finish contracts. The average length contract for the larger firms was similar for both the larger firm size categories for the finishing, farrowing, and farrow-finish contracts.

Table 27. Average Length of Production Contracts

	Firm Size (thousand head mktd)		
	1 - 50	50 - 500	500+
Finishing	41 mo.	68 mo.	69 mo.
Nursery	46 mo.	68 mo.	54 mo.
Farrow or farrow-finish	49 mo.	62 mo.	64 mo.
Nursery-finishing	29 mo.	53 mo.	63 mo.

Contracting firms were asked to describe the level of training supervision they provide for growers. The results in Table 28 show that over three-quarters of larger firms provide training and close supervision. The smaller contracting firms appear to rely on finding experienced producers who need little training and supervision. Over two-thirds of these firms indicated that they find experienced growers and only 20 percent said they train and supervise closely.

Table 28. Training and Supervision Provided by Contractors to Growers

	Percent of Reponses by Firm Size (thousand head mktd)		
	1 - 50	50 - 500	500+
Train and supervise closely	20%	76%	76%
Train briefly and supervise little	8	16	16
Find experienced producers who need little training or supervision	68	8	8

Most of the growers began contracting in the last ten years (Table 29). Almost half (47%) of respondents started producing hogs for another party between 1995 and 1999, while 18 percent began after 1999. Only eight percent of respondents started before 1990.

Table 29. When Growers Began Contract Production

	Percent of Growers
Before 1985	3%
1985 – 1989	5
1990 – 1994	27
1995 - 1999	47
2000 - 2004	18

The overwhelming majority of contract growers intend to continue with contract production when their current contract expires (Table 30). Eighty percent indicated that they would continue with the same firm and nine percent said they would contract with a different company. While the question was posed prior to the recent run-up in prices, only four percent said they would become independent.

Perhaps not surprising given the response to grower plans, there appears to be little turnover with respect to contractor firms and growers. Most growers have been with the same contractor for the last 5 years (Table 31). Slightly more than an eighth of the grower respondents indicated that they have worked with two contractors and only four percent had worked with three.

Table 30. Grower Plans after Current Contract Expires

	Percent of Growers
Stop producing hogs	2%
Contract a different company	9%
Continue with same company	80%
Become independent	4%
Other	5%

Table 31. Number of Contractors Per Grower in Last 5 Years

	Percent of growers
1 contractor	80%
2 contractors	15%
3 contractors	4%

Contractors were asked to indicate if they planned to expand contract production, reduce contract production, or keep their mix steady over the next five years. The percent of responses for each strategy are presented in Table 32. For the largest firms (500+ thousand head marketed per year), slightly more than half said they would keep the mix steady and about a quarter said they would either reduce or expand contract production.

A similar proportion of contractors selling 50 to 500 thousand head said they would keep their mix steady, but slightly more (30%) said they would expand. Almost three-fourths of the smallest contracting firms plan to keep their production mix steady.

Table 32. Contractors' Expectations for Next 5 Years

	Percent of Responses by Firm Size (thousand head mktd)		
	1 - 50	50 - 500	500+
Expand their contract production	16%	30%	24%
Reduce their contract production	13	15	24
Keep their mix steady	71	56	52

Producer Attitudes and Concerns

On the 2003 survey a number of questions were asked to gauge the attitudes and concerns of hog producers. Questions focused on general satisfaction with hog production and greatest concerns with challenges facing the industry.

The overall satisfaction results are presented in Table 33 through Table 35. In 2000 and 2003 larger firms (over 50 thousand head marketed) were asked, "How satisfied are you with hog production?" The 2000 survey followed a period of relatively good prices, and respondents seemed to be relatively well satisfied with hog production. However, in 2003, respondents were almost indifferent in their response. On a scale of 1 to 6, the 50 to 500 thousand head producers went from a 4.7 in 2000 to 3.8 in 2004, while the rating for the largest firms went from 5.0 to only 3.7. The 2003 survey of small and medium sized producers included the satisfaction question, and the results were quite similar to the larger firms.

Relative to the overall satisfaction rating in Table 33, the attitudes of firms that were engaged in contract production seemed to be more satisfied (Table 34). Satisfaction did not appear to vary much by size of firm. Perhaps most interesting but not surprising was that the highest satisfaction rating for all the respondents was among smaller contract growers with an average satisfaction rating of 4.9.

Table 33. How satisfied are you with hog production?

Firm Size (1,000 head mktd annually)	Satisfaction Rating 1 = very dissatisfied 6 = very satisfied	
	2000	2003
1 - 3		3.4
3 - 5		3.9
5 - 10		3.7
10 - 50		3.8
50 - 500	4.7	3.8
500+	5.0	3.7

Table 34. How satisfied are contractors with contract hog production?

Firm Size (1,000 head mktd annually)	Satisfaction Rating 1 = very dissatisfied 6 = very satisfied
1 - 50	4.43
50 - 500	4.44
500+	4.84

Table 35. How satisfied are growers with contract hog production?

Firm Size (1,000 head mktd annually)	Satisfaction Rating 1 = very dissatisfied 6 = very satisfied
1 - 50	4.9

With regard to respondents' concerns related to various issues facing the industry, the 2003 survey listed nine "challenges" which are presented in Table 36. Survey recipients were asked to check those that they saw as the "greatest" challenges.

As might be expected, concerns varied somewhat by size category of the respondents, but the responses did not seem to follow a consistent pattern. With respect to regulatory type issues such as air and water quality and antibiotic use, air quality regulations seemed to pose the biggest challenges, which may reflect the uncertainty surrounding the potential regulations. Water quality is an issue that most firms are coping with and the regulatory trends are arguably better understood than the direction of air quality regulation. As might be expected, a much higher proportion of the large firms considered civil suits as a major challenge to the industry. After concerns about the oversupply of hogs, firms in the 50 to 500 thousand category most frequently checked animal rights' issues as one of the greatest industry challenges. Animal rights' issues are clearly a concern of all sizes of respondent firms.

Again, perhaps predictably, the largest producers did not consider packer concentration and vertical integration as major challenges (only 4% thought so), but over half of the smallest firms felt these are major challenges to the industry. Adoption of Country of Origin Labeling (COOL) seemed not to be a major concern, particularly for larger firms, which may indicate that the relative burden of COOL might fall on smaller producers. Only with respect to the oversupply of hogs did the majority of respondents in all size categories seem to agree on the significance of the issue.

Table 36. What Do You See as the Greatest Challenges to the US Pork Industry over the Next 5 Years?

	Firm Size (thousand head mktd)		
	1 - 50	**50 - 500**	**500+**
Air quality regulations	43%	23%	65%
Water quality regulations	43	25	39
Restrictions on antibiotic use	40	11	35
Civil suits against production units	34	23	74
Animal rights issues	45	31	61
Packer concentration	54	18	4
Vertical integration	50	14	4
Over-supply of hogs	58	87	100
Adoption of COOL	20	11	9

Results of questions related to business viability at possible future hog and corn prices are presented in Figure 14, Table 37, and Table 38. Most producers plan to stay in business until 2008 if hog prices average from $40 to$42 and Central Iowa corn averages $2.40 per bushel. Two thirds of producers that sell three to fifty thousand hogs per year said they could survive with that scenario. Eighty-four and eighty-five percent of the largest sized firms indicated that they could stay in business at those prices.

Figure 14. Percent of Firms That Will Stay in Business until 2008 with Average Hog Price $40-42 & Central Iowa Corn Price $2.40

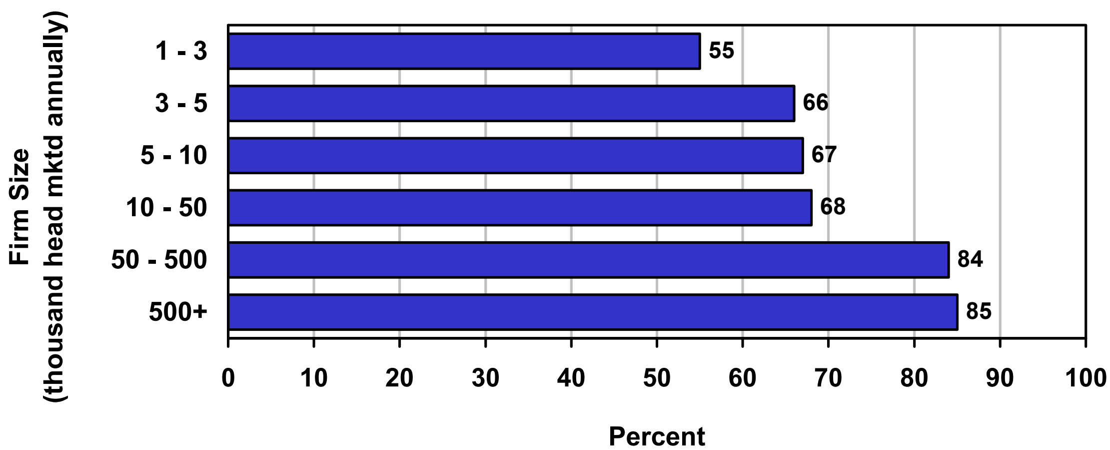


Table 37 provides more detailed information with respect to breakeven ("stay in") prices for producers in the various size classes. While it is not surprising that nine percent of firms selling three to five thousand market hogs per year indicated a breakeven hog price of $46 or higher, a similar percentage of producers selling between five and fifty thousand head were in the same breakeven range. Except for firms in the 10 to 500 thousand head category, it appears that nearly one fourth of firms have a breakeven below $40.

Over ten percent of the respondents in the one to three thousand head marketed category indicated that they will exit hog production by 2006, regardless of prices. This number is not surprisingly high, and below the average rate of exit observed in recent decades. Three to four percent of respondents marketing between three and fifty thousand head per year appear poised to exit the industry over the next few years.

Table 37. Percent of Operators Who Could Stay in Business Until 2008 at Various Hog Price Levels & $2.40/bu. Central Iowa Corn

Firm Size (thousand head mktd. annually)	Lowest avg. live hog price needed for 2004-2008 to keep operating						Will not be in business regardless of price
	$34-36	$37-39	$40-42	$43-45	$46-48	$48+	
1 – 3	10%	15%	30%	20%	9%	5%	11%
3 – 5	6	19	41	20	6	3	4
5 – 10	6	18	43	23	6	1	3
10 – 50	3	30	35	22	4	3	3
50 - 500		13	71	13	1		
500+	13	17	55	5	1		

The same data as that used for Table 37 is presented in Table 38 but translated in terms of the percentage of total U.S. hog marketings. This table provides a better sense of proportion in terms of the amount of production that falls into the breakeven price categories. The percentages represent the portion of U.S. marketing and the horizontal totals correspond to the market shares discussed in Table 1. Adding vertically gives the percent of U.S. marketing for a given hog price category. For example, approximately nine percent of the hogs marketed are produced on operations that can survive hog prices in the $34 to 36 ranges. Over 80 percent of U.S. marketings (adding columns from left to right) come from firms that can stay in business if prices average $42 with $2.40 corn (Central Iowa basis).

Table 38. Percent of Annual U.S. Hog Marketings by Firms Who Could Stay in Business Until 2008 at Various Hog Price Levels & $2.40/bu. Central Iowa Corn

Firm Size (thousand head mktd. annually)	**Lowest avg. live hog price needed for 2004-08 to keep operating**						**Will not be in business regardless of price**
	$34-36	**$37-39**	**$40-42**	**$43-45**	**$46-48**	**$48+**	
1 - 3	1%	1%	2%	2%	1%		1%
3 - 5		1	2	1			
5 - 10	1	2	4	2	1		
10 - 50	1	6	7	4	1	1	1
50 - 500		5	11	2			
500+	6	8	23	3			
Total	9%	23%	45%	14%	3%	1%	2%

Summary

This survey continues three decades of research into trends in the U.S. swine industry by the University of Missouri and Iowa State University. The most recent survey was completed before the much needed improvements in swine production economics that occurred in early 2004. This survey may represent a snapshot of the industry at the end of the financial aftershocks of the late 1990s and the end of what arguably was the worst six years in the industry since the Great Depression. But the forces shaping the industry are unabated and many trends of the last decade are in tact. There are fewer small and medium sized operations, and the market share of the largest firms continues to climb. In 2000, it was reported that firms marketing over 50 thousand head had slightly over 50 percent market share at that time. In 2003, this group of 159 producers selling over 50 thousand head now had a market share pushing 60 percent. Firms of all sizes below this threshold lost market share. In 2003, five more firms moved into the category of marketing over one-half million hogs, up from 20 firms in 2000.

In 2000, the average growth plans for firms in all size categories were positive through 2003, however only firms selling over ten thousand head per year managed any growth in marketings. Firms selling less than five thousand head actually saw their market share decline by over forty percent. Once again, most firms project growth for the 2003 to 2006 period, but relatively few plan to build new facilities and most hope to grow through productivity gains and acquisitions.

This year's survey sheds some light on the extent of Canadian pig influence on the U.S. industry. It was found that ten percent or less of firms selling one to fifty thousand head per year fed Canadian pigs, but over 60 percent of firms in the 50 to 500 thousand head category were buying pigs from north of the border. Forty-three percent of the largest firms (500 thousand plus per year marketings) purchased Canadian pigs. Except for firms in the largest size category, the vast majority of Canadian pigs were purchased on the spot market.

Respondents' attitudes towards marketing agreements appear to have soured somewhat since the 2000 survey, particularly for larger firms. Respondents from larger firms were less inclined to agree that they were treated fairly under their contracts, and more felt that marketing contracts were causing lower prices. However, there was little indication that firms planned to lessen their utilization of marketing contracts, and the sentiment toward legislation or regulation of marketing contracts has not changed dramatically.

The extent of contract production is increasing, yet the trends in contracting do not appear to be changing. The percentage of hogs farrowed and finished by firms engaged in contracting has increased significantly since the 2000 survey, and a significant number of firms indicate they plan further expansion of contract production. Producers appear relatively satisfied with their contract production situation, and 80 percent of growers indicated they hoped to continue raising hogs with their current contracting firm.

There were trends that seemed to have reversed since the last survey. In the 2000 survey, it appeared that the various networking movements had run their course. However, since then it appears there has been a surge in networking activity. Not only has group marketing surged, but input procurement, feed milling, and feeder pig networking appear to have increased dramatically. Perhaps the most notable apparent trend reversal was related to the decades of "thinning" the spot/cash market. It appears, however, the pendulum may have begun to swing back to spot market utilization. Firms marketing over 500 thousand head reported that they sold 15 percent of their hogs on the cash market, which is up from one percent of their 1999 marketings. Other significant shifts in marketing trends included a major move away from ledger contracts and a movement toward pricing based on wholesale meat prices. There was also a significant increase in firms of all sizes selling on a carcass merit basis.

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