10-1-2000

HOG RISK MANAGEMENT SURVEY: SUMMARY AND PRELIMINARY ANALYSIS

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Staff Paper # 00-9

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Abstract

This paper summarizes the results of a survey of a stratified, random sample of 630 hog operations in Indiana and Nebraska. The survey was conducted in March and April, 2000 with support of a research grant to contribute to the development of a knowledge base to guide the design and implementation of effective risk management programs, policies and tools.

This staff paper provides selected summary statistics with limited analysis of size of operation and state effects. Information is presented on sources and responses to risk as well as producers' views on selected agricultural policy, risk management and marketing issues. Use and perceptions of effectiveness of risk-reducing production practices are analyzed. Producers' use of production and marketing contracts, participation in risk management educational activities, interest in obtaining additional risk management information and preferences in learning methods are reported.

Key Words: Risk Management, Hogs, Agricultural Policy, Marketing Contracts, Hog Marketing, Production Contracts, Risk Management Education

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Changes in the risk environment and tools available to manage risk have resulted in an increased need for risk management skills among agricultural producers. In response to this need, the Risk Management Agency (RMA) and Cooperative State Research, Education and Extension Service (CSREES) of the USDA initiated a risk management education competitive grants program in the spring of 1998. The objectives of this program were to (a) deliver risk management education programs to producers and related agribusiness operators, (b) develop risk management educational curricula and materials and (c) provide supporting research that lead to improved risk management strategies and decision aids for agricultural producers. The information reported in this staff paper is an output of one of 17 projects funded through the competitive grants program. The central objective of the project is to provide supporting research that will contribute to the development of a knowledge base to guide in the design and implementation of effective risk management programs, policies and tools. The first phase of the project is directed toward identifying risk management objectives of agricultural producers and their perceptions and understanding of alternative risk management tools and strategies. Institutions participating in the project are Mississippi State University, Texas A&M University, Purdue University and the University of Nebraska.

A survey of crop producers was conducted in the spring of 1999 and preliminary results are summarized in **Crop Producer Risk Management Survey: A Preliminary Summary of Selected Data**, Information Report 99-001, Mississippi State University, September 1999. It is available at: www.agecon.msstate.edu/riskedu/reports.html.

In the spring of 2000, surveys were conducted of hog producers in Indiana and Nebraska, beef producers in Nebraska and Texas and limited resource farmers in Mississippi. This staff paper provides selected summary statistics with limited analysis of the survey of hog producers.

Major subject categories reported in this summary include:

- Perception of the potential for various risks to affect farm income and the effectiveness of various risk management tools to mitigate risk
- Perceptions of selected agricultural policy and risk management issues
- Use of risk-reducing production practices and perceptions of the effectiveness of these practices in reducing production risk
- Use of production and marketing contracts and some perceptions of marketing conditions

- Participation in risk management educational activities, interest in obtaining additional information on risk management and preferences in learning methods.

Sampling Procedures

The hog producer risk management survey was conducted in Indiana and Nebraska. Mail surveys were sent to a stratified sample of operations directly involved in hog production in mid-March 2000. Those operations involved only in ownership of animals were excluded. About three weeks after the initial survey form was sent, a second survey was sent to non-respondents. Telephone calls were made to non-respondents about two weeks later to solicit their participation.

Sampling was based on National Agricultural Statistics Service (NASS) information on the larger of the number of hogs owned or number of hogs on the operation. The number of hogs is not the annual production of hogs. Because of the significant structural changes in the hog industry, a number of the operations, especially the smaller operations, were no longer in hog production. Table 1, at the end of the paper, summarizes information about the sampling strata, the population, sampling rates and responses by state. Response rates, as a percentage of operations in business in 2000, were 27.4 percent for Indiana and 26.2 percent for Nebraska. Because of differences in the sampling and response rates, the simple means of the 630 respondents do not represent the population means.

For purposes of this initial tabulation and analysis, the responses for Strata 1, 2 and 3 (operations with less than 1,000 head) as well as Strata 6, 7 and 8 (operations with more than 5,000 head)were combined, giving four size categories and the distribution shown in Table 2. In this initial analysis, t-tests are used to determine whether differences in mean responses between states are statistically significant. A Chi square test is used to determine whether there are significant differences in mean responses associated with the size of operation.

Characteristics of the Operation

Of the 630 hog operations responding, 326 or 51.7 percent were farrow-to-finish operations. About 24 percent of the operations were specialized in one phase of hog production. Some 119 operations were specialized in the growing/finishing phase, 23 operations only farrowed, 9 were nurseries and 1 was specialized in breeding stock production. Some 63 operations, 10 percent of respondents, combined a farrow-to-finish operation with one or more additional phases of production, 59 operations combined the nursery and the growing/finishing phases and 16 combined the farrowing and nursery phases. The remaining 14 operations combined more than two phases other than farrowing. About 60 percent of the Indiana operations were farrow-to-finish as compared to 42 percent in Nebraska. Specialization in growing/finishing was more common in Nebraska, about 22 percent of respondents as compared with 16 percent for Indiana.

Some 86.0 percent of respondents in Indiana and 86.8 percent in Nebraska indicated that all of the hogs were owned by the operation to whom the questionnaire was sent. Only 9.4 and 9.8 percent of respondents in Indiana and Nebraska, respectively, indicated that none of the hogs were owned by the operation.

In Indiana, 93.9 percent of those responding were owners or part-owners of the operations as compared with 90.5 percent in Nebraska. Hired managers or employees represented 3.7 percent of respondents in Indiana and 6.8 percent in Nebraska. Age of the respondents averaged 47.2 years, with a range of 20 to 78 years. Although Nebraska producers averaged 46.9 years of age as compared with 47.5 for Indiana, the difference was not statistically significant. Some 30.3 percent of respondents had completed some college and 29.5 percent had a college degree. An average of 29.9 percent of the money invested in the operation was borrowed, with a range of 0 to 100 percent. Nebraska operations had 32 percent debt, slightly more than the 28 percent for Indiana.

Evaluation of Risk and Risk Management Tools

Respondents were asked to rate, on a scale of 1 (low) to 5 (high), a number of sources of risk in terms of their potential to affect the operation's income from hogs (Table 3). Hog price variability was rated the highest source of income variability at 4.28 and was followed by changes in environmental regulations (3.92) and disease in hogs (3.90). The possibility of a contractor failing to fulfill the terms of the contract was lowest rated source of risk at 2.11. There were statistically significant differences in ratings associated with size of operation for nine of the 14 sources considered. For all of these sources, the larger operations gave the higher ratings. Respondents in Indiana gave significantly higher average importance ratings to four sources of risk than Nebraska. Three of these sources were related to the environment and social acceptance of hogs. Nebraska respondents gave significantly greater importance to the possibility of a contractor failing to fulfill the contract.

Respondents were also asked to rate, on a scale of 1 (low) to 5 (high), the effectiveness of a number of risk management strategies in reducing risk for the operation (Table 4). Maintaining good herd health (4.26) and being a low-cost producer (4.17) were the highest rated strategies for effectiveness. Specializing in hogs only (2.47), specializing in one phase of hog production (2.51) and producing under a production contract (2.54) were considered the least effective risk management strategies. Size of the operation has a significant effect on the ratings of a number of risk management strategies. Smaller producers considered diversifying farm enterprises, having non-farm investments and having non-farm employment significantly more effective than larger producers. Larger producers considered specializing in hogs, use of market contracts, contracting for purchased feed requirements, maintaining financial/credit reserves and being a low-cost producer being more effective. Indiana producers' higher rating of maintaining financial/credit reserves was the only significant difference in ratings of strategies between states.

Agricultural Policy and Risk Management Issues

Respondents were asked to indicate the degree of their agreement or disagreement with a number of statements with respect to agricultural policy and risk management. The statements, as they appeared in the questionnaire, are included in Table 5. There were a number of significant differences associated with size of operation, but responses to only two statements were significantly different between states.

Producers were fairly evenly divided in their agreement or disagreement with the statement that the futures market price of hogs to be delivered in six months is an unbiased estimate of what

the cash market price will be at that time. There were no significant differences associated with size of operation or state. Only about 16.5 percent of respondents agreed that they could get a more accurate forecast of price than that provided by the futures market. More of the larger producers tended to disagree with the statement. Slightly less than 30 percent of respondents agreed that pricing hogs before they reach market weight would result in a higher average price than selling in the cash market. More of the larger producers agreed with the statement.

Less than one-third of respondents indicated their primary hog marketing goal was to reduce risks rather than raise the net sales price. A similar number indicated a willingness to accept a lower price to reduce price risk. More of the larger producers agreed with the statement.

Over 75 percent of respondents agreed strongly or agreed that market hog price reporting should be mandatory, and over 74 percent agreed or strongly agreed that packers control the cash price of market hogs. Higher percentages of the smaller producers agreed with these statements. Almost 62 percent disagreed or strongly disagreed that a minimum price guarantee should be provided through government payments. Significantly higher percentages of Nebraska producers and smaller producers tended to favor government payments**.** Nearly 75 percent of respondents disagree or strongly disagree with the government taking an active role in controlling hog supplies. A higher proportion of larger producers disagreed. Slightly over one-half of all respondents, and a higher percentage of large producers, disagreed or strongly disagreed with a revenue insurance program for hog producers. About 46 percent of respondents agreed or strongly agree with the statement that the government should facilitate development of value-added producer cooperatives. The largest producers had somewhat of a bipolar distribution. About 17 percent of producers were "not sure" with respect to value-added producer cooperatives or the revenue insurance program.

Producers were also asked to evaluate the potential effectiveness of value-added production to enhance profit and reduce price risk (Table 6). Respondents considered value-added as somewhat more effective for enhancing profit than reducing price risk. There were no significant differences between states. The middle-sized producers (size categories 2 and 3) gave significantly higher ratings to enhancing profits than the small or large producers.

Risk-Reducing Production Practices

Respondents were asked to indicate whether they used any of the risk-reducing production practices indicated in Table 7. If the operation did use a practice, they were asked to rate its effectiveness in reducing production risk on a scale of 1 (low) to 5 (high). If a respondent rated at least some of the production practices but did not indicate that they used any of the practices, they were considered as using the rated practices for this analysis.

Over 90 percent of the operations responding made routine use of antibiotics and/or vaccines. Over 80 percent of responding operations had a consulting veterinarian, have back-up generator(s) and have a sprinkler system for high temperatures. Over 78 percent had all-in/all-out production systems. About 51 percent used segregated early weaning and 53 percent had multiple production sites. It should be noted that these percentages are of the operations responding in the sample rather than the population of hog producers.

In terms of rating of effectiveness, use of the all-in/all-out system was the highest rated production practice by those using it. Having a sprinkler system and isolation of new breeding stock were also highly rated. Having multiple production sites, having a consulting veterinarian and using segregated early weaning were the lowest rated practices in terms of reducing production risk.

For seven of the nine production practices, there were significant differences associated with size of operation. In all of these cases, the larger operations gave higher average effectiveness ratings. Nebraska producers gave a significantly higher rating to the effectiveness of segregated early weaning. For the other production practices with a significant state effect, Indiana producers gave higher effectiveness ratings.

Use of Production Contracts

Of the 604 operations responding to the question about the use of production contracts in 1999, 528 or 87.1 percent owned all of the animals on the operation. At the other extreme, 57 operations, 9.4 percent, owned none of the animals. The number of operations owning none of the animals increased slightly to 66 in 2000, while the number of operations owning all of the animals remained almost constant at 524. There was very little difference between states.

There were 69 operations on which more than 50 percent of the hogs were owned by another entity. On these operations, the payment received was affected by a number of factors. Death loss affected payment on 26, feed efficiency on 16, carcass quality on 6, price of hogs on 4, number of head on 6, number of pig spaces on 6, price of feed on 3, and other factors on 3. Of the 52 operations responding, 31 indicated the lender encouraged use of production contracts and 21 indicated that the lender did not care, they did not know the lender's attitude or they did not borrow money.

Use of Marketing Contracts and Pricing Instruments (Market Hog Producers Only)

A total of 579 operations were involved in farrow-to-finish production or in the growing/finishing phases of hog production and 549 responded about their use of carcass merit programs. Almost 61 percent of the responding operations sold market animals exclusively on a carcass merit basis. An additional 17 percent sold more than 75 percent of their finished hogs on a carcass merit basis. About 11.1 percent did not use a carcass merit program for their hogs.

Various types of carcass merit programs are used by market hog producers (Table 8) and some producers used more than one method. Premiums and discounts associated with backfat depth or percent lean (grid pricing) and carcass yield (grade and yield) were the two most common methods and each was used by over 60 percent of respondents. Cut-out information based on previous loads used to adjust live or carcass weight prices (adjusted live weight) was used by about 30 percent. Only about 5 percent of respondents used the component program. There is very little change indicated between 1999 and 2000.

The producers were also asked about their use of various pricing instruments and responses are summarized in Table 9. Multiple responses were allowed. Sale in the cash or spot market was the pricing technique used by over 78 percent of operations in 1999. An increasing number of

operations took direct positions in the futures and/or options markets in 2000. Less than 30 percent of the operations responding had used marketing contracts in 1999, with a small increase for 2000.

The majority of farrow-to-finish and growing/finishing operations did not use marketing contracts in the 1997-99 period (Table 10). A formula price contract (i.e. amount over a reported price) and prices fixed in relation to the futures price are the most common types of marketing contracts in the1997-99 period. There was a very slight increase expected in their use in 2000. There was a small decrease in the number of other contracts. It should be noted that a number of operations did not respond to the expected use of contracts in 2000, thus apparent decrease in the number of operations not using contracts in 2000 in Table 10 is misleading.

A total of 574 operations responded to a question about their primary lender's attitude toward use of packer marketing contracts and 590 responded with respect to hog futures and options (Table 11). "I don't know lender's attitude" was the most frequent response. Almost no lenders discouraged use of packer contracts and futures and hogs. About 25 percent of respondents indicated lenders encourage use of hog futures and options and nearly 19 percent had lenders encouraging use of packer contracts. Nearly one-fifth of producers, and a higher percentage of smaller producers, did not borrow money.

A total of 574 operations responded to a question about their lender's attitude toward use of packer marketing contracts. About 18.6 percent indicated their lenders encouraged use of packer marketing contracts, 2.1 percent had lenders who discouraged contracts, and 22.1 percent indicated that the lender does not care. However, 38 percent did not know their lender's attitude and 19.2 percent did not borrow money.

Given the shift to a lean hog futures contract and a decline in the number of slaughtering facilities, some in the pork industry have expressed increased concern about local basis. Table 11 summarizes respondents' agreement or disagreement with selected statements. Slightly over half of respondents disagreed or strongly disagreed that lean hog futures contracts rather than live hogs, make it difficult to effectively manage price risk. Larger producers tended to disagree with the statement and there was no significant difference between states. Over 57 percent of respondents disagree or strongly disagree with the statement that local basis reflects local supply and demand conditions. Neither size of operation or state had a statistically significant effect. About 38.9 percent of producers agreed or strongly agreed with the statement that they normally had a good idea of what local basis normally would be in a given month and 24 percent were "not sure". There was no difference in mean response between Indiana and Nebraska, but larger producers tended to agree. Less than one quarter of respondents (24.4 percent) disagreed or strongly disagreed that basis risk makes it difficult to manage price risk with futures and options.

About 25.1 percent of 590 operations responding indicated their lender encouraged use of futures and options, while 1.7 percent of operations had lenders who discouraged their use. Nearly one-third of respondents, 32.9 percent, did not know their lenders' attitude and 21.5 percent indicated their lender did not care. About 18.8 percent of respondents indicated that they did not borrow money.

Risk Management Information

Respondents were asked whether they had attended any educational programs in the past three years on selected risk management topics. If they had attended, they were asked the number of hours of training and the percentage of the teaching done by Extension personnel. As indicated in Table 13, about 41.5 percent of respondents had attended a program about alternative pricing arrangements, 40.4 percent has attended a program about agricultural and financial risk management and 28.3 percent had attended production contracting programs. Overall, 55.4 percent of respondents had attended at least one educational program in the past three years. For those attending educational programs, the average number of hours attended ranged from 7.7 hours for production contracting to 13.9 hours for risk management programs. About 31 percent of the training about alternative pricing and production contracting was taught by Extension personnel. This increased to nearly 38 percent for risk management training programs.

Respondents indicated their level of current knowledge, on a scale of 1 (low) to 5 (high), in using selected risk management tools (Table 14). Producers were most knowledgeable about financial management and least knowledgeable about the use of production contracts and packer marketing contracts. There were no significant differences between Indiana and Nebraska. There was a significant size effect for five of the six risk management tools with the larger producers indicating a higher average level of current knowledge of the tools than the smaller producers.

Respondents were also asked to indicate their level of interest in learning more about the selected risk management tools on a scale of 1 (low) to 5 (high) (Table15). Although financial management was the risk management tool for which respondents indicated that they had the greatest current knowledge, it was also the tool which they were most interested in learning more about. This was followed by futures and options and packer marketing contracts. The larger operations expressed greater interest in these tools. Smaller producers expressed more interest in crop yield/revenue insurance and renting/leasing arrangements than larger operations, probably reflecting less commitment to hog production. There were no statistically significant differences between states. Overall, 68.9 percent of respondents, and a larger percentage of larger producers, expressed strong interest (a rating of 4 or 5) on at least one of the four hog-related risk management tools.

Finally, respondents were asked to indicate their preferences on a scale of 1 (low) to 5 (high) for alternative methods to learn about risk management (Table16). In-depth materials to study on their own time received the highest average rating. There were significant differences associated with the size of operations, but there was no trend with size. Farm magazines/newsletters were more popular with smaller producers and in-depth training by experts was preferred by larger producers. Marketing clubs or other groups of producers was rated considerably lower, although Indiana producers gave them a significantly higher rating than Nebraska producers. Internet or other computer-based educational modules were the least preferred method of learning about risk management and there were no significant differences with size of operation or state.

Sampling, Completed Surveys and Out of Business Responses by State and Size of Operation.

INDIANA					NEBRASKA				
Pop. Frequency	Sampling Percent	Sample Size	Completed Survey	Out of Business	Pop. Frequency	Sampling Percent	Sample Size	Completed Survey	Out of Business
932	12.5	115	11	40	1316	10	130	12	6
1515	12.5	183	29	63	2449	10	245	23	39
864	25	219	40	56	1108	25	273	41	66
492	100	191	109	78	535	100	521	134	72
339	100	338	98	26	225	100	208	63	2
85	100	82	31	1	61	100	52	5	.
6	100	16	1	0	20	100	15	3	0
30	100	30	8	1	9	100	16	4	2
129.		1179	320	274	5734		1458	300	312

Table 2. Distribution of Responses by State and Size of Operation.

Size of Operation	**Number of Operations**	
(Number of Head)	**Indiana**	**Nebraska**
100 to 999	80	81
1,000 to 1,999	109	134
2,000 to 4,999	98	63
over 5,000	43	22
Total	330	300

Table 3. Ratings of Importance of Potential for Various Risk Sources to Affect Income of This Operation.

Risk Source	Rating of Potential Effect (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
Changes in government farm programs	18.3	23.9	27.7	19.0	11.1	2.81	NS	NS
Changes in environmental regulations	4.5	6.9	17.6	34.0	37.1	3.92	S	IN higher
Disease in hogs	4.0	8.5	18.0	32.5	37.0	3.90	S	NS
Variability in performance of hogs (*weather, genetics, feed quality, etc.)*	5.4	16.4	32.9	34.8	10.5	3.29	NS	NS
Hog price variability	2.9	3.8	10.5	27.5	55.3	4.28	NS	IN higher
Changes in input costs (*feed, medications, etc.)*	3.0	8.9	28.3	38.4	21.3	3.66	NS	NS
Possibility of an environmental accident	24.3	27.6	22.5	17.3	8.3	2.58	S	IN higher
Possibility of a contractor failing to fulfill the terms of the contract	48.5	18.4	14.5	10.5	8.1	2.11	S	NE higher
Labor/personnel	33.1	25.1	22.7	13.1	6.1	2.34	S	NS
Changes in arrangements with those who purchase your production	13.3	10.0	26.6	33.0	17.1	3.31	S	NS
Changes in social or community acceptance of hogs	16.4	17.5	28.5	26.0	11.5	2.99	S	IN higher
Market access (*having a place to sell hogs)*	8.6	9.6	17.4	31.4	33.0	3.71	NS	NS
Changes in attitudes of lenders	22.0	20.3	25.6	22.4	9.7	2.77	S	NS
Changes in demands on management due to changes in structure and/or technology	14.4	22.2	37.9	21.2	4.3	2.79	S	NS

[a]An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively.
[b]An NS indicates no statistically significant difference in means between states. If there is a statistically significant difference, the state with the higher mean is indicated.

Table 4. Rating of Effectiveness of Various Risk Management Strategies in Reducing Risk in this Operation.

Risk Management Strategies	Rating of Effectiveness (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
Diversifying farming enterprises *(e.g., crops and livestock)*	9.2	9.5	24.3	35.4	21.7	3.51	S Smaller	NS
Specializing in hogs only	24.8	31.1	23.7	13.1	7.4	2.47	S Larger	NS
Specializing in one phase of hog production (*e.g., finish only)*	25.6	26.6	26.1	14.0	7.6	2.51	NS	NS
Hedging the price on all or part of hog production with futures or options	17.1	17.6	32.8	25.7	6.8	2.87	NS	NS
Use a market contract with a packer	19.3	17.7	32.3	23.2	7.6	2.82	S Larger	NS
Contracting all or part of purchased hog feed requirements	12.1	16.6	33.3	30.6	7.4	3.05	S Larger	NS
Producing pork under a production contract (*including "for fee" arrangements)*	26.7	23.4	25.7	17.2	7.0	2.54	NS	NS
Being involved in value-added pork production	14.5	15.9	27.9	29.3	12.4	3.09	NS	NS
Having non-farm investments	14.3	11.0	27.7	31.1	15.9	3.23	S Smaller	NS
Having off-farm employment	30.3	18.2	20.2	19.7	11.6	2.64	S Smaller	NS
Maintaining financial/credit reserves	5.1	7.7	27.0	40.3	19.9	3.62	S Larger	IN higher
Maintaining good herd health	2.1	1.9	10.1	40.1	45.7	4.26	NS	NS
Being a low-cost producer	2.5	4.3	12.8	35.3	46.0	4.17	S Larger	NS

[a]An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively. If there is a significant size effect, the producers with the higher mean scores are indicated.
[b]An NS indicates no statistically significant difference in means between states. If there is a statistically significant difference, the state with the higher mean is indicated.

...ent and Disagreement with Selected Agricultural Policy and Risk Management Statements.

...ement	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1	Mean Score	Size Effect[a]	State Effect[b]
	Percentage Distribution of Responses							
...reach market weights will ... higher price than usually ...	2.9	26.7	16.3	41.3	12.8	2.66	Larger Agree	NS
... hogs to be delivered in six ... neither high nor low over ... market price of hogs being	1.5	34.5	15.7	37.4	10.9	2.78	NS	NS
...case of cash market hog ... which is more secure to ... market provides.	2.4	14.1	14.8	50.4	18.3	2.32	Larger Disagree	NS
...g goal is to reduce risks ... sales price.	5.8	26.9	5.1	42.4	19.8	2.56	NS	NS
...ower market hog price to	3.1	29.0	6.8	41.7	19.4	2.55	Larger Agree	NS
...ice reporting by all packers	41.4	35.3	8.7	8.8	5.8	4.01	Larger Disagree	NS
...ies for pork producers ...gh government payments.	15.3	13.5	9.3	28.3	33.6	2.49	Smaller Agree	NT Higher
...ake an active role in	7.2	11.4	6.7	31.1	43.5	2.08	Larger Disagree	NS
...rice of market hogs	37.4	37.2	4.0	4.4	6.0	3.84	Smaller Agree	NS
...acilitate development of ... ...peratives	9.6	26.9	17.6	27.2	18.8	2.81	Mid size Agree	NS
...grams for hog producers ...he government.	8.9	23.5	17.0	26.0	24.0	2.66	Larger Disagree	NT Higher

...cally significant size effect. If there is a significant size effect, the direction of the effect is indicated.
...cally significant difference in means between states. If there is a statistically significant difference, the state with the higher mean is indicated.

Table 6. Evaluation of Effectiveness of Value-Added Production.

Objective	Potential Effectiveness (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
Enhancing profit for pork producers	8.1	15.5	32.3	29.4	14.8	3.27	Mid-size higher	NS
Reducing price risk for pork producers	9.4	21.4	35.3	22.8	11.1	3.05	NS	NS

[a]An NS indicates no statistically significant size effect. If there is a significant size effect, the size with the higher mean is indicated.
[b]An NS indicates no statistically significant between states.

Table 7. Percentage of Operations Using Selected Production Practices and Percentage Distribution of Effectiveness.[a]

Production Practice	Percent Users	Rating of Effectiveness (%)[a] Low 1	2	3	4	High 5	Mean Score	Size Effect[b]	State Effect[c]
Have a consulting veterinarian	81.1	6.5	10.2	30.7	34.5	18.4	3.48	S	NS
Use all-in/all-out system	78.3	3.7	3.0	13.6	40.2	39.6	4.09	S	NS
Have multiple production sites	53.2	11.3	10.7	21.5	32.2	24.2	3.47	S	NS
Use segregated early weaning	50.8	9.4	10.6	19.7	36.3	24.1	3.55	S	NE higher
Have back-up generator(s)	83.0	5.4	7.8	17.8	29.8	39.2	3.90	S	IN higher
Have sprinkler system(s) for high temperatures	81.0	3.7	3.9	18.0	34.7	39.6	4.03	S	IN higher
Isolated new breeding stock	66.0	4.6	3.6	17.1	36.3	38.5	4.00	NS	IN higher
Utilize strict bio-security procedures	62.9	4.8	7.1	21.2	35.9	31.1	3.81	S	IN higher
Routine use of antibiotics/vaccines	90.2	1.4	5.6	22.0	44.2	26.8	3.89	NS	IN higher

[a] Percentages are of those using the practice.
[b]An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively. When the size effect is significant, the larger operations have higher mean scores than smaller producers.
[c]An NS indicates no statistically significant difference in means between states. If there is a statistically significant difference, the state with the higher mean is indicated.

Table 8. Number and Percent of Market Hog Producers Using Alternative Carcass Quality Evaluation and Pricing Methods.[a]

Type of Method	Used in 1999		Used in 2000	
	Number	Percent	Number	Percent
Grid pricing	364	62.9	353	61.0
Grade and Yield	354	61.1	344	59.4
Component	31	5.4	39	6.7
Adjusted live weight	172	29.7	163	28.2
Total operations	579		579	

[a]Multiple responses were allowed

Table 9. Number and Percent of Market Hog Producers Using Alternative Pricing Instruments.[a]

Pricing Instruments	Used in 1999		Used in 2000	
	Number	Percent	Number	Percent
Direct position in futures	130	22.5	149	25.7
Direct position in options	77	13.3	102	17.6
Sale in cash market	454	78.4	424	73.2
Marketing contract	169	29.2	188	32.5
Total operations	579		579	

[a]Multiple responses were allowed

Table 10. Number of Market Hog Operations Using Various Types of Marketing Contracts in 1997-99 and 2000 Periods.[a]

Marketing Contracts Used	1997-99	2000
NO marketing contracts used	304	260[b]
A formula price (say $1 per cwt above a reported price such as IN-OH direct) set by prior agreement	107	111
A fixed price set by previous agreement tied to futures price (a cash contract)	85	88
A fixed price set by previous agreement tied to feed price (a cash contract with **no** ledger maintained)	16	14
A fixed price set by previous agreement tied to feed price (a cash contract with a ledger maintained)	15	13
A window contract where packer absorbs some loss below a market price of, say $35, and packer shares some gain with price above, say $45. No ledger is maintained	13	11
A window contract where packer absorbs some loss below a market price of, say $35, and packer shares some gain with price above, say $45. A ledger is maintained.	3	3
Other	21	22
Total responses	564	522

[a]Only the 579 farrow-to-finish and growing/finishing phase operations were included.
[b]A number of operations indicating no marketing contracts were used in 1997-99 did not respond for 2000.

Table 11. Primary Lender's Attitude Toward Use of Packer Marketing Contracts and Hog Future and Option in Percent.

Lender's Attitude	Packer Marketing Contracts	Hog Futures and Options
Lender encourages use	18.6	25.1
Lender discourages use	2.1	1.7
Lender does not care	22.1	21.5
I don't know lender's attitude	38.0	32.9
I do not borrow money	19.2	18.8

Table 12. Agreement and Disagreement with Selected Statements About Basis.

Statement	Percentage Distribution					Mean Score	Size Effect[a]	State Effect[b]
	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree			
	1	2	3	4	5			
Futures contracts based on lean hogs, rather than live hogs, make it difficult to effectively manage price risk with futures and options	8.4	23.9	17.2	37.9	12.5	2.64	Larger disagree	NS
Local basis usually reflects local supply and demand conditions accurately.	3.4	24.0	15.4	36.3	21.1	2.39	NS	NS
I have a good idea of what basis would normally be in a given marketing month.	4.8	34.1	24.0	29.1	8.1	2.86	Larger agree	NS
Basis risk makes it difficult to effectively manage price risk with futures and options.	17.0	37.6	21.1	19.9	4.5	3.30	Midsize agree	NS

[a]An NS indicates no statistically significant difference with size. If there is a statistically significant difference, the direction is indicated.
[b]An NS indicates no statistically significant difference.

Table 13. Percentage of Producers Participating in Educational Programs, Amount of Training and Percent Taught by Extension.

Variable	Alternative Pricing Arrangements	Production Contracting	Agricultural and Financial Risk Management
Percent attending	41.5	28.3	40.4
Average hours of training (attendees only)	12.4	7.7	13.9
Percent taught by Extension	30.6	30.7	37.8

Table 14. Ratings of Current Knowledge in Using Selected Risk Management Tools.

Risk Management Tool	Level of Knowledge (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
Production contracts	22.6	22.3	28.9	19.9	6.3	2.65	S	NS
Futures and options	19.1	18.8	29.2	23.9	8.9	2.85	S	NS
Packer marketing contracts	20.4	21.8	30.6	21.8	5.5	2.70	S	NS
Crop yield/revenue insurance	17.1	14.8	28.3	30.1	9.7	3.00	NS	NS
Financial management	5.3	5.9	31.0	42.5	15.3	3.57	S	NS
Renting/leasing arrangements	10.7	14.3	33.8	32.6	8.6	3.14	S	NS

[a] An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively. When the size effect is significant, larger producers have a higher average score.
[b]An NS indicate no statistically significant difference between states.

Table 15. Ratings of Interest in Learning More About Selected Risk Management Tools.

Risk Management Tool	Level of Knowledge (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
Production contracts	21.2	17.5	28.7	23.1	9.5	2.82	NS	NS
Futures and options	13.9	12.8	25.0	32.3	16.1	3.24	Larger higher	NS
Packer marketing contracts	16.9	11.8	27.0	30.2	14.0	3.13	Larger higher	NS
Crop yield/revenue insurance	19.8	14.4	31.2	26.4	8.1	2.89	Smaller higher	NS
Financial management	12.0	8.6	24.3	37.3	17.7	3.40	NS	NS
Renting/leasing arrangements	18.9	16.4	29.0	26.8	8.9	2.91	Smaller higher	NS

[a] An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively. When the size effect is significant, larger producers have a higher average score.
[b]An NS indicate no statistically significant difference between states.

Table 16. Ratings of Preferences for Alternative Methods for Learning About Risk Management

Learning Methods	Level of Preference (%) Low 1	2	3	4	High 5	Mean Score	Size Effect[a]	State Effect[b]
In-depth training by risk management experts	18.3	16.6	26.4	28.6	10.2	2.96	Larger higher	NS
In-depth materials to study on your own time	10.7	17.7	33.0	27.2	11.5	3.11	S inconsistent[c]	NS
Farm magazines/newsletters	8.8	19.8	38.3	26.6	6.5	3.02	Smaller higher	NS
Internet or other computer-based education modules	26.6	21.4	26.3	21.4	4.5	2.56	NS	NS
Marketing clubs or other groups of producers	22.8	20.0	28.5	22.9	5.9	2.69	NS	Indiana higher

[a] An S or NS indicates that the size effect is statistically significant or nonsignificant, respectively. When the size effect is significant, larger producers have a higher average score.

[b]An NS indicates no statistically significant difference in means between states. If there is a statistically significant difference, the state with the higher mean is indicated.

[c]Although these are statistically significant differences associated with size of operation, there is no consistent relationship.