

1998 Summary Report

This annual survey of Iowa farmers is conducted by Iowa State University to address major farm and rural issues. It is important that extension staff and researchers keep informed of the rapid changes occurring throughout rural Iowa and in farming. This project is one way Iowa State University attempts to keep in touch with changes occurring throughout the state. The project is funded by Iowa State University Agriculture and Home Economics Experiment Station and ISU Extension, with the cooperation of the Iowa Department of Agriculture and Land Stewardship, Division of Statistics. We gratefully acknowledge the assistance provided by the farm families who took time to complete the questionnaire.

Methodology

In mid-February, questionnaires were mailed to a statewide random sample of 3,802 Iowa farm operators. Usable replies were received from 2,312 operators yielding a response rate of 61 percent. The high response rate was obtained with three mailings—the original questionnaire, a reminder postcard, and, when necessary, a replacement questionnaire. The favorable response rate is undoubtedly related to the recognition and longevity of the project that was started in 1982.

Highlights

Information Technology on Iowa Farms

As farming has become information-dependent, farm households have adopted new communication technologies to communicate

with the outside world. Table 1 shows the proportion of Iowa farm households with various communication technologies.

Table 1. Information Technology on Iowa Farms

Technology	Yes	No
	--- percent ---	
Touch tone phone	93	7
VCR player	91	9
Answering machine	69	31
Cellular phone	52	48
Personal computer	49	51
Printer	47	53
CD-ROM player	39	61
Rotary dial phone	35	65
Satellite television dish	32	68
Modem or e-mail capacity	29	71
Internet/web access	22	78
Cable television	17	83
Facsimile (fax) machine	16	84
Yield monitor on harvesting equipment	13	87
Digital television disk	12	88
Global position system (GPS)	6	94
Pager	5	95

Opinions on Economic Development

Table 2 presents farmers' opinions about 17 economic development directions that have been pursued or suggested for the state. This set of items was first asked in 1988 and was repeated in this year's survey to see how priorities might have changed. The items were ranked in descending order based upon the proportion of respondents indicating either "strongly support"

Table 2. Farmers' Views of Economic Development 1988-98

		Strongly Support	Somewhat Support	Uncertain	Somewhat Oppose	Strongly Oppose
		----- percent -----				
Emphasize more local processing of grains and livestock	1998	68	27	4	1	1
	1988	75	21	4	0	0
Place more state emphasis on agricultural exports	1998	64	29	5	1	1
	1988	65	28	5	1	1
Focus on improving and maintaining rural infrastructure such as roads, schools, housing, etc.	1998	52	40	6	1	1
	1991 ¹	39	49	8	3	1
Focus on retention and expansion of existing industries	1998	36	49	13	1	1
	1988	47	43	7	1	0
Fund more biotechnology research for new products and uses for agricultural produce ...	1998	48	36	13	2	1
	1988	50	35	11	3	1
Create and maintain a world class educational system	1998	52	31	11	3	2
	1991 ¹	39	36	15	6	4
Diversify agricultural production to include speciality crops	1998	34	46	17	2	1
	1988	21	45	27	5	2
Emphasize more manufacturing jobs in nonagricultural industries	1998	33	46	16	4	1
	1988	45	41	11	2	1
Emphasize tourism in the state	1998	25	53	15	5	2
	1988	30	51	13	4	2
Encourage more industry-university collaboration in research projects	1998	32	43	21	3	1
	1988	34	43	19	3	1
Attract biotechnology industries	1998	30	44	21	3	2
	1988	31	42	22	3	2
Encourage Iowa's universities and colleges to focus on economic development	1998	27	47	21	4	1
	1988	27	48	20	3	1
Focus on main street business development	1998	28	45	22	4	1
	1988	32	45	18	4	1
Provide investment capital to small businesses and entrepreneurs	1998	26	42	22	6	3
	1991 ¹	25	47	18	7	3
Provide tax incentives to companies to locate in the state	1998	15	31	28	17	9
	1988	15	34	25	16	10
Identify and promote a select number of growth cities in the state	1998	4	16	44	24	12
	1991 ¹	4	18	36	25	17
Promote gambling opportunities for tourism	1998	3	9	19	26	42
	1991 ¹	5	12	17	23	43

¹ First asked in 1991, and not included in the 1988 survey

or “somewhat support.” In general, there has been little change across the two surveys. Among the 17 economic development strategies, 3 items evoke opposition—tax incentives to attract companies to the state, gambling, and promoting a select number of growth cities.

Economic development strategies that received the highest level of support include: more local processing of grains and livestock, emphasizing agricultural exports, improving the rural infrastructure such as roads, schools, and housing, and retention and expansion of existing businesses.

Ranking of State and National Issues

Respondents were asked to rank ten rural and farm issues on a seven-point scale that ranged from “not concerned” to “very concerned.”

Several of these issues were included in the 1988 survey; Table 3 compares producers’ views on

these issues for the two years. In both surveys, farm prices were judged as the number one issue. This year, 84 percent of the respondents gave farm prices a score of either 6 or 7 indicating “very concerned.” The average score of 6.4 places farm prices in the number one position. The item ranked second highest was “outside investors building new livestock production facilities.” Seventy-five percent indicated they were very concerned about this issue by assigning it a score of either 6 or 7. Since this item was not included in the 1988 survey, comparison data to assess how opinions have changed is not available. Sixty-six percent indicated that the loss of farm population was of high concern, followed by over-regulation of agriculture (64 percent), closing of main street businesses (62 percent), and soil erosion (63 percent).

Table 3. Farmers’ Concerns about Selected State and National Issues 1988-1998

		Not Concerned					Very Concerned		Average
		1	2	3	4	5	6	7	
----- percent -----									
Prices for farm products	1998	1	1	1	4	9	19	65	6.4
supplies	1988	2	0	1	4	9	21	63	6.3
Outside investors building new	1998	2	2	4	8	9	15	60	6.0
livestock production facilities	N/A								
Loss of farm population	1998	2	2	4	10	16	20	46	5.8
.....	1988	3	3	6	13	15	20	40	5.6
Over-regulation of agriculture	1998	2	2	3	12	16	25	39	5.7
.....	N/A								
Closings of local main street	1998	2	2	3	11	20	24	38	5.7
businesses	1988	2	1	2	9	15	24	47	5.9
Soil erosion	1998	2	2	4	11	18	27	36	5.7
.....	1988	2	1	4	10	19	25	39	5.7
Lack of market access	1998	2	2	4	13	19	27	33	5.6
.....	N/A								
Contamination of underground water	1998	3	4	5	11	17	19	40	5.5
supplies	1988	2	3	5	11	17	17	45	5.7
Market concentration of food	1998	2	2	4	16	21	26	30	5.5
processors	N/A								
Outmigration of Iowa residents to	1998	4	4	7	20	23	22	20	5.0
other states	1988	5	3	5	16	19	24	28	5.3

Precision Farming

For this survey, precision or site-specific farming was defined as a way of looking at farms, fields, or specific areas within fields through the use of information management systems.” About three-fourths of the respondents were either somewhat or very familiar with precision farming; however, their personal level of interest was low. Nearly four out of ten indicated they were not interested in precision farming, which is reflected in the three-quarters that expressed no plans to adopt this technology.

<u>Familiarity</u>	<u>Percent</u>
Not familiar	26
Somewhat familiar	58
Very familiar	16

<u>Personal Interest</u>	<u>Percent</u>
Not interested	38
Somewhat interested	51
Very interested	11

<u>Use or Intention to Use</u>	<u>Percent</u>
Already using	8
Plan to adopt in next 5 years	16
No plans to adopt	74

Factors related to adoption of precision farming

Producers were asked to indicate the importance of the following factors in their decision to adopt precision farming methods (Table 4). Economic considerations appear to be dominant in adoption of precision farming. While higher

Table 4. Opinions about Factors Related to Adoption of Precision Farming

	<u>Level of Importance</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>
	<u>percent</u>		
Higher profits	8	25	67
Increased yields	7	33	59
Better nutrient management	7	41	52
Reduce use of pesticides	12	42	46
Less environmental damage (better stewardship)	14	45	41
Being on the cutting edge of new technology	28	46	26
Better timelines	28	54	18
Recognition from neighbors and friends	58	27	15

profits were judged as the number one reason why producers are interested in precision farming, increased yields, better nutrient management, and reducing use of pesticides are strongly related to higher profits.

Farmers' Perceptions of Quality of Life

Table 5 provides historical data on perceptions of quality of life since 1984. This spring, 36 percent of respondents indicated farm families' quality of life had improved in the past five years, while 43 percent indicated it had remained the same, and 21 percent felt it had grown worse. The 36 percent indicating farm families' quality of life had improved in the past five years matches the record high set in 1990. Figure 1 provides the data in graphic form.

When asked about their own family's quality of life in the past five years, a record high of 46 percent reported an improvement. Only 14 percent reported a decline in their family's quality of life, which is the lowest proportion since this series was started. These data also are shown in Figure 1.

About one-fourth (24 percent) expect the quality of life of farm families in their community to improve in the next five years, while 45 percent do not expect much change, and 32 percent expect a decline. However, when asked about their own family's quality of life in the next five years, 34 percent expect an improvement, 50 percent expect it to remain unchanged, and 16 percent indicate it will likely decline. While the level of optimism expressed is less than the record set in 1988, the proportion of respondents expecting an improved quality of life for themselves and other farm families continues the upward trend started in 1994 (see Figure 2).

While there was a heightened level of optimism in terms of quality of life, this was not reflected in opinions about overall economic prospects for the next five years. Only about one in five expect overall economic prospects to improve, and nearly one-half (48 percent) expect the situation to become worse in the next five years (see Figure 3).

Such pessimism is even more curious in light of the findings shown in Table 6. Record low numbers of respondents reported that farmers, agribusiness, financial institutions, and their own farms face very serious financial problems.

Table 5. Farmers' Perceptions of Quality of Life for 1984 to 1998

		Become Much Better	Become Somewhat Better	Remained the Same	Become Somewhat Worse	Become Much Worse
		----- percent -----				
During the past five years, has the quality	1998	3	33	43	18	3
of life of farm families in your community:.....	1996	2	26	42	27	3
.....	1994	2	18	41	33	6
.....	1992	2	22	43	27	6
.....	1990	3	33	35	24	5
.....	1988	2	22	28	35	13
.....	1986	1	4	21	51	23
.....	1984	4	20	34	34	8
During the past five years, has the	1998	8	38	40	10	4
quality of life of your family:	1996	4	35	45	14	2
.....	1994	4	25	45	22	5
.....	1992	4	29	45	18	4
.....	1990	5	36	40	15	4
.....	1988	6	28	39	19	8
.....	1986	3	13	40	34	10
.....	1984	6	26	38	23	7
In the next five years, will the quality	1998	2	22	45	26	6
of life of farm families in your	1996	1	20	50	26	3
community:	1994	1	13	43	36	7
.....	1992	1	16	49	29	5
.....	1990	1	23	50	22	4
.....	1988	2	32	45	17	4
.....	1986	1	11	27	44	17
.....	1984	1	18	41	33	7
In the next five years, will the quality	1998	5	29	50	13	3
of life of your family:	1996	3	30	53	12	2
.....	1994	3	22	51	20	4
.....	1992	2	26	51	18	3
.....	1990	3	29	53	13	2
.....	1988	4	36	47	11	2
.....	1986	2	20	45	26	7
.....	1984	3	25	49	19	4
In the next five years, will the	1998	1	19	32	38	10
overall economic prospects for	1996	1	23	33	36	7
Iowa farmers:	1994	1	14	30	44	12
.....	1992	1	18	32	40	9
.....	1990	1	23	38	32	6
.....	1988	3	37	33	21	6
.....	1986	1	20	16	38	25
.....	1984	1	20	27	41	11

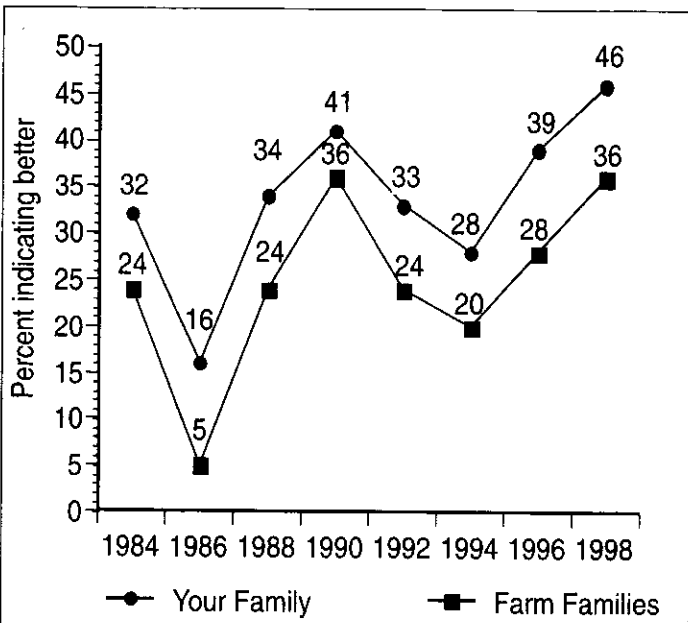


Figure 1. Quality of life has become better in last 5 years

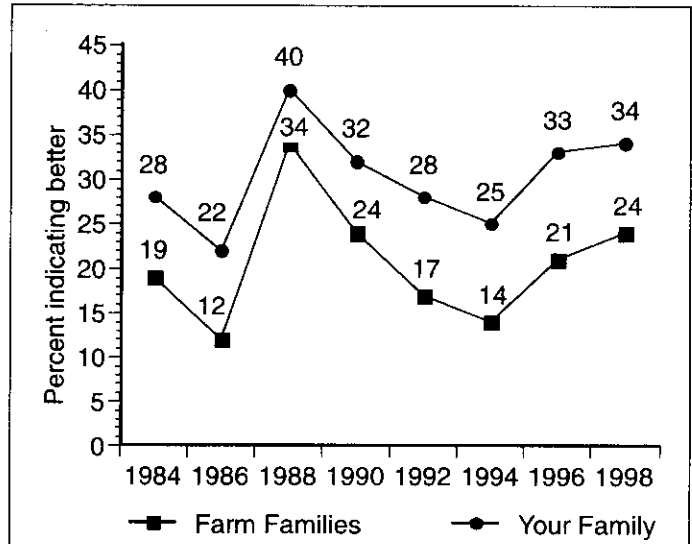


Figure 2. Quality of life will improve in the next 5 years

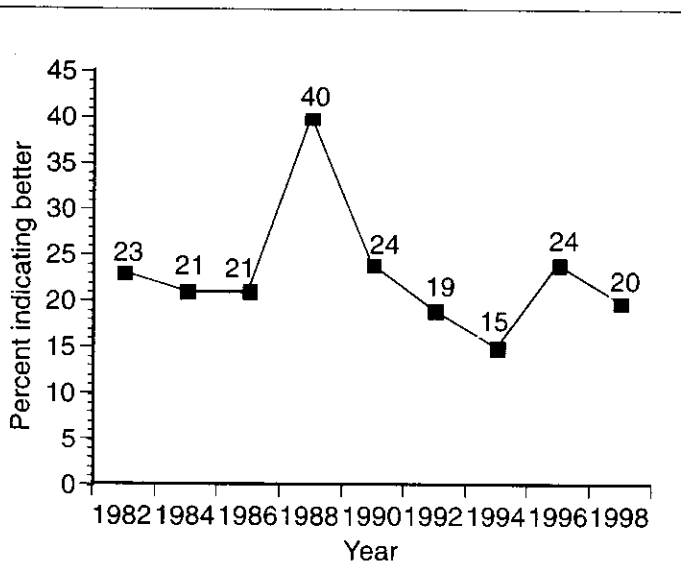


Figure 3. Overall economic prospects for Iowa farmers will improve in the next 5 years



Table 6. Farmers' Perceptions of Farm Financial Conditions: 1986-1998

How do you feel about the current financial condition of:

		Not Sure	Not a Problem	Slight Problem	Moderate Problem	Very Serious Problem
		----- percent -----				
farmers in your area:	1998	7	15	35	33	10
.....	1996	8	14	34	34	10
.....	1994	6	7	30	41	16
.....	1992	6	7	30	41	16
.....	1990	6	8	33	40	13
.....	1988*	5	3	12	50	30
.....	1986*	3	1	3	19	74
agribusiness firms in your area:	1998	7	27	34	26	6
.....	1996	9	26	37	23	5
.....	1994	8	20	33	30	9
.....	1992	8	15	32	34	11
.....	1990	7	15	35	34	9
.....	1988*	6	9	21	47	17
.....	1986*	6	2	7	37	48
financial institutions in your area:	1998	7	61	20	10	2
.....	1996	9	60	19	9	2
.....	1994	7	60	21	10	2
.....	1992	8	41	30	17	4
.....	1990	7	41	29	19	4
.....	1988*	8	28	30	28	6
.....	1986*	11	7	18	41	23
your own farm:	1998	2	45	29	18	6
.....	1996	2	49	28	16	5
.....	1994	1	39	31	21	8
.....	1992	1	41	28	21	9
.....	1990	1	44	26	21	8
.....	1988*	1	25	25	23	26
.....	1986*	1	17	19	22	41

* In the 1986 and 1988 polls, the response categories were: "not sure, not concerned, slightly concerned, moderately concerned, and very concerned."

In fact, the majority of respondents reported that most producers, agribusiness, and lenders, including their own farms, either do not have a financial problem, or it is only a slight problem. In spite of improved financial conditions, producers are hesitant to believe that good financial status will continue and are predicting a deterioration of economic prospects in the next five years.

Issues Surrounding the Livestock Industry

During the past few years there has been continuing debate about the structure and

implications of the changing livestock industry. Since 1992, the Iowa Farm and Rural Life Poll has monitored farmers' opinions about the key dimensions of this debate.

Table 7 provides a comparative view of producers' opinions since 1992. A strong majority of Iowa farmers (85 percent) continue to believe that people who choose to live in the country must accept the presence of livestock. However, the proportion disagreeing with this statement has increased from 5 percent in 1992 to 11 percent in 1998. While the majority of farmers agreed that most livestock producers do

Table 7. Opinions on Livestock Issues

	Strongly Agree	Somewhat Agree	Uncertain	Somewhat Disagree	Strongly Disagree
	----- percent -----				
If people choose to live in the country 1998	50	35	3	7	4
then they (<i>should</i> -98) (<i>must</i> -95) (<i>should be ...</i> 1995	53	35	3	6	4
<i>willing to</i> -92) accept the presence of livestock 1992	66	26	3	3	2
Most livestock producers do a good job 1998	29	42	10	14	5
of controlling odors and noises from their 1995	29	47	8	12	4
livestock operations 1992	32	44	11	10	3
I don't care whether my neighbor raises 1998	45	38	7	7	3
livestock, as long as this doesn't affect 1995	40	43	7	7	5
my quality of life 1992	46	36	9	6	4
Increasingly, livestock odors and noise 1998	27	37	17	12	7
are major problems throughout the 1995	NA				
state 1992	NA				

a good job of controlling odors and noises from their operations, nearly one in five (19 percent) disagreed with this statement.

The majority of farmers (83 percent) are indifferent if a neighbor raises livestock as long as it doesn't affect their quality of life. In spite of these generally positive assessments of the livestock industry, nearly two-thirds of Iowa farmers (64 percent) agreed that the frequency

of livestock odor and noise problems is increasing in Iowa.

Factors Affecting Acceptance of the Livestock Industry

Who is expanding?

Table 8 shows the proportion of farmers supporting expansion by local producers compared with expansion by nonfarm investors.

Table 8. Expansion of Livestock Industry

		Agree	Uncertain	Disagree
		----- percent -----		
Farmers in my neighborhood should be encouraged to raise more:				
hogs	1998	37	32	31
.....	1995	40	29	31
.....	1992	34	36	30
cattle	1998	49	31	20
.....	1995	48	27	25
.....	1992	41	35	24
poultry	1998	30	41	29
.....	1995	33	37	31
.....	1992	24	42	34
Non-farm investors should be encouraged to invest money in my neighborhood to raise:				
hogs	1998	8	16	76
.....	1995	11	14	75
.....	1992	9	18	73
cattle	1998	10	16	73
.....	1995	11	14	75
.....	1992	11	17	72
poultry	1998	8	18	74
.....	1995	10	15	78
.....	1992	8	19	73

While about one-third of the respondents were opposed to local producers raising more hogs, a solid majority of respondents were opposed to encouraging non-farm investments in their own neighborhoods. A similar pattern exists for cattle and poultry expansion. Respondents were much more supportive of local producer expansion than non-farm investor expansion. It seems that some opposition is not about expansion per se but rather who is expanding.

Economic Impacts: Will more jobs for local people result from expansion?

Acceptance of livestock expansion may be related to whether more jobs for local people will result. Respondents are nearly equally divided on whether expansion will create more jobs for local people. Twenty-seven percent indicated more jobs for local people would result from expansion of the livestock industry, 29 percent were not sure, and 44 percent did not think this would occur.

Proximity from One's Residence

Figure 4 shows that 20 percent of the respondents have a neighbor with livestock between one-fourth and one-half mile, and 25

percent have a neighbor with livestock within one mile. It is reasonable to assume that distance plays an important role in whether the neighbor's livestock operation affects their quality of life and this in turn may be related to acceptance levels.

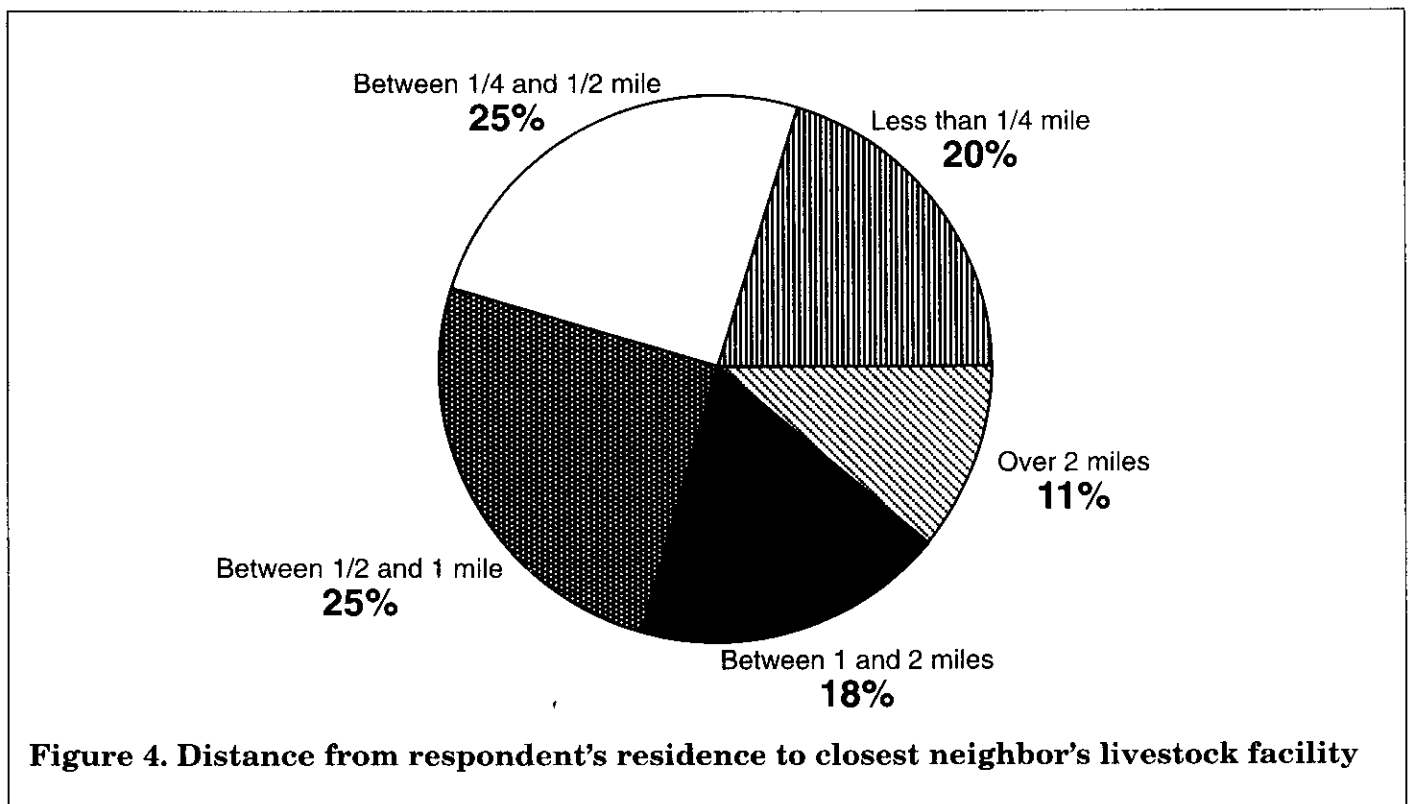
Type of Facility

The type of facility may influence opinions and acceptance of livestock. When asked to describe the type of livestock facility of their closest neighbor, 41 percent indicated a confinement facility, 27 percent described a partial confinement/open front facility, 14 percent indicated a pasture system, and the remaining 18 percent selected an open lot response.

Size of Facility

The size of the facility may influence people's judgment and acceptance of livestock facilities. Almost one-half (48 percent) described their neighbor's livestock operation as small, 40 percent indicated it was medium sized, and 11 percent indicated it was a large facility.

When asked to estimate the capacity of the neighbor's livestock facility, a wide range of types and sizes were identified (Table 9).



How long has the facility existed?

How long a livestock facility has been in existence may further explain neighbors' acceptance. It is expected that facilities that have existed for longer periods would be more accepted than newer ones. Sixteen percent of the respondents indicated the closest neighbor's livestock facilities had existed for less than 3 years, 11 percent reported the facility had existed for 3-5 years, 14 percent indicated the facility had existed for 6-10 years, and 59 percent indicated the neighbors had livestock for more than 10 years.

Does one know the operator/owner?

Whether one knows the operator may be related to opinions about the facility. Ninety-three percent of the respondents reported they knew the neighbor with the closest livestock facility, although seven percent did not know them.

Another dimension expected to influence judgments about livestock facilities is the impact on property values. The survey inquired about impacts on residential and farmland values (Table 10). The majority of respondents felt that neighbors' livestock operations had no impact on either residential or farmland prices in their neighborhood. However, 13 percent of the respondents felt that residential property values were diminished by the neighbor's livestock operation.

Perceptions of the impacts of a neighbor's livestock facility on one's quality of life may be the most important factor in explaining support for the livestock industry. As reported earlier, 83 percent of respondents indicated they didn't care if their neighbor raised livestock, as long as it didn't affect their quality of life. Approximately one-fourth of the state's farmers perceive their quality of life is being diminished by neighbors'

Table 9. Type and Size of Livestock Facilities on Closest Neighbor's Farm

	Number of Respondents with Various Types of Livestock Facilities	Estimated Capacity (Range)	Average Size
Farrowing facility	689	5 – 12,000	362
Swine feeding floor	1,047	2 – 600,000	2,198
Cattle feedlot	716	1 – 17,000	396
Dairy cows	199	1 – 4,000	138
Layer operation	54	6 – 4,000,000	268,000
Broiler/turkey	30	3 – 3,000,000	45,500

Table 10. Perceptions of Impacts of Neighbor's Livestock Facility on Property Values

	Residential Property Values	Farmland Values
	----- percent -----	
How have property values been affected?		
Significantly increased	1	1
Some increase	2	5
No impact	84	89
Some decrease	10	4
Significantly decreased	3	1

livestock (Table 11). Respondents who reported negative impacts from their neighbors' livestock were asked to identify the major problems. Consistent with anecdotal evidence, odors from manure storage and application were the primary culprits, followed by flies and manure runoff.

Operator Responsiveness

Opinions and acceptance of livestock facilities may hinge upon operator responsiveness to concerns or complaints from neighbors. For those who reported their quality of life had been negatively affected, we asked whether they had talked with the offending neighbor. Twenty-one percent of those adversely affected by neighbors' livestock operation reported they had talked

with the owner/operator about problems their operation was causing. Only 15 percent reported the operator had attempted to remedy the problem their operation was causing, 50 percent did not know whether the operator had made any changes, and 35 percent felt nothing had been done to correct the problem.

Persistence of Odors

While some people are quite tolerant of livestock odors, others are more sensitive. Respondents were asked how many days per year they would be willing to tolerate odors from a neighbor's livestock operation before they would consider it a major nuisance (Figure 5). Fourteen percent reported they would consider a neighbor's livestock operation a major nuisance if odors

Table 11. Does the livestock facility closest to your residence (excluding your own) detract from your quality of life?

	<u>Percent</u>			<u>Percent</u>
Yes, a great deal	4	→	If yes, what have been the problems?	
Yes, some	19	→		
No	78			
			Odors from manure application	84
			Odors from manure	73
			Flies	36
			Manure runoff	32
			Dust	16
			Noise	15

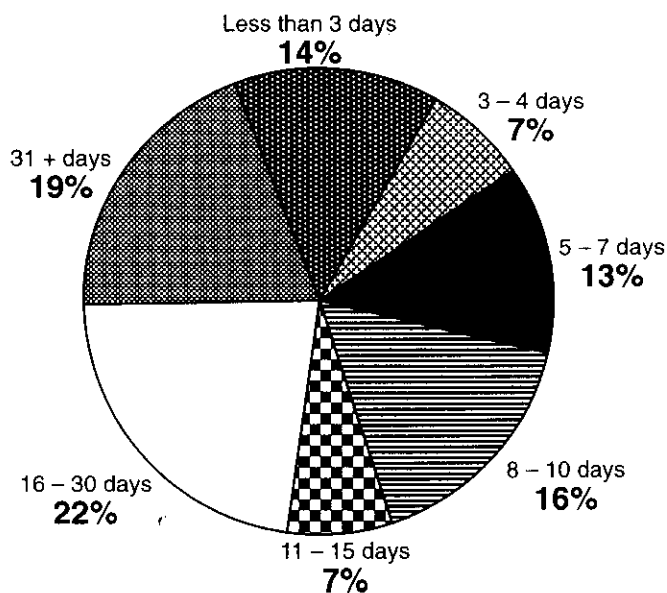


Figure 5. Number of days before odors from neighbor's livestock facility would be considered a major nuisance

persisted as little as 1 or 2 days, 7 percent reported 3 or 4 days, and 13 percent reported that if odors persisted more than 5 to 7 days they would consider it a major nuisance. The sensitivity to livestock odors is shown in the 34 percent of farmers that indicated if odors persist for a week or less, they would consider it a nuisance. On the other hand, some respondents were quite tolerant of odors as represented by the 22 percent who indicated they would only define a neighbor's livestock odors as a nuisance after 16 to 30 days and 19 percent that would accept odors from their neighbor's farm for more than 30 days before considering it a nuisance.

Livestock producers' opinions

To better assess the issues and problems of the livestock industry, one section of the survey was devoted to only livestock producers. Table 12 provides a breakdown of the number and type of livestock producers that participated.

Future Plans

Table 13 shows the relative importance of factors in a producer's decision to remain in livestock production. The two most significant factors that producers identified were profitability (85 percent) and market access (65 percent). Expansion by large-scale producers (48 percent) and environmental regulations (46 percent) were judged as very important factors in producer's decision to continue. Two issues that have received a lot of public attention (protection against nuisance suits and a pro-business climate) appear to be less important in producer decisions to remain in production. Only one-third of the livestock producers in the survey indicated that protection against nuisance suits was very important in their decision to remain in production, and only one-fourth felt that a pro-business climate was very important.

Table 12. Size and Type of Livestock Producers in the 1998 Poll

<u>Livestock</u>	<u>Number of Farms</u>	<u>Range</u>	<u>Average Size</u>
Beef cows and calves	741	1 - 1,000	68
Cattle on feed	557	1 - 2,000	102
Dairy cattle	95	1 - 600	84
Hogs (breeding stock)	294	1 - 1,700	112
Market hogs including feeder pigs	499	1 - 12,000	677
Hens and pullets	95	1 - 660,000	7,705
Other chickens	31	1 - 1,800	81
Turkeys	13	1 - 80,000	12,004
Other	171	1 - 3,000	74

Table 13. Factors Related to Remaining in Livestock Production in Next 5 Years

	<u>Not Important</u>	<u>Somewhat Important</u>	<u>Very Important</u>
	----- percent -----		
Profitability in livestock	5	11	85
Market access	8	27	65
Expansion by large scale producers	20	32	48
Environmental regulations	16	38	46
Protection against nuisance suits	32	33	35
Pro-business climate in state	25	50	25

The 1,342 livestock producers in the survey were asked if their operation had ever experienced problems meeting government regulations or guidelines concerning manure storage or application. Only 12 producers (less than one percent) have ever had problems meeting government regulations. This suggests that most producers have been able to meet environmental rules without great difficulty.

Proximity to Neighbors

Seventy-eight percent of the livestock producers in the survey have at least one neighbor within one-half mile of their operation (Table 14).

Table 14. Distance from Your Operation to Closest Neighbor

	<u>Percent</u>
Less than 1/4 mile	42
Between 1/4 and 1/2 mile	36
Between 1/2 and 1 mile	17
Between 1 and 2 miles	4
Over 2 miles	1

Given the proximity of livestock operations and neighbors, it is notable that only 5 percent of the livestock producers reported they had ever received complaints from neighbors about odors, noise, or flies from their livestock operations. When asked if they had received a complaint in the past 12 months, only 8 producers acknowledged receiving a complaint. This finding suggests the vast majority of livestock producers are doing a good job of managing their operations and are not receiving complaints from their neighbors.

Concerns about Expanding Livestock

Table 15 presents comparative data from the 1992, 1995, and 1998 surveys that show livestock producers agree manure management is a major issue. Contrary to some commonly held opinions, the majority of producers did not feel government regulations prevent them from expanding, nor did they feel they would get complaints if they did expand. Only 12 percent agreed they would receive complaints if they expanded.

Manure Management

A wide variety of manure storage methods are used by livestock producers (Figure 6). Nearly one-half of the livestock producers do not have manure storage, while about one-fifth use manure in solid form that is piled. Only 2 percent use earthen storage basins. Only about 10 percent of the livestock producers reported they had an approved manure management plan, although 11 percent were not sure. Nearly 8 out of 10 (79 percent) reported they did not have an approved plan. Decisions about where to apply manure tends to be guided by rotating among fields (27 percent), application rotation depending upon soil nutrient needs (23 percent), and applying manure evenly across fields (23 percent) (Table 16). Application rates are often determined by using personal judgment (59 percent), or crop nutrient requirements (14 percent). Ten percent reported using soil test results; 8 percent reported they pay little attention to application rates.

Among the 1,281 livestock producers who indicated their manure application practices, 72 percent reported their primary method was

Table 15. Concerns about Livestock Expansion

	<u>Agree</u>			<u>Not Sure</u>			<u>Disagree</u>		
	----- percent -----								
	1998	1995	1992	1998	1995	1992	1998	1995	1992
Increasingly, manure management is a major issue in the livestock industry	85	84	61	11	13	26	4	3	13
Personal concerns about state and federal regulations prevent me from expanding my livestock operation	14	14	8	30	27	29	56	58	63
If I expand my livestock operation, I would likely receive complaints from my neighbors ..	12	11	4	44	44	26	44	45	70

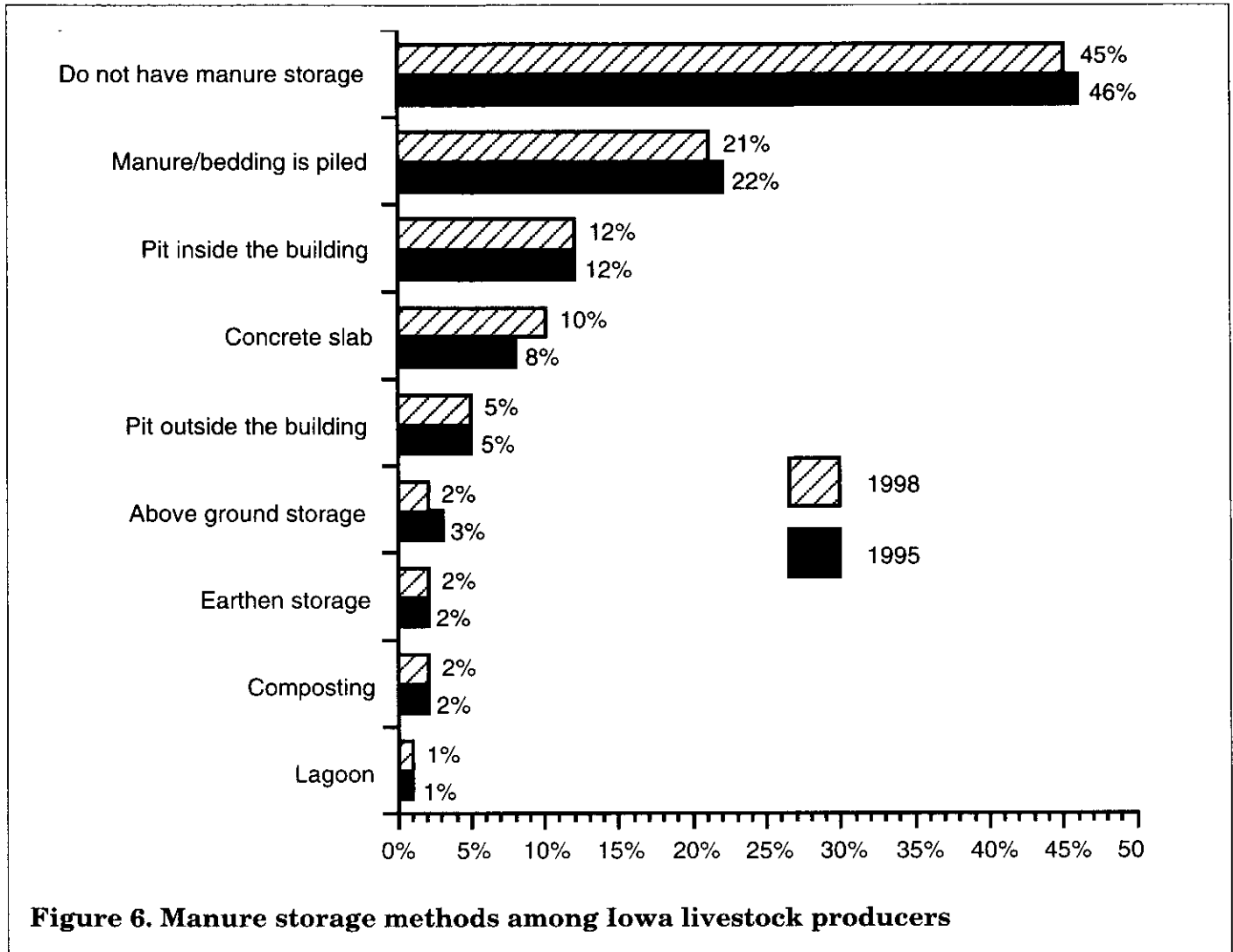


Figure 6. Manure storage methods among Iowa livestock producers

surface spread but not disked within 24 hours was their most used method. Eighteen percent reported they surface spread and disked within 24 hours, 9 percent inject from a liquid tank, and less than one percent use an irrigation spray gun.

Springtime was the most common season cited to apply manure, although 41 percent of the livestock producers apply manure throughout the year. Forty-seven percent of those producers who apply manure to fields to be planted in corn reduce commercial fertilizer rates. Among those who reduce commercial fertilizer rates, the average reduction was 47 pounds for nitrogen, 44 pounds for phosphorous, and 45 pounds for

potassium. Among those who do not reduce commercial fertilizer rates, the most commonly cited reasons were inconsistency in nutrient content and inaccurate application.

Thirty-two percent of the producers apply manure to fields to be planted in soybeans. Among those applying manure to soybean cropland, the reductions in nitrogen, phosphorous and potassium averaged 46 pounds. Sixty-eight percent of the producers do not apply manure to soybean fields. Primary reasons for not applying manure were inconsistency in nutrient content and concerns that yields would suffer.

Table 16. Manure Application

How do you decide where to apply manure?

According to my manure management plan	5%
Apply according to schedule that involves rotation of fields	27%
Systematically rotate applications depending upon soil nutrient needs	23%
Apply manure evenly in most or all of my fields	23%
Apply mostly in fields near my livestock facilities	15%
Apply in most convenient locations	6%
Consultant's recommendation	1%

When you apply manure, what is the **major** factor you use to determine application rates?

Use own judgment based on experience	59%
Crop nutrient requirements	14%
Pay little or no attention to application rate	8%
Use soil test results	10%
Ease of application	4%
Use manure sample	1%
Follow spreader manufacturer's recommendations	2%
Follow recommendations from ag scientists	1%
Follow consultant's recommendations	2%

What time of year do you usually apply manure?

Winter	8%	Fall	13%
Spring	20%	Throughout the year	41%
Summer	3%	No set schedule	15%

When you apply manure to fields to be planted in corn, do you adjust the commercial fertilizer rate?

Yes 47%
 No 53% → If no, why not?

Inconsistency in nutrient content	47%
Inaccurate application	20%
Compaction	5%
Too much bother	12%
Concerned that yields would suffer	16%

Do you apply manure to fields to be planted in soybeans?

Yes 32%
 No 68% → If no, why not?

Inconsistency in nutrient content	32%
Concern the yields would suffer	25%
Compaction	20%
Inaccurate application	13%
Too much bother	10%

Report authored by Paul Lasley, extension sociologist, with assistance from Kathleen Larson. Joan Steffen-Baker and Del Marks provided valuable layout assistance to the questionnaire and this report. Steve Padgitt, extension sociologist, and Mike Duffy, extension farm management specialist, assisted in developing the questionnaire. The Iowa Department of Agriculture and Land Stewardship, Division of Statistics, assisted in the data collection.

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