

# PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 1994

## Land Values Jump by 10 Percent

*J. H. Atkinson, Professor and Kim Cook, Research Assistant*

**A**fter four years of hardly keeping up with inflation, Indiana cropland values jumped around 10% in the year ending in June 1994 according to the Purdue land values survey. The USDA reported a 7.8% increase for the year ending January 1. Likely causes of strength in the land market include low interest rates (affecting both borrowers and equity investors), generally good yields in Indiana in 1993, better than expected corn and soybean prices and institutional buying of land. Inflation concerns may also have caused additional buying.

According to the Purdue survey, this is the seventh consecutive year of increasing Indiana land values. Average quality land values are now 58% above the low levels of 1987 but still nearly a third below the high of 1981. The number of farmland transfers in the 6 months prior to June was estimated to be up by 41% of the respondents versus 30% last year. More land was thought to be on the market by 12% of the respondents compared to 7.5% last year. The combination of more transfers and slightly more land on the market tends to indicate that higher prices have pulled more land into the market.

### Statewide Land Prices

For the six months ending in June 1994, the value of average land was

**Table 1. Average estimated land value per acre (tillable, bare land) and percentage change by geographic area and land class, selected time periods, Purdue Land Values Survey, Indiana, July 1994.**

Area	Class	Corn bu/A	Dec. 1993 \$	June 1994 \$	Change 12/93-6/94 %	Projected	
						Dec. 1994 \$	Change 6/94-12/94 %
North	Top	146	1890	1962	3.8	1997	1.8
	Average	116	1342	1397	4.1	1415	1.3
	Poor	87	936	969	3.5	980	1.1
Northeast	Transitional <sup>1</sup>		3959	4134	4.4	4259	3.0
	Top	145	1660	1753	5.6	1781	1.6
	Average	118	1265	1326	4.8	1340	1.1
W. Central	Poor	91	943	976	3.5	972	-0.4
	Transitional <sup>1</sup>		3391	3569	5.2	3722	4.3
	Top	150	1964	2049	4.3	2088	1.9
Central	Average	125	1536	1600	4.2	1630	1.9
	Poor	99	1124	1155	2.8	1174	1.6
	Transitional <sup>1</sup>		3163	3288	4.0	3553	8.1
Southwest	Top	150	2007	2102	4.7	2148	2.2
	Average	125	1621	1687	4.1	1721	2.0
	Poor	100	1254	1307	4.2	1340	2.5
Southeast	Transitional <sup>1</sup>		4945	5143	4.0	5641	9.7
	Top	155	1830	1893	3.4	1923	1.6
	Average	123	1331	1380	3.7	1421	3.0
Indiana	Poor	91	872	900	3.2	917	1.9
	Transitional <sup>1</sup>		4109	4246	3.3	4448	4.8
	Top	139	1271	1310	3.1	1324	1.1
Indiana	Average	110	959	989	3.1	1004	1.5
	Poor	83	724	739	2.1	749	1.4
	Transitional <sup>1</sup>		2404	2549	6.0	2587	1.5
Indiana	Top	148	1814	1892	4.3	1925	1.7
	Average	120	1382	1439	4.1	1463	1.7
	Poor	93	1005	1040	3.5	1053	1.3
	Transitional <sup>1</sup>		3827	3994	4.4	4210	5.4

<sup>1</sup> Land moving out of agriculture

reported to have increased 4.1% - somewhat more for top land and a little less for poor quality land. Two-thirds of the respondents reported that some or all classes of land went up from December 1993 to June 1994, up from a little over half last year. Only seven people felt some or all classes of land fell during that period.

Statewide 12 month increases in cropland values of 10 to 11% were more than double last year's increases (Table 2). Land rated at 148 bushel corn yield was estimated to have a value of about \$1900 per acre (Table 1) or around \$13 per bushel. Average land (120 bushel corn yield rating) was valued at \$1439 while the 93 bushel poor land was estimated to be worth \$1040 per acre. Land values per bushel of yield rating were \$12.78 on top land, \$11.99 on average land, and \$11.18 on poor land. These per-bushel figures are \$.87 higher than last year on top land, \$.95 higher on average land, and \$.99 higher on poor land.

Transition land moving into non-farm uses increased 4.4% in the 6-month period ending in June to nearly \$4000 per acre. This percentage increase is about the same as

**Table 2. June 1993 and June 1994 average estimated land value (tillable, bare land) and percentage change by geographic area and land class, Purdue Land Values Survey, July, 1994.**

Area	Class	Land Value		
		June 1993 \$	June 1994 \$	Change 6/93-6/94 %
North	Top	1761	1962	11.4
	Average	1236	1397	13.0
Northeast	Poor	845	969	14.7
	Top	1519	1753	15.4
	Average	1134	1326	16.9
W. Central	Poor	815	976	19.8
	Top	1856	2049	10.4
	Average	1456	1600	9.9
Central	Poor	1056	1155	9.4
	Top	1920	2102	9.5
	Average	1539	1687	9.6
Southwest	Poor	1186	1307	10.2
	Top	1919	1893	-1.4
	Average	1359	1380	1.5
Southeast	Poor	862	900	4.4
	Top	1237	1310	5.9
	Average	928	989	6.6
Indiana	Poor	695	739	6.3
	Top	1727	1892	9.6
	Average	1304	1439	10.4
	Poor	936	1040	11.1
	Transitional <sup>2</sup>	3363	3994	18.8

<sup>2</sup> Land moving out of agriculture

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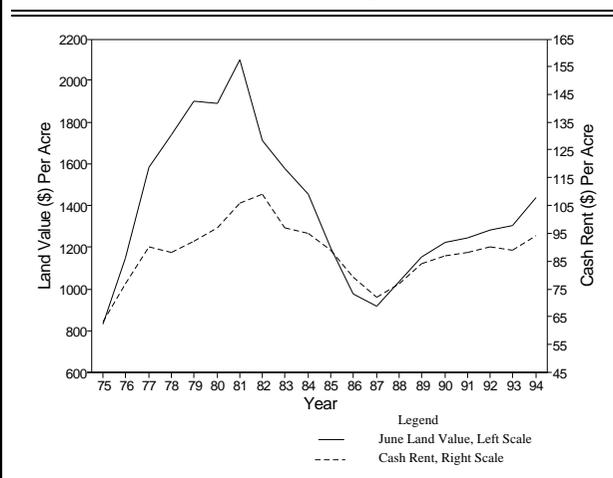
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**Figure 1. Estimated Land Value and Cash Rent, Average Land, 1975-1994, Purdue Land Values Survey**



**Table 3. Land value per bushel of estimated corn yield, Purdue Land Values Survey, Indiana, July 1994.**

Area	Land Class								
	Top			Average			Poor		
	1993	1994	% Change	1993	1994	% Change	1993	1994	% Change
North	\$12.31	\$13.44	9.2	\$11.04	\$12.04	9.1	\$10.06	\$11.14	10.7
Northeast	10.70	12.09	13.0	9.86	11.24	14.0	9.16	10.73	17.1
W. Central	12.54	13.66	8.9	11.74	12.80	9.0	11.00	11.67	6.1
Central	12.97	14.01	8.0	12.51	13.50	7.9	11.86	13.07	10.2
Southwest	12.79	12.21	-4.5	11.52	11.22	-2.6	9.69	9.89	2.1
Southeast	9.16	9.42	2.8	8.51	8.99	5.6	8.18	8.90	8.8
Indiana	11.91	12.78	7.3	11.05	11.99	8.5	10.29	11.18	8.6

reported for farmland but the 12-month increase, at 18.8%, was nearly double that of farmland (Table 2). Estimates for transitional land ranged from under \$1000 to \$17,000 per acre, thus the year-to-year change may not mean much. The 6 month change is based on estimates of the same persons, and therefore is likely to be more reliable.

**Statewide Rents Rise 3 to 5 Percent**  
Cash rents increased statewide from 1993 to 1994 by \$4 per acre on top land, \$5 per acre on average land and \$2 per acre on poor land (Table 4). These increases in percentage terms represent increases of 3% to 5%.

The estimated cash rent on average land was \$94 per acre, \$118 on

top land, and \$71 on poor land. Rent per bushel of estimated yield was \$.80 on top land, \$.78 on average land, and \$.76 on poor land. Cash rent on top land in 1994 was 14% below the record 1981 level.

Statewide, cash rent as a percentage of estimated land value declined a little for the second consecutive year. Average figures are 6.2% for top land 6.5% for average land, and 6.8% for poor-quality land (Table 4). These declining percentages are the result of greater increases in land values than in cash rents (Figure 1). This percentage on average land has varied over the past 20 years from 4.8 in 1979 to 8.1 in 1986. The recent tendency for land values to increase more than cash rents is not expected to continue.

#### Northern Areas had the Most Increase

Increases in the value of farmland by areas (Figure 2) from December 1993 to June 1994 generally fell in the narrow range of 3% to 5% (Table 1). Increases for poor land were less than for top and average land except in the central area.

For the year ending in June 1994 the greatest increases in all classes of farmland were in the northeast (15% to 20%) followed by the north with 11% to 15% increases (Table 2). Increases of around 10% were reported in the central and west central areas. The only decline was on top land in the southwest, with small increases reported for top and average land in that area.

**Table 4. Average estimated cash rents, bare tillable land, 1993 and 1994, Purdue Land Values Survey, Indiana, July 1994.**

Area	Class	Corn bu/A	Rent/Acre		Change '93-'94 %	Rent/bu. of Corn		Rent as a % of June Land Value	
			1993 \$	1994 \$		1993 \$	1994 \$	1993 %	1994 %
			North	Top	146	116	120	3.4	0.81
	Average	116	89	93	4.5	0.79	0.80	7.2	6.7
	Poor	87	65	66	1.5	0.77	0.76	7.7	6.8
Northeast	Top	145	104	109	4.8	0.73	0.75	6.8	6.2
	Average	118	78	86	10.3	0.68	0.73	6.9	6.5
	Poor	91	60	65	8.3	0.67	0.71	7.4	6.7
W. Central	Top	150	126	133	5.6	0.85	0.89	6.8	6.5
	Average	125	102	109	6.9	0.82	0.87	7.0	6.8
	Poor	99	81	84	3.7	0.84	0.85	7.7	7.3
Central	Top	150	125	129	3.2	0.84	0.86	6.5	6.1
	Average	125	103	107	3.9	0.84	0.86	6.7	6.3
	Poor	100	82	84	2.4	0.82	0.84	6.9	6.4
Southwest	Top	155	114	115	0.9	0.76	0.74	5.9	6.1
	Average	123	85	89	4.7	0.72	0.72	6.3	6.4
	Poor	91	66	66	0.0	0.74	0.73	7.7	7.3
Southeast	Top	139	84	87	3.6	0.62	0.63	6.8	6.6
	Average	110	65	67	3.1	0.60	0.61	7.0	6.8
	Poor	83	47	49	4.3	0.55	0.59	6.8	6.6
Indiana	Top	148	114	118	3.5	0.79	0.80	6.6	6.2
	Average	120	89	94	5.6	0.75	0.78	6.8	6.5
	Poor	93	69	71	2.9	0.76	0.76	7.4	6.8

The highest valued top quality land was in the north, west central, central and southwest areas. These average estimates ranged from about \$1900 to \$2100 per acre although corn yield ratings ranged from 146 (north) to 155 bushels (southwest). Average quality values were similar in the central and west central areas (\$1600 to \$1687 per acre) but considerably lower in the north and southwest. Both of these areas have some land of excellent quality but in general land quality is lower than in the central and west central areas.

Land values per bushel of corn yield estimates (land value divided by bushels) on top land were in the range of about \$13.50 to \$14.00 in the north, west central and central areas (Table 3). Both top and

average land values per bushel were similar in the northeast and southwest - a little over \$12 on top land and \$11.25 on land of average quality. Lowest values, around \$9, were in the southeast. Land values per bushel tended to decline in all areas as land quality (corn yield estimates) declined. While these per bushel values have been increasing since 1987, they still are much lower than in 1981, the peak year of land values. For example, the per bushel estimate for average land in central Indiana was \$21.50 in 1981, about \$9.50 in 1987 and currently is about \$13.50.

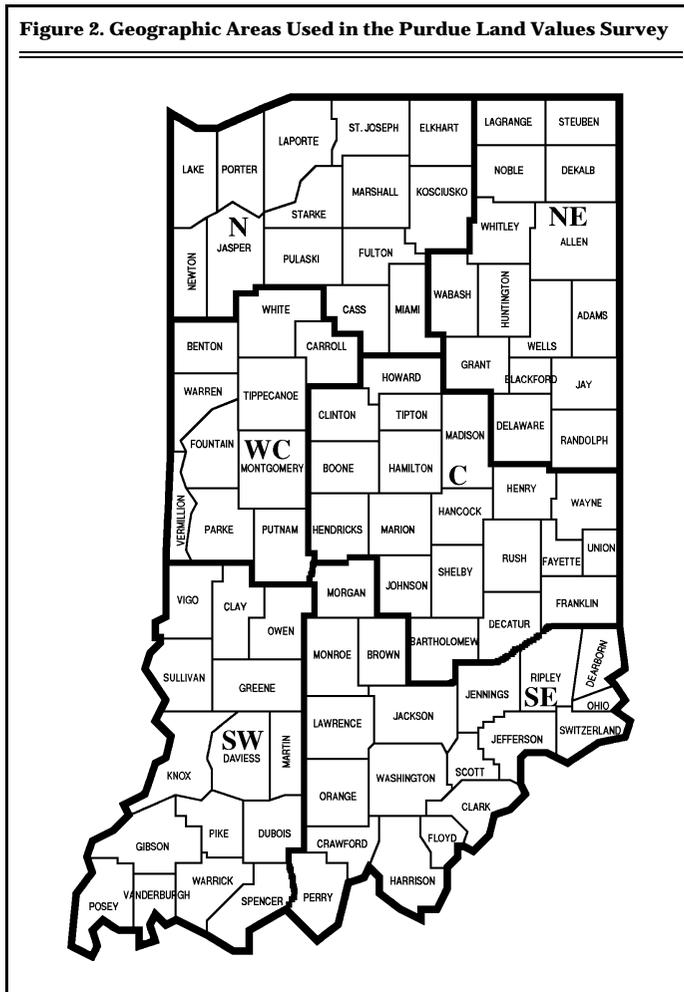
Except in the southeast and on top land in the southwest, cash rents increased by \$4 to \$8 per acre on top and average land and generally less on poor land (Table 4). The highest

percentage increases were for average land in the northeast (10.3%) and the west central area (6.9%).

Cash rents were highest in the west central and central areas - \$133 per acre and \$129 respectively for top land, \$109 and \$107 per acre for average land. Cash rent per bushel was also highest in these areas, ranging from 84¢ to 89¢. The per-bushel rent for top land was 82¢ in the north, about 75¢ in the northeast and southwest, and 63¢ in the southeast. These rates declined by a few cents per bushel as land quality declined.

Cash rent as a percentage of land value declined again except for a slight increase on top land in the southwest. This rate of return was mostly in the range of 6.1% to 6.9% in all areas. There was some tendency for the rate to increase as land quality declined.

Figure 2. Geographic Areas Used in the Purdue Land Values Survey



#### Respondents' Outlook

This is the third year in which respondents have become a little more optimistic that farmland values would rise by year-end. Fifty-two percent expect some or all classes of land to increase, up from 43% last year and a fourth in 1992. Only 6% of the respondents expect a decline in values while 40% expect no change. The average expected increase was small in all areas of the state - mostly under 2.5% (Table 1). If this rate of increase occurred and continued through the first half of 1995, the annual rate of increase would be only half of the 1993-94 rate.

Respondents were also more optimistic about the longer run (5 year) outlook for land values, with 88% expecting increases, up from 79% last year. Ten percent expected no change and 2% expected declines. The modest average increase of 9.5% over the five years compares with 7.4% last year.

Respondents were asked to estimate annual averages over the next five years for corn and soybean prices, the farm mortgage interest rate, and the rate of inflation. The five-year projections they made since 1984 are shown in Table 5.

Both corn and soybean price expectations rose, for beans, the first time in 6 years. Inflation and interest rate expectations also rose slightly, probably reflecting recent interest rate increases and more

**Table 5. Estimated 5 Year (1994-98) Averages, Corn and Soybean Prices and Interest and Inflation Rates, Purdue Land Values Survey, July 1994.**

Year	Prices, \$/bu.		Rates, %/yr.	
	Corn	Beans	Interest	Inflation
1984	\$3.13	\$7.35	13.3	6.5
1985	2.70	6.13	12.3	5.1
1986	2.32	5.43	11.0	4.2
1987	2.16	5.62	10.7	4.5
1988	2.50	6.82	10.9	4.6
1989	2.48	6.55	11.0	4.7
1990	2.61	6.22	11.0	4.6
1991	2.47	6.07	10.4	4.2
1992	2.52	6.04	9.5	3.8
1993	2.35	5.96	8.7	3.8
1994	2.48	6.18	8.9	3.9

talk about possible increases in inflation. Ironically, application of the "cure" for inflation (higher interest rates) well before any evidence that inflation is getting worse seems to have convinced the public that there is, indeed, greater probability of more inflation.

Two factors having a positive influence on land values have changed since mid-year 1993. First, interest rates have increased and are widely expected to rise even more. Second, crop prospects are better now than a year ago raising the prospect of increasing grain stocks in 1995 and beyond. The resultant pressure on corn and bean prices is aggravated by uncertainty about lower government support for farming in the 1995 farm bill. In the present setting, the following statement from last year's report still seems appropriate: "We believe that there is more upside potential in land values than there is downside risk,

even though, in the short run, slight decreases might occur."

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*The land values survey was made possible by the cooperation of professional farm managers, appraisers, brokers, bankers, county extension educators, and persons representing the Farm Credit System, the Farmers Home Administration, ASCS county offices, and insurance companies. Their daily work requires that they keep well-informed about land values and cash rent in Indiana. The authors express sincere thanks to these friends of Purdue and Indiana agriculture. They provided over 400 responses representing most of Indiana's counties. We also express appreciation to Sandy Dottle of the Department of Agricultural Economics for her help in conducting the survey and to Professors Chris Hurt and Lee Schrader for their review of this report and helpful suggestions.*

## The Economic Impact of Hog Production in Indiana, 1991

*Kevin T. McNamara, Associate Professor and Kenneth A. Foster, Assistant Professor*

**P**ork production is an important component of Indiana's economy. Total Indiana hog production was 1,742,315 thousand pounds in 1991 (Indiana Agricultural Statistics), an increase of about 5% over 1990 production and 11% over 1985 production. Indiana's 1991 hog production had an estimated value of \$828.1 million.

Hog production in Indiana stimulates income and employment that impacts almost every sector of the state's economy through linkages to both input suppliers and households. Pork producers purchase feed, land, facilities, equipment and a variety of business services in order to produce hogs. These purchases generate income and employment growth in the economy as suppliers hire and pay people to produce the inputs they sell to pork producers. The pork industry also generates direct

income and employment by hiring people to manage hog production facilities. These impacts are called indirect impacts.

The economic impact of hog production is spread further through the economy as households that earn income from hog production make purchases of goods and services for household consumption. The economy experiences further impacts as households. These household spending impacts are called induced impacts. Indiana's 1991 hog production stimulated a total income impact of \$123,883,760 and total employment of 11,226 jobs.

The \$828.1 million in Indiana pork production in 1991 stimulated an estimated \$1,392,284,500 in total economic activity through the purchase of goods and services from allied industries and through the family purchases of households that earn income from pork production.

Sectors that were impacted by pork production include \$52,832,780 in the grain production industry, \$8,993,166 in machinery production, \$361,809 in chemical and allied product production and \$422,333 in construction. The pork production sector also supplied itself with an estimated \$124,215,000 in pigs and hogs for production of the 1991 crop. Hog producers purchased \$49,222,264 in financial, real estate and insurance services, contracted an estimated \$26,300,456 in transportation services and purchased \$24,205,363 in supplies from wholesale and retail suppliers.



## The 1995 Farm Bill: Preferences of Indiana Farmers

*Marshall A. Martin, Professor; Bob F. Jones, Professor;  
and Jean Rosscup Riepe, Research Associate*

**W**ith the Food, Agriculture, Conservation, and Trade Act of 1990 expiring next year, debate over the 1995 farm bill is underway. To provide Indiana farmers with an opportunity to express their preferences for possible legislative provisions in the next farm bill, the Department of Agricultural Economics at Purdue University conducted a mail survey in March 1994. The survey sample was randomly selected from the list of Indiana farmers maintained by the Indiana Agricultural Statistics Service. There were 466 completed questionnaires returned (31% of those mailed to a total sample of 1,500 farmers).

### Representative Sample

Farmer characteristics were compared between farmers in the sample versus all farmers reported in the most recent Census of Agriculture data (1992). On this basis, the sample was judged to be representative of all Indiana farmers, even though not all characteristics were strictly identical. For example, 16% in the sample farmed fewer than 50 acres versus 31% of all farmers in the 1992 Census data. Farms with more than 500 acres accounted for 26% in the sample versus 15% in the Census. Percentages of farms in other farm size categories (by acreage) in the survey are similar to the percentages in the Census. Comparison of farm size by gross sales suggests a similar pattern with smaller farms (annual gross sales under \$40,000) slightly under-represented (53% in the survey versus 67% in the Census) and larger farms (annual gross sales over \$250,000) slightly over-represented (12% in the survey versus 7% in the 1992 Census).

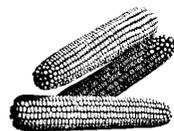
Another measure of the validity of the sample is to compare program participation of farmers in the sample versus all Indiana farmers. On this basis, also, the sample is judged to be representative of Indiana

farmers. According to Indiana farmers' responses in the 1994 mail survey, 44% participated in the feedgrain program and 22% in the wheat program in 1993. Official records from the Agricultural Stabilization and Conservation Service (ASCS) indicate that, in 1993, 44% of the farmers in Indiana participated in the feedgrain program and 24% in the wheat program. It should be noted that this represented 76% of the corn base acres and 54% of the wheat base acres in Indiana in 1993.

The survey asked farmers to express their preferences on possible alternative provisions in the 1995 farm bill and related food policies. Key issues addressed in the survey include the size of budget outlays, environmental quality, nutrition and food safety, access to international markets, expenditures on domestic and foreign food assistance, technology, and rural development. A few state-specific questions also were asked.

Indiana farmers' responses to the survey were analyzed statistically, both for all farmers as a group and by selected personal characteristics. The personal characteristics used were age, farm size (based on annual gross sales), years of schooling, primary source of farm income, farm type (grain, livestock, mixed, dairy, etc.), percent of land owned, off-farm income, and government program participation. This article summarizes the survey results.

### Production Controls and Price Supports



Since the 1930s a central feature of U.S. farm programs has been provisions to limit crop production and support commodity prices. Indiana farmers' views on production controls and price supports remain mixed. Nearly one-half (47%) favor a gradual elimination of all government price support and

production control programs. Furthermore, 12% favor separating government payments from production requirements (sometimes called decoupling). About one-third of the respondents prefer a continuation of the provisions in the 1990 farm bill. Only 3% want mandatory production controls. Farm program preferences are fairly consistent across farm size, as measured by annual gross sales, for both gradual elimination of farm programs and continuation of the present program. However, those farmers who prefer mandatory supply control tend to be smaller, while those who favor decoupling tend to be larger. Also, participants in the wheat and feedgrain programs in 1993 are more likely to favor a continuation of the current program, while nonparticipants generally favor a gradual phase-out of all commodity programs.

A similar survey of Indiana farmers was conducted in 1989 prior to the passage of the 1990 farm bill (Martin, Jones, and Shields). In both the 1989 and 1994 surveys, about one-third of the farmers were content with the current farm program, but in this survey more farmers favor elimination of government programs (47% versus 42%) and fewer want mandatory controls (3% versus 8%). Support for decoupling increased very slightly (12% versus 9%).

### Target Prices

Target prices were frozen for the 5-year life of the 1990 farm bill. Among Indiana farmers, attitudes concerning target prices remain mixed. About 39% want to phase them out in the next farm bill, while 37% want them increased annually at the rate of inflation. Fourteen percent favor retaining the current level of target prices, while 5% suggest they be gradually reduced each year. Six percent had no opinion. About one-half the livestock producers favor a gradual phase out of target

prices, while one-half the grain farmers favor an increase in target prices. Wheat and feedgrain program participants favor maintaining or raising target prices, while non-participants lean towards the gradual phase-out of target prices.

#### Loan Rates

Commodity loan rates and government storage programs, with some modifications, have existed since the 1930s. Forty-three percent of Indiana farmers favor continuation of the current loan rate policy, which is based on a moving average of market prices. However, about an equal number (40%) would prefer the complete elimination of loan rates and associated commodity loans. A small minority (10%) prefer higher loan rates. About 7% have no opinion. Program participants and nonparticipants about equally favor the current market average price method for determining the loan rate level. While some participants seek a higher loan rate, about one-half the nonparticipants favor the elimination of loan rates and commodity loans.

#### Budget Cuts

In recent years Federal budget pressures have resulted in reductions of farm commodity program payments from mid-1980 levels. If further budget reductions are necessary in the 1995 farm bill, Indiana farmers were asked to indicate where such cuts should be made. Indiana farmers' views are rather mixed.

A plurality (38%) favor elimination of payments to larger producers, but with a continuation of income transfers to small and medium size farmers. Farmers were about equally divided between reducing target prices and deficiency payments and increasing the number of flexible acres for which no payments would be made. One-fifth of the respondents favored each of these two options. Only 16% favor farm program payments based on financial need. Such an approach would be conceptually similar to the current food stamp program where the level of assistance is based on

financial need relative to the poverty line. Only 6% had no opinion.

Larger farmers, as measured by annual gross sales, prefer a reduction in payment acres and an increase in flexible acres, while smaller farmers prefer targeting the income transfer to small and medium size farms. Program participants are more likely to prefer a reduction in payment acres, while nonparticipants lean towards payments based on financial need.

#### Base and Flexible Acres

The majority (57%) of the respondents would accept an increase in nonpayment flexible acres in exchange for retaining their historic base acres. Such an approach would allow farmers more planting options while maintaining a basis for receiving deficiency payments in the future. Only 13% opposed this idea. However, about one-fourth were undecided. Larger farmers, as measured by annual gross sales, were much more concerned about retaining historic base acres than smaller farmers. This proposal also received more support from crop than livestock producers. Program participants are much more likely than nonparticipants to want more flexible acres and retention of historic base acres.

#### Farmer-Owned Reserve

The Farmer-Owned Reserve (FOR) was relatively popular in the mid-1980s when grain prices, farm income, and exports were low (one-half favored its continuation in a 1984 survey). By the 1989 survey, only 37% favored its continuation. In the 1994 survey, 37% favor its continuation, 22% are opposed, and 37% are undecided. The current low level of private and public stocks of grain may have influenced farmers' preferences in the 1994 survey. Larger farmers were less likely to favor continuation of the FOR.

#### Revenue Assurance

A Farm Bill Study Team in Iowa has proposed that the 1995 farm bill include an income safety net through a revenue assurance program in which each producer is

assured 70% of normal crop revenue. The proposed program would eliminate target prices, acreage reduction programs, Federal crop insurance and disaster assistance, allow producers to plant whatever crops in any amount they desire, and maintain nonrecourse commodity loans and grain reserves.

This new proposal received very mixed reviews in the 1994 Indiana survey. One-third of the respondents favor the proposal, one-third oppose it, and one-third are undecided. Farmers' views are not significantly associated with any of their personal characteristics.

#### Dairy Programs

It has been proposed that dairy programs be financed by milk producer assessments and administered through a producer marketing board with the power to control production. For all respondents, the responses were mixed with 36% in favor, 28% opposed, and 32% not sure.

Only 5% of the respondents listed dairy as their primary source of farm income. Among dairy farmers there is strong opposition to this proposal. Seventy-four percent oppose it, 22% favor it, and 4% are undecided.

#### Conservation Reserve Program

The Conservation Reserve Program (CRP) was introduced in the 1985 farm bill and continued in the 1990 farm bill. About 38 million acres of highly erodible land are currently in this program under 10 year contracts. Total annual government outlays for the program are \$1.8 billion. These contracts will begin to expire in 1995, with most of them expiring in 1996 and 1997. Two major concerns are being expressed with respect to the CRP—taxpayer costs and effectiveness in reaching environmental goals.

Indiana farmers were asked what policy should be adopted when these CRP contracts expire. One-third favor an extension of the contracts on the most erodible land with new bids. One-fourth prefer to continue the current contracts at the same per acre payment rate. One-fifth

think the CRP should be discontinued. About one-fifth (18%) suggest that the CRP be replaced with a conservation and water quality program with incentive payments. Smaller farmers, those with annual gross sales less than \$100,000, prefer new bids on the more erodible acres, while larger farmers generally favor a continuation of the current CRP controls. Farmers who currently have some land enrolled in the CRP were twice as likely as non-participants to favor a continuation of the current program. Nonparticipants were about equally divided among the four alternative policies for highly erodible land.

#### Conservation Compliance

The 1985 farm bill required farmers with highly erodible land to file an approved conservation compliance plan with ASCS by 1990 and have the plan fully implemented by 1995. The 1990 farm bill continued this program. This program requires farmers to follow appropriate tillage and crop rotations that reduce soil erosion to acceptable levels on their farms. Farmers who are not in compliance are not eligible for government program benefits.

In the survey, Indiana farmers were asked if the conservation compliance program should be continued in the 1995 farm bill. The majority (55%) agree and about one-fourth disagree. Sixteen percent are not sure.

#### Water Quality

There is growing public concern about the impact of farming methods on water quality, especially pesticide and fertilizer use and run-off from livestock operations. Some environmental groups and others have proposed that the government should further regulate farming practices and land use to reduce pollution of underground and stream water.

Indiana farmers' views seemed to be polarized on further regulation of farming practices with 43% opposed and 40% in favor. Fifteen percent are unsure. Older farmers are more willing than younger farmers to regulate farming practices to improve

water quality; similarly, smaller farmers are more willing than larger farmers.

One way to protect water quality in some fields is to plant grass strips along stream banks and in waterways. One-half the respondents support this idea while 36% do not. About 15% are undecided. Farmers' views on water quality policy are closely associated with farm size, as measured by annual gross sales; with smaller farmers much more likely than larger farmers to support government regulations to improve water quality such as grass waterways and protective strips along streams.

Farmers also were asked if the government should compensate them for planting grass protective strips along stream banks and in waterways. The majority, about two-thirds, agree that they should be compensated. However, one-fourth disagree, and 13% are undecided.

#### Takings

There is a growing debate over private property rights. Historically, land owners have been required to sell land under eminent domain for construction of roads or other public facilities. Now environmental and other regulations may limit how farm land may be used, e.g., wetlands, land clearing, drainage, etc. In these cases, farmers usually are not compensated by the government and often incur additional costs and/or revenue losses which result in lower land value.

The vast majority (78%) think that when government regulations reduce the value of farm property, the owner should be compensated for this loss. Only 11% disagree, and 11% are undecided.

#### Wetlands

Both the 1985 and 1990 farm bills contain provisions to retain and preserve wetlands. There has been a heated debate over the definition of a wetland. When asked if farmers should be permitted to drain wetlands and plant crops, one-half of the respondents think they should have the right to drain and crop wetlands. One-third favor government

regulations to preserve wetlands, and about one-fifth are undecided. Larger farmers and livestock farmers both are somewhat more likely to defend farmers' rights to drain wetlands.

#### Pesticides

Over the last several years there has been considerable public debate about pesticide use and potential negative impacts on the environment, farm worker safety, and food safety. Concurrently, new, safer pesticides have been developed and many farmers have adopted integrated pest management techniques.

In the 1994 survey, Indiana farmers were asked how their per acre pesticide use rate (active ingredient) today compares to five years ago. Only 3% said they were using more pesticides per acre. Forty-four percent were using about the same amount per acre, and 42% were using less. About 12% did not respond. It is also worth noting that a few of the smaller farmers and cow-calf farms with hay and pasture land indicated that they do not use any pesticides. Larger farmers, as measured by annual gross sales, were much more likely to have reduced pesticide use than smaller farmers.

The 1990 farm bill requires farmers to keep records on *restricted-use* pesticides. In the 1994 survey, farmers were asked if they should be required to keep records on their use of *all* pesticides. A majority (53%) said yes. Thirty percent said no, and almost one-fifth are undecided. College-educated farmers are more willing to keep pesticide records.

#### Disaster Assistance

The drought of 1988 and the Midwestern floods of 1993 have increased public attention on the production and income risks that U.S. farmers face. The critical question is: Should the Federal government protect farmers from such disasters, and if so, how should it be done?

Indiana farmers were adversely impacted by the drought of 1988, but benefitted in 1993 from higher prices due to crop losses in the



western Corn Belt. When asked in March 1994 if the Federal government should protect farmers from major crop losses, nearly one-half (48%) of the respondents said no. They suggested that farmers should be able to purchase private crop insurance if they wish, but not be dependent on government subsidized crop insurance or special disaster assistance.

are somewhat more likely to prefer county yields as a basis for Federal crop insurance. Larger farmers tend to prefer farm to county yields as a basis for Federal crop insurance.

#### International Trade

Consideration of international trade arrangements, especially the General Agreement on Tariffs and Trade (GATT), influenced the previous two

A related question was on the merits of an export subsidy on value-added products such as meat or processed commodities. One-half the Indiana farmers who responded are unsure if this is a good policy. About one-fourth favor it, and one-fourth do not. This is clearly a policy issue that merits additional analysis and discussion since so many are unsure about the merits of a subsidy on value-added products.

The United States has offered food aid to low-income countries for 40 years under the Food-for-Peace or P.L. 480 program. The main goals of this program are to reduce hunger in low-income countries, reduce U.S. surpluses, and open new export markets. Under the 1990 farm bill, budget outlays on this program have been modestly reduced. In the survey, farmers were asked if the U.S. government should continue to reduce funding of foreign food aid. A majority (54%) agree that foreign food aid should be reduced even further. Almost one-third (31%) are not sure. A minority (16%) does not favor further reductions. Smaller farmers with annual gross sales of less than \$100,000 are much less supportive of foreign food aid programs than are larger farmers.

#### Domestic Food Aid

Food stamps and related domestic food assistance programs (Women, Infants, and Children; School Breakfast; School Lunch; etc.) now account for about one-half the budget of the U.S. Department of Agriculture. Several reforms in the current domestic food aid programs have been proposed.

One proposal is for the Federal government to make block cash grants to each state and then let each state distribute the funds for food assistance to needy families. One-half of the 1994 survey respondents favor this change in funding and shift in program implementation from the Federal to the state level. One-fifth are opposed, and 29% are undecided. Those respondents with less off-farm income are more supportive of this proposal.

Another proposal would distribute food assistance only to the

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***“There will be strong political pressure to improve environmental quality, maintain some aspects of traditional commodity programs, comply with NAFTA and GATT agreements, and further reduce farm program budget outlays.”***

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Not all farmers agree, however. About one-fourth (27%) prefer a permanent government disaster program for losses that exceed 50%. Farmers could purchase additional private crop insurance if they wish. A minority (12%) prefer that the U.S. Congress decide each year on a case-by-case basis whether to authorize any disaster assistance. Another minority (9%) favors a mandatory crop insurance program for all farmers as a condition for eligibility for additional disaster payments.

A subsequent question asked if a voluntary subsidized crop insurance program were available but no disaster assistance, what type of Federal crop insurance farmers would prefer. Nearly two-thirds (61%) favor a voluntary crop insurance program with the insurance coverage based on actual individual farm yields. Slightly over one-fourth (29%) would prefer premiums and coverage based on county average yields. Very few farmers (5%) favor a mandatory program which would require all farmers to purchase Federal crop insurance. While all age groups prefer individual farm yields to county average yields, younger farmers expressed stronger support for individual farm yields. Older farmers

omnibus farm bills. Since the 1990 farm bill, the North American Free Trade Agreement (NAFTA) has been ratified by the U.S. Congress and implemented. The GATT Agreement will be before the U.S. Congress later this year and will likely be implemented prior to the passage of the 1995 farm bill. With this as background, Indiana farmers were asked several trade-related questions.

Indiana farmers apparently perceive economic benefits from international trade negotiations that reduce trade barriers. Two-thirds favor further bilateral and multilateral trade negotiations. Only 6% are opposed, while about one-fourth are undecided. Younger, college-educated, and larger farmers are all more likely to favor trade agreements.

Export subsidies on commodities such as those authorized by the Export Enhancement Program (EEP) have been widely used in recent years, especially for wheat. While 40% favor the continuation of export subsidies, nearly as many (37%) are unsure. One-fourth oppose the use of export subsidies. These rather mixed policy preferences suggest that this issue merits further analysis and debate.

elderly and families with children that have incomes below the poverty line. This proposal received substantial support with three-fourths of the respondents agreeing and only 11% disagreeing. Thirteen percent were undecided.

### Food Safety



Consumer concerns about food safety have become a national policy issue as people worry about pesticide residues, bacteria in meat, and food additives. Modification of the Delaney Clause to move from a zero tolerance to an acceptable risk criteria has been proposed in the U.S. Congress.

One way to reduce health risks from food consumption is improved consumer education in proper food handling and preparation techniques. Nearly three-fourths (72%) of the Indiana farmers who responded to the survey favor placing instructions for proper storage and cooking on all meat and meat products sold at retail stores. About one-fifth oppose this idea, while 8% are undecided.

Another proposal calls for food inspections to be strengthened to ensure safer and better quality food. The vast majority of farmers (78%) think that this is in their best interest and favor such a proposal. Only 12% disagree and 10% are undecided. Smaller farmers are somewhat more supportive of stronger food inspection efforts.

One controversial issue in the NAFTA and GATT debates was the safety of imported food, especially regarding possible pesticide residues. In the survey, Indiana farmers were asked if they believe food imported into the United States now meets domestic food safety standards. From their responses, there appears to be considerable confusion or lack of information on this question. While 37% said yes, about one-third were not sure, and 29% said no. Part of the difference in views may be based not on what the U.S. laws and regulations require (i.e., imports must meet U.S. standards) but on concerns about either the

effectiveness of the U.S. food inspection system or the effectiveness of border controls; especially when people see illegal drugs being imported despite massive efforts to control drug trafficking.

### Nutrition

In recent years the American public has become more nutritionally conscious. The food industry has tried to respond with new products and nutritional labelling. The U.S. Department of Agriculture released in 1993 a food pyramid that guides consumers to increase their consumption of fruits, vegetables, and grain products and limit their consumption of red meat and sweets. In the survey, farmers were asked a two-part question. First, have they seen the new USDA food pyramid. Second, do they think it is a useful educational tool.

Nearly one-half (47%) have not seen the USDA food pyramid. Forty-four percent have seen it. Nine percent were not sure. Of those who have seen the food pyramid, two-thirds think it is a useful education tool. Thirteen percent are not sure and 19% do not think it is a useful educational tool. Farmers with more years of schooling are more likely to have seen the USDA food pyramid.

Despite the increased amount of diet and nutrition information in food labels, some people think this is not enough. Almost two-thirds (63%) of the respondents favor additional diet and food labeling information on food packages, about one-fifth are not sure, and 18% disagree. Presumably, more nutritional information would not only encourage consumer demand for farm products, but also help farm families as food consumers.

Farmers also were asked if they read the labels currently on food packages. The majority (54%) said they occasionally read them. Forty percent said they read them often. Four percent said they never read food labels. Those under age 35 are the least likely to read food labels.

### Biotechnology

The private and public sectors in recent years have invested billions of

dollars in biotechnology research. Some of the first agricultural applications are now on the market. The Food and Drug Administration (FDA) has approved Monsanto's version of bovine somatotropin, a growth hormone that when injected in dairy cows stimulates milk production. The FDA also recently approved Calgene's Flav'r Savr tomato, a tomato that has one gene altered to give it a longer shelf life so that the tomato can be vine ripened and shipped long distances, yet retain a fresh taste.

Since there has been considerable public debate concerning the environmental, food safety, economic, and ethical implications of agricultural biotechnology, Indiana farmers were asked two questions in the 1994 survey about their views on the possible benefits of biotechnology to producers and consumers. The majority of the respondents (61%) expect to benefit as producers from the application of biotechnology. Only 8% disagree, and about one-third are not sure. A similar majority (61%) expect consumers to benefit from agricultural biotechnology. Only 6% disagree, and about one-third are unsure. Those farmers with more years of schooling and who operate farms with higher annual gross sales are much more likely to expect producers and consumers to benefit from biotechnology.

### Subsidized Fuel

For over a decade there has been considerable analysis and debate on subsidized fuels derived from crops. As air pollution has become more severe in large cities and political pressure for cleaner air has increased, there has been renewed attention to blending the alcohol derived from corn (ethanol) with gasoline. Also, some recent technological developments indicate soy oil might be an acceptable substitute for diesel fuel. In fact, buses in some cities are using soy diesel on an experimental basis. The key issue for both fuels is cost. With current petroleum price levels, both soy diesel and gasohol must be subsidized to be cost competitive.

Most Indiana farmers strongly favor using tax money to subsidize fuels from crops such as corn and soybeans (62%). However, one-fifth oppose this idea, and 18% are undecided. Farmers who receive 50% or more of their income from livestock sales are less supportive of subsidizing fuels derived from corn and soybeans than are crop farmers. This difference in views may reflect a concern that such a policy could increase feed costs.

#### Targeting Agricultural Research

The structure of American agriculture continues to change as farm numbers decrease, farm size increases, and specialization becomes more common. As a result of the historic trend towards fewer and larger farms, some have proposed that publicly funded research should be targeted towards the needs of medium and small size farms. Examples of such research might include crops or livestock for niche markets, direct-sale farmer markets, organic farming, etc.

Two-thirds of the respondents in the Indiana survey favor efforts to target the benefits of research towards smaller farms. About 15% disagree with this proposal and 18% are undecided. There is a strong correlation between size of farm and response to this question, however. Of those respondents with annual gross sales less than \$250,000, almost three-fourths agree with targeting agricultural research. Conversely, of those respondents with annual gross sales in excess of \$250,000, only about one-third favor targeting.

#### Rural Economic Development

New jobs, economic growth, and improved quality of community life are key policy goals of rural community leaders. The Clinton Administration and Secretary of Agriculture Espy have expressed interest in helping rural communities. A challenge for all public policy officials is how to meet multiple community goals with limited human and financial resources. Information on farmers' priorities

could help rural community leaders establish priorities among alternative programs.

About one-half (53%) of the responding farmers favor increased Federal funding to expand employment and economic activity in rural communities. About one-fifth (21%) are opposed and about one-fourth (26%) are undecided.

In the survey, farmers were asked to select, from a list of eight items, their three highest priorities for economic development in their communities. Other suggestions were possible. Nearly two-thirds (61%) ranked new or improved roads as a high economic development priority in their community. The second highest ranking was for business development (48%). The third highest ranking was for more financial support for public education (42%). About one-third (35%) listed more law enforcement and crime prevention as a community priority. About one-fourth of the respondents listed new or improved bridges (26%), public training to improve workers' skills (25%), and improved health care facilities (21%). Few people saw a need for new or improved sewage treatment plants (9%). Other suggestions included: lower property taxes, access to health care, and health insurance for the self-employed.

#### Indiana Issues

In addition to questions related to the 1995 farm bill, several Indiana-specific questions were asked.

**Bankruptcy of grain dealers** with subsequent loss of income to their patrons has become a concern to numerous Indiana farmers in recent years. Farmers were asked if they favored an insurance program to indemnify farmers if a fund were created that would be financed by a premium of one-fourth cent per dollar of grain sales collected at the point of sale with the insurance fund capped at \$10 million. Farmers' views are quite mixed on this proposal. About one-third (35%) favor such a proposal. However, about the same proportion (31%) do not. Furthermore, another one-third are undecided. Clearly, this is an issue of concern to some farmers, but this

specific proposal to generate funding from an insurance premium paid by farmers did not receive support from the majority of the respondents.

**Property tax for public school funding** is a hotly debated policy topic in Indiana and neighboring states.



Last year Michigan passed a law prohibiting the use of property taxes to fund schools. Indiana farmers were asked if they would favor eliminating property taxes as a source of funding for schools and raising money from state income and/or sales taxes. About one-third (34%) favor the elimination of property tax for school funding and replacing this tax source with higher state income and sales taxes. A similar proportion of farmers (31%) favor only an increase in sales taxes to replace the property tax. Seven percent favor an increase in only the income tax. However, about one-fourth (24%) would prefer to continue the current property tax system for funding public schools. Smaller farmers with annual gross sales under \$40,000 are more likely to want to continue the current property tax system while larger farmers (annual gross sales over \$250,000) would prefer to replace the current property tax system with a higher sales tax. College-educated farmers tend to favor higher sales and/or income taxes to replace the current property tax system for funding public schools.

**County-level USDA offices** might be merged under a Clinton Administration proposal. If some local USDA offices (ASCS, SCS, FmHA) were closed, the services would be provided at another location, perhaps in a neighboring county. Farmers were asked how far they would be willing to drive for these USDA services. About one-half (49%) would drive only 20 miles or less. About one-fourth (26%) would be willing to drive up to 30 miles. Only 10% would drive 40 miles. Very few would drive further; 3 percent would drive up to 50 miles and 4% up to 60 miles. Larger farmers are willing to drive further than smaller farmers.

**An Indiana "Right to Farm" law** was passed in 1981. According to the survey, only about one-fifth (18%) of Indiana farmers are familiar with its provisions. Nearly two-thirds (61%) are not, and another one-fifth are not sure. Of those farmers who are familiar with the provisions of the Indiana Right to Farm Law, nearly two-thirds (61%) do not think it will protect agricultural investments from the encroachment of nonagricultural land uses. A few (11%) think it may help. The rest (28%) are not sure. Familiarity with the "Right to Farm" law increases among respondents as farm size and educational levels increase.

**Local zoning ordinances** can help protect agricultural investments and land use. Over one-half the respondents (54%) think zoning ordinances should prohibit the concentration of residential development in prime agricultural land areas outside of urbanized areas. A few (13%) think land zoned for agricultural uses should be permitted to shift to nonfarm use without additional restrictions. About one-third of the respondents are undecided on the issue of zoning ordinances and land use. Livestock farmers are much more likely to favor zoning that prohibits concentrated residential development in agricultural areas. College-educated farmers are more likely to favor such regulations, also.

**Diking chemical storage facilities** to protect ground and surface water from potential spills of fuel, pesticides, and fertilizers for farmers who store more than minimum specified quantities is now required by Indiana law. Who should bear the full cost of this regulation is still a policy issue. About one-half the respondents (48%) think a percentage of the cost of diking should be allowed as an income tax credit. About one-fourth (24%) think farmers should bear all of the cost. About one-fifth (22%) would prefer a cost share payment from ASCS. Younger, and all but the smallest, farmers tend to prefer an income tax credit. Farmers with more schooling favor an income tax credit, while farmers

who have not completed high school have more diverse preferences.

**Wetlands** policy has been a contentious issue for nearly a decade. Current regulations restrict the conversion of wetlands to cropping or other agricultural uses. When asked if a farmer should be allowed to tile a field that has been farmed for more than 10 years, even though it has been officially classified as a wetland, an overwhelming majority (85%) responded yes. Only 6% said no and 9% were undecided. Younger (under 50) and larger farmers are more likely to support the tiling of farmed wetlands.

### Conclusions

Indiana farmers' views remain divided on many food, environmental, and agricultural policy issues. But, over time their views have changed modestly. Relative to previous surveys (Martin, Jones, and Shields), Indiana farmers currently seek even less government involvement in commodity programs. However, most want target prices and loan rates continued with an increase in flexible acres if necessary to reduce taxpayer costs. Retention of historic base acres continues to be important to most farmers.

Quality of the environment is important to most Indiana farmers as indicated by their desire to continue in some fashion the Conservation Reserve and Conservation Compliance Programs. However, Indiana farmers are polarized on water quality policy and further government regulations on farming practices such as planting grass protective strips along stream banks and waterways. Many also want the right to drain wetlands, especially to replace or add tile to farmed wetlands that have been cropped for at least ten years.

Most Indiana farmers are reducing their use of pesticides. Also, most favor record keeping on all, not just restricted-use, pesticides.

Indiana farmers generally favor private versus Federal crop insurance. If there is Federal crop

insurance, the majority prefer premiums and benefits based on actual farm versus county average yields.

Indiana farmers perceive economic benefits from international trade negotiations that reduce trade barriers. However, they question the merits of export subsidies and many favor further reductions in foreign food aid.

Indiana farmers favor improved government food inspection services and food labeling to provide safer and higher quality foods and to improve diet decisions.

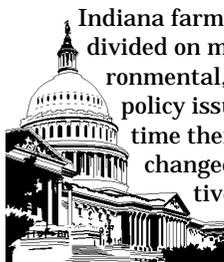
Biotechnology is viewed as very beneficial to farmers and consumers. But many farmers, especially the smaller ones, favor targeting agricultural research to efforts that would primarily benefit the medium and smaller size producers.

Most Indiana farmers favor subsidizing production of fuels from crops such as corn and soybeans. They also favor government funding for some rural development programs that improve roads, create jobs, and enhance public education.

As the 1995 farm bill is written, Congress will face several challenges. There will be strong political pressure to improve environmental quality, maintain some aspects of traditional commodity programs, comply with NAFTA and GATT agreements, and further reduce farm program budget outlays. This survey offers some insights into Indiana farmers' preferences for agricultural and related public policies. The survey results should provide guidance to farm leaders and government officials as laws and regulations are written and implemented.

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## Professional Opportunities For Agricultural Economics Graduates

Larry Bohl, Professor and Head Counselor

**N**ational news headlines over the past two years have foretold the difficulty college graduates face in finding entry level professional jobs. It is true that some major companies in several sectors of the economy have reduced the size of their work force. Thus college graduates from many disciplines are confronted with a more difficult task in landing that first job. But this is not the case for all college graduates?

Graduates with training in programs offered by the Agricultural Economics Department continue to fare well in the professional employment market. This has been true for School of Agriculture graduates in general. A survey taken four months after May 1993 graduation (including December 1992, May 1993 and August 1993 graduates) showed that over 90 percent of those answering the survey had taken jobs or were continuing their education. The starting average salary of those employed was \$24,450.

The table below shows the percentages who took positions in six broad categories along with the salary statistics.

Sales positions included seed, feed, chemical as well as those in commodity trading. Farming

included individuals returning to home farms plus other commercial farms, Murphy Farms, Carroll's Foods, and DeKalb Swine Breeders, as examples.

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***"Industry is looking for graduates with strong technical training, a strong work ethic, self motivation, excellent communications and personal relations skills, plus a willingness to locate where the position is available."***

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Finance positions included positions with commercial banks, Farm Credit Services, Farmers Home Administration, and the financial departments of several large companies. Management positions were those classified as management training in machinery dealerships, farm supply firms, and several commodity processing and food wholesale firms.

Production jobs included positions with firms such as IBP, DeKalb, Hormel, and Perdue. Non-agriculture employment, classified as other, included market research

assistant, veterinary office receptionist, political intern, insurance actuary, and county assessor assistant. These latter jobs, for the most part, resulted primarily from the inflexibility of the graduate to locate in a different area due to the specific employment location of a spouse.

The employment prospects for the current and future graduates in agriculture continues to look promising. Each week recruiters from several employers call to seek potential employees. Individuals with farm backgrounds and technical agricultural training are in demand.

It is important to note that the needs of the agricultural industry are changing. Five to ten years ago about 50 percent of our graduates went into sales, and about 12 percent entered the combination of farm and production positions. Data for the past two years shows sales at 34-35 percent, and farm plus production at 28 percent.

The agriculture job market is good but it is important to point out that this industry is looking for graduates with strong technical training, a strong work ethic, self motivation, excellent communications and personal relations skills, plus a willingness to locate where the position is available. The important challenge is to match the right person with the right job.

If the Department of Agricultural Economics, or the Purdue School of Agriculture can help you find the graduate who is the "right person" for your organization, please contact us.

Entry Level Positions			
Type of Position	% of Graduates	Salaries	
		Average	Range
Sales	34	\$27,225	\$19,500 - \$35,000
Farming	19	\$24,136	\$19,400 - \$35,000
Management	12	\$27,000	\$23,750 - \$31,500
Finance	10	\$22,708	\$17,000 - \$26,750
Production	9	\$20,500	\$17,000 - \$23,750
Other	16	\$20,055	\$17,000 - \$29,500



## Making Farm Credit Decisions

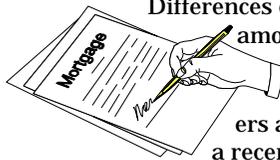
*Michael Boehlje, Professor and J. H. Atkinson, Professor*

**M**any farmers and other business managers value the advantages of a long-time relationship with lenders who supply their operating and intermediate term credit. These advantages come mainly from the lender's increasing knowledge of the borrower and the business, and may include quicker action on loan applications, larger or more flexible lines of credit, and additional financial services. Because of these advantages, borrowers are not inclined to go "rate shopping" very often for a small reduction in the short term interest rate.

However, this may not be true for farm mortgage loans. Small differences in rates or other loan features can cause big differences in costs over the life of a long-term loan. Furthermore, there may not be much contact between the borrower and lender after the loan is made unless the same lender is used for all types of credit. Thus farm mortgage borrowers are more likely to do some "rate shopping".

### Loan Terms and Rates Vary

Differences do exist among various farm real estate lenders according to a recent straw poll of 30 lenders in Indiana. Information was obtained on rates as of May 1, 1994 for fully adjustable loans and those with fixed rates of 1, 3, 5, 10 and 15 years (note: none of the commercial banks reported 15 year fixed rates). Life insurance companies tended to have the lowest rates and banks the highest. Farm Credit Services reported on their highest quality loans and had the lowest rate for the fully adjustable loan but the highest for 10 and 15 year fixed rates. Following are the highest and lowest rates as of May 1 (rates probably have gone up around a percentage point since then).



	Lowest	Highest
Fully adjustable	6.6%	8.25%
1 year	6.5%	8.5%
3 year	7.0%	9.0%
5 year	7.5%	9.15%
10 year	8.0%	9.0%
15 year	8.2%	9.65%

But interest rates don't tell the whole story! All the insurance company lenders had a minimum size loan, ranging from \$75,000 to \$1 million. None of the other lenders had minimums. All the insurance companies had a loan closing charge (these are charges in addition to abstract, appraisal and other service based fees), usually around 1% of the loan. About half of the other lenders had a fee or charge. Some lenders refer to these charges as "points" with each point being 1/100 of a percent. Some lenders offer a rate without points or a fee and will lower the rate if the borrower pays points. This is actually an interest pre-payment or interest buy down. Computer programs are available which will calculate the annual percentage rate including points. As a rule of thumb, borrowers should consider buying down their rate if they have the cash to do so and if they can recover the initial fee (or points) during the first few (3-5) years of the loan or prior to the interest reset period or early loan payoff. Finally, only two lenders offered the entire range of payment options.

### Selecting Fixed vs Adjustable Rates

Farmers who are negotiating new loans face the tough decision of choosing a rate which is subject to change or which is fixed for a stated number of years. Farm real estate loans often are amortized over a longer period of time than the number of years during which the rate is fixed. For example, the term of a loan may be 20 years. If a 3 year fixed rate is chosen, the rate is subject to change at the end of each 3

year period. The borrower may or may not be able to select a different fixed rate period after the initial decision.

Three-fourths of the lenders surveyed placed "caps" on their adjustable loans. Here's an example reported by a bank: on a one year fixed rate loan, the maximum annual adjustment is 1 percent and the maximum over the life of the loan is 5 percent. In some cases, the rate terms might be chosen as much to obtain the periodic reset and lifetime caps associated with the rate as for the rate itself. For example, assume the current rate on adjustable rate mortgages is 7.0 with annual reset caps of 1.0 percent and a lifetime cap of 5.0 percent above the initial rate. With a positively sloped yield curve, if the one year fixed rate is above 8.0 percent and rates are generally rising, the adjustable rate with a 1.0 percent annual reset cap would likely be lower than the new one year or longer term fixed rate a year from now. So the adjustable rate might be chosen in part to buy the annual reset cap. In a similar fashion, the 5.0 percent lifetime cap will have more value as a maximum upper limit on rates if it is tied to a lower initial rate.

### How Long to Fix Rates?

In choosing a period over which to fix rates, farmers have to answer two questions. First, are rates going up or down; that is, where are rates likely to be at the end of the fixed rate period? For example, a Farm Credit Services borrower on a variable rate can change to a fixed rate at any time. Suppose the difference from one term to another is as follows:

Variable to 1 year	55 points
1 year to 3	120 points
3 years to 5	40 points
5 years to 10	65 points
10 years to 15	30 points

With a variable rate of 7 percent, fixed rates for 1, 3, 5, 10 and 15 years would be 7.55 percent, 8.75 percent, 9.15 percent, 9.8 percent and 10.1 percent respectively. If borrowers assumed that the variable rate would rise to 8 percent over the next year, then perhaps they should “lock in” the 7.55 percent for a year. But then the 1 year rate might rise 1 percent to 8.55 percent. Should they at that time switch back to a variable rate? They are forced now to make an assumption about the level of rates at the end of the second or third years. Assume they believe that interest rates will drop during the 1996 presidential election year. With a 120 point spread between 1 and 3 years, they may rule out a fixed rate for 3 or more years, a decision which is further fortified by their assumption that a recession may develop in 3 or 4 years. The conclusion may be that there’s likely to be little difference between the 2 year cost of a variable and a 1 year fixed rate so they stay with the variable rate.

The second question that must be answered is what will happen to the spread in rates over different maturities; will the yield curve flatten or steepen? Figure 1 shows the changing shape in the yield curve (as well as the change in rates) on government bonds in mid-summer 1994 compared to six months earlier. Note that rates have increased, but more for maturities of 1 to 5 years than for 3 month or 30 year debt. Although Figure 1 indicates a recent “flattening” of the yield curve on government securities, this may not be true of a specific lending institution’s farm mortgage rates. For example in May, 1993, one lender in the survey had only a 50 point higher rate for a 3 year fixed rate compared to a variable rate. In May, 1994 the 3 year fixed rate was 175 points higher than the variable rate for that same lender. But to go from 3 year to 5 year fixed rates, the rate increase was reduced to 40 points from 70 points a year earlier. The remainder of this lender’s yield curve was fairly flat in both years. So this lending institution steepened its yield curve on the shorter

maturities and flattened it on the longer maturities. The important message here is to check with individual lenders and try to get an idea of their perspective of expected changes in rates for different maturities rather than rely on yield curves as reflected by government bonds.

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***“Farmers who are negotiating new loans face the tough decision of choosing a rate which is subject to change or which is fixed for a stated number of years.”***

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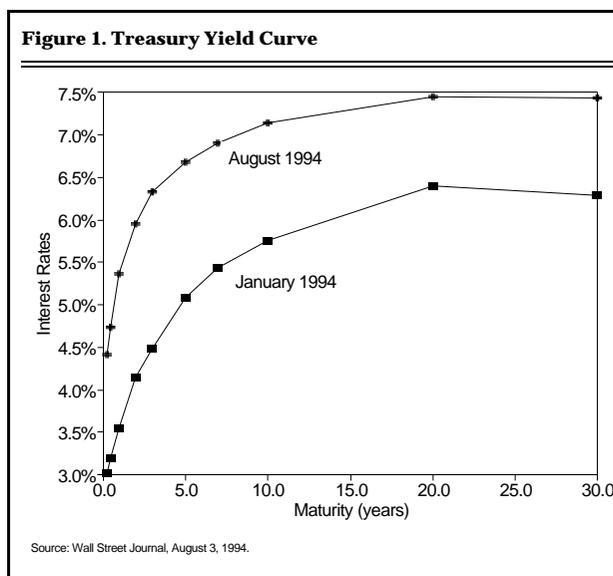
How might this changing shape of the yield curve influence a decision? If the spread between, say, 1 and 3 year maturities is abnormally wide (i.e., a steep slope to the yield curve) and rates are expected to decline, one might want to choose a variable rate and then lock in rates on a longer term basis when the yield curve flattens. If rates are expected to rise, the decision is more complex — if short term rates are expected to rise while longer term remain constant, then stay with

short term rates and ride the curve up (i.e. there is no advantage of locking in longer term rates now). If both short and long term rates are expected to rise, then the short run savings of staying short must be compared to the additional costs that are incurred in the longer run by not locking in rates over the maturity of the loan.

The current interest rate outlook is much like the last situation. both short and long term interest rates are generally expected to rise slowly and the yield curve may flatten further, increasing the complexity of selecting a fixed rate period. A simpler solution may be to choose a “reasonable” rate in terms of cash flow and historical levels, then lock in that rate for the longest period possible.

#### Some Points to Remember

1. Interest rates do vary among lenders
2. Be sure to shop not just rates, but also for terms.
3. Calculate the true cost of the loan including all add ons.
4. The choice between fixed or variable rates and the length over which to fix a fixed rate depend upon the yield curve and interest rate expectations.

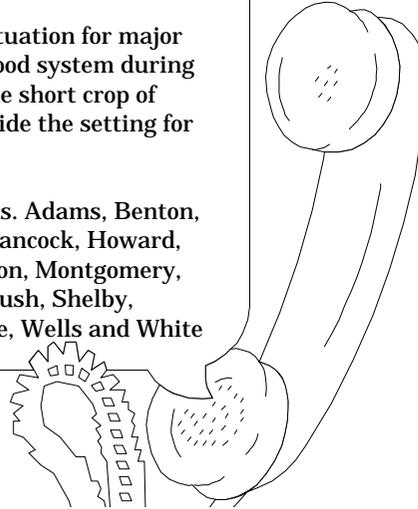


## 1994/95 Outlook Meetings

**P**urdue extension economists will present the agricultural outlook for 1994/95 at 34 meetings around the state of Indiana between September 13 and 22. Check with a Purdue Cooperative Extension Service office in your county or watch for local announcements for meeting details.

Speakers will review the supply, demand, and price situation for major commodities and will discuss other factors affecting the food system during the year ahead and beyond. The dramatic change from the short crop of 1993 to prospects for near record production in 1994 provide the setting for another interesting marketing year.

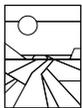
Meetings have been scheduled in the following counties. Adams, Benton, Boone, Cass, Clinton, Dekalb, Fayette, Fulton, Greene, Hancock, Howard, Huntington, Jackson, Jasper, Johnson, Kosciusko, Madison, Montgomery, Newton, Owen, Parke, Porter, Posey, Pulaski, Putnam, Rush, Shelby, Steuben/Lagrange, Sullivan, Tippecanoe, Warrick, Wayne, Wells and White



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