

2005 Outlook for Indiana Farmland Values and Cash Rent

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Indiana land values

Current situation

The June 2004 Purdue Land Value Survey reported that land values in the state continued their upward movement. State wide, top land had an estimated value of \$3,278 per acre, average land had an estimated value of \$2,693 per acre and poor land had an estimated value of \$2,131 per acre¹. This was an increase of 8.0%, 7.3%, and 8.4% above 2003 values for top, average, and poor land, respectively. This is the strongest increase since 1998.

As always, there are differences across the state. For six state regions, Figure 1 presents the annual percentage change in land values. The strongest increase in value occurred across the Northern part of the state with increases ranging from 10.7% to 12.9%. The West Central part of the state was next with increases of 8.8% to 9.8%. This was followed by the Central region with increases of 6.3% to 6.9%. With the exception of poor land in the southwest region, the increases in the south were more modest, ranging from 2.9% to 6.1%. The highest estimated land value continues to be top land in the Central region².

On a statewide basis, transition land (land moving out of production agriculture) increased in value. In June 2004, the average value for transition land was \$7,561 per acre, 9.0% more than the value reported in 2002.

To gain a perspective on the forces influencing Indiana's farmland market, survey participants were asked to assess the strength of 11 factors thought to influence farmland values. These factors included:

1. Current net farm income	2. Expected growth in returns
3. Crop prices & outlook	4. Livestock prices & outlook
5. Current & expected interest rates	6. Returns on competing investments
7. U.S. agricultural export sales	8. U.S. inflation/deflation rate
9. Current inventory of land for sale	10. Current cash liquidity of buyers
11. Current U.S. agricultural policy	

¹ Long term average corn yields are used as a measure of land quality. The estimated average long-term corn yield for top, average, and poor quality land was 165, 135, and 105 bu. per acre, respectively.

² Additional detail on the regional difference in land values can be found in "[Indiana Farmland Values & Cash Rents Continue to Increase](#)," Purdue Agricultural Economics Report, Purdue University, August 2004, pages 1-6.

Respondents were asked to use a scale from -5 to +5 to indicate the strength of influence each item has on current farmland values. If the item had a major negative influence, it would be given a minus 5. If the item had a small negative influence, it would be given a minus 1. Positive influences were assessed in the same way, except positive weights were used. An average for each item was calculated.

The results for 2003 and 2004 are presented in Figure 2. The numbers on the horizontal axis of the chart indicate the number of the influence in the above list.

Figure 2 shows the difference that the passage of time can have on the expectations in the land market. This year all the influences were positive. The strongest influences were current net farm income (1) and crop prices & outlook (3).

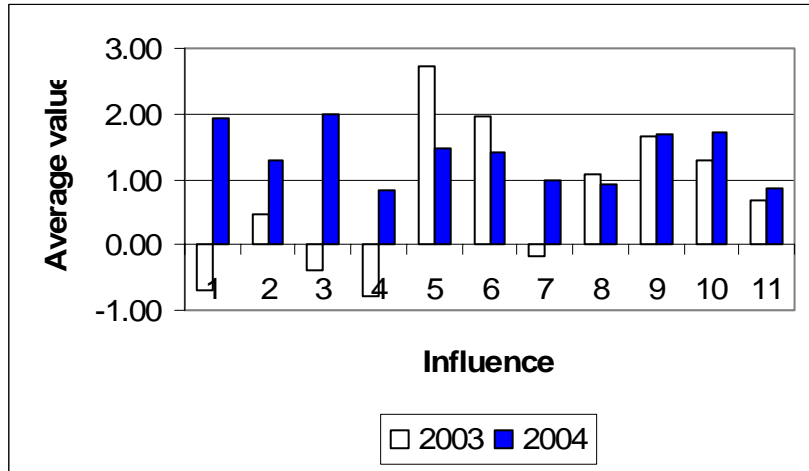
Last year the price and income factors were negative factors. Current and expected interest rates (5), returns on competing investments (6), the current inventory of land for sale (9), the current cash liquidity of buyers (10), and the expected growth in returns (2) were also providing important positive influences. It is likely that the price and income outlook today is a bit less optimistic. Since the first of June, the corn price for the December 04 futures contract has fallen nearly \$1.00 per bushel and the soybean price for the November 04 contract has fallen nearly \$1.50 per bushel. It is likely that the sudden price decline has dampened some of the positive influence of the price and income factor.

Outlook

The supply of land for sale continues to be limited. Eighty-three percent of the respondents indicated that the amount of land on the market was the same or less when compared to last year. The demand for land continues to be strong. Interest on the part of nonfarm investors continues to be strong, 51% of the surveyed respondents indicated increased interest from this group and 9% indicated a decreased interest from nonfarm investors. This year, respondents indicated strong interest on the part of farmers in making a farmland purchase. Sixty-two percent of the respondents indicated an increased interest on the part of farmers. Last year 43% reported increased interest on the part of farmers.

The economy is expanding and the discussion of interest rates has shifted from a discussion of declines to a discussion of increases. The federal budget deficit is also looming large. June saw the Federal Reserve increase the federal funds rate by one quarter of a point. Another quarter of a point was added in August. While these changes influence short term interest rates, expectations about inflation have a larger influence on long-term rates. Long-term interest rates have also risen. The interest rate on 30-year conventional mortgages reached their low point of 5.23% in June 2003. This rate had risen to 6.29% a year later. Data on interest rates for fixed rate farm real estate loans is not yet available, but it is expected that they will follow a similar trend. Higher interest rates will cause buyers to bid less for the future income generated by a land purchase. As the cost

Figure 2. Importance given to selected factors influencing farmland values in 2003 and 2004



of borrowed money increases, this may also dampen the demand for rural residences and subdivisions.

Signs at this time point to a gradual adjustment in interest rates. While rising interest rates will have a negative influence on farm land values, interest rates will be increasing from historic lows. The other factors in our list above will also influence future farmland values. There continues to be a limited supply of land. The strong liquidity position of buyers because of 1031 tax-free exchanges, demand for rural residents, and renewed interest on the part of farmers all contribute to a strong demand.

As always, the long-term price and income picture is uncertain. The stronger corn and soybean prices earlier this year helped provide a more optimistic price and income outlook. Respondents to the 2004 survey had a much more positive long-term price view than they have had for several years. However, the drop in corn and soybean prices during July and August is likely to cool some of the enthusiasm that existed earlier in this summer.

When survey respondents were asked to project farmland values for December 2004, farmland values for the state as a whole were 1.3% to 2.1% higher. Respondents were also asked to project farmland values five years from now. Eighty percent of the respondents expected farmland values to be higher, 12% of the respondents expected farmland values to be the same, and 8% expected farmland values to be lower. For those expecting an increase, the average expected increase was 9.5%. For those expecting a decrease over the next five years, the average decline was 9.2%. Combining all estimates for the next five years provided an average increase of 6.8%. This increase would translate into an annual compounded increase of 1.3%

For the year ahead, it is expected that the rate of increase in land values will slow but not stop. Farmland values for the year ahead are expected to increase between 3% and 5% for the year. However, if one is considering a farmland investment, it is important to remember buying farmland is a long-term investment. Prudent planning requires investigating if there is a sufficient cushion to allow the business to withstand unexpected events that reduce net revenue. It is also important to remember that farmland is an illiquid investment. Selling a tract that should not have been purchased can often take longer than anticipated.

Indiana Cash Rents

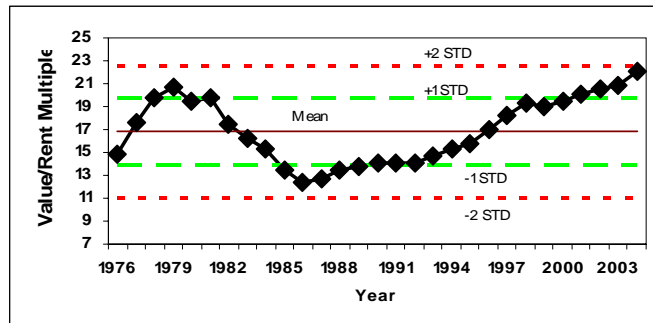
Current situation

Based on the 2004 Purdue Land Value Survey, state-wide cash rents in 2004 averaged \$150 per acre for top land, \$122 per acre for average land, and \$96 per acre for poor land. These increases were \$2 to \$3 per acre or 1.7% to 3.2% more than those reported in 2003.

As with farmland values there are differences by area of the state (Figure 3). All areas of the state reported increases in cash rent. The North region exhibited the strongest increases in cash rent, increasing 2.2% to 6.1%. This was followed by the Central and West Central region.

Both land values and cash rents continue to increase in Indiana. Land values continue to increase more rapidly than cash rents. As a result, the value-rent multiple, a measure similar to the price earnings ratio in stocks, continues to rise. For 2004,

Figure 4. Value -Rent Multiple for average Indiana farmland



this value was 21.9, 22.1 and 22.2, respectively for top, average, and poor quality land.

A longer view of this value for average Indiana farmland is presented in Figure 4. For the 1976 to 2004 period, this value has averaged 16.8. The value has exceeded the average since 1998. Since 2002, we have exceeded the previous high of 20.6 set in 1979. With the current value-rent value nearly two standard deviations above the mean, one would expect a decline in this value to be more likely than continued increases. However, there is little evidence to suggest that land values will decline or that cash rents will increase while land values remain constant.

Outlook

To estimate the return that might be received from crop production in 2005, a corn and soybean rotation budget was prepared (Table 1). The corn and soybean prices used were developed using closing future price quotes for August 16, 2004. The estimated harvest price for corn, \$2.38, was assumed to be \$0.20 less than the close for the December 2005 contract. The estimated harvest price for soybeans, \$5.55 was assumed to be \$0.25 less than the close for the November 2005 contract.

Given the estimated prices, there is not expected to be a loan deficiency payment (LDP) or a counter cyclical payment (CCP). While the direct payment is attributed to corn or soybeans, these payments will not change if the rotation is changed³. When accounting for revenue from the market and federal price support program, the total gross revenue averages about \$316 per acre. This is slightly more than the revenue estimate of last year.

Production costs are based on Purdue Extension Publication ID-166, *2004 Purdue Crop Guide*. Input prices were adjusted to reflect the expected increases in the price of many crop input items. When compared to our January 2004 budget, fertilizer, seed, and fuel prices are expected to have the largest changes. With these changes, per acre corn production costs increased about 6.4% and soybean production costs increased about 9.4%. The slight revenue increase from 2003 estimates combined with the higher production costs leave a budgeted return to land of about \$73 per acre, \$55 less than the \$128 estimated cash rent for land producing 142 bushel corn. This value continues to indicate pressure on margins.

Table 1. Estimated 2005 return for a corn-soybean rotation on average land - harvest prices.

	Corn	Beans
Projected harvest time price	\$ 2.38	\$ 5.55
Yield	141.9	46
Market revenue	\$ 337.72	\$ 255.30
LDP Payment	\$ -	\$ -
Direct government payment	\$ 26.30	\$ 13.84
CCP government payment	\$ -	\$ -
Gross revenue	\$ 364.02	\$ 269.14
Variable production cost	\$ 182.00	\$ 116.00
	\$ 182.02	\$ 153.14
50-50 rotation	\$ 167.58	
Machinery overhead	\$ 52.10	
Drier overhead	\$ 7.20	
Operator labor	\$ 35.00	
	\$ 94.30	
Return to land	\$ 73.28	
Return after rent	\$ (54.72)	

³ Additional assumptions used in estimating the direct government payment for corn include: direct payment yield - 105 bu. per acre and direct payment rate - \$0.28 per bu. Additional assumptions used in estimating the direct government payments for soybeans include: direct payment yield - 34 bu. per acre and direct payment rate - \$0.44 per bu.

There are many things that will change between now and the time when rents for next year are determined. However, the limited supply of rental land and the desire by many farmers to expand will continue to make the rental market extremely competitive. The sharp increase in corn and soybean prices this year was followed with an equally sharp decline. As one looks ahead to the 2005 crop year, expected crop revenues will be less than those generated this past year. With expected cost increases, primarily energy, fertilizer, and seed, margins will continue to be under pressure. This will keep the increase in cash rents small. In the year ahead, cash rents are expected to move 1% to 1.5% higher.

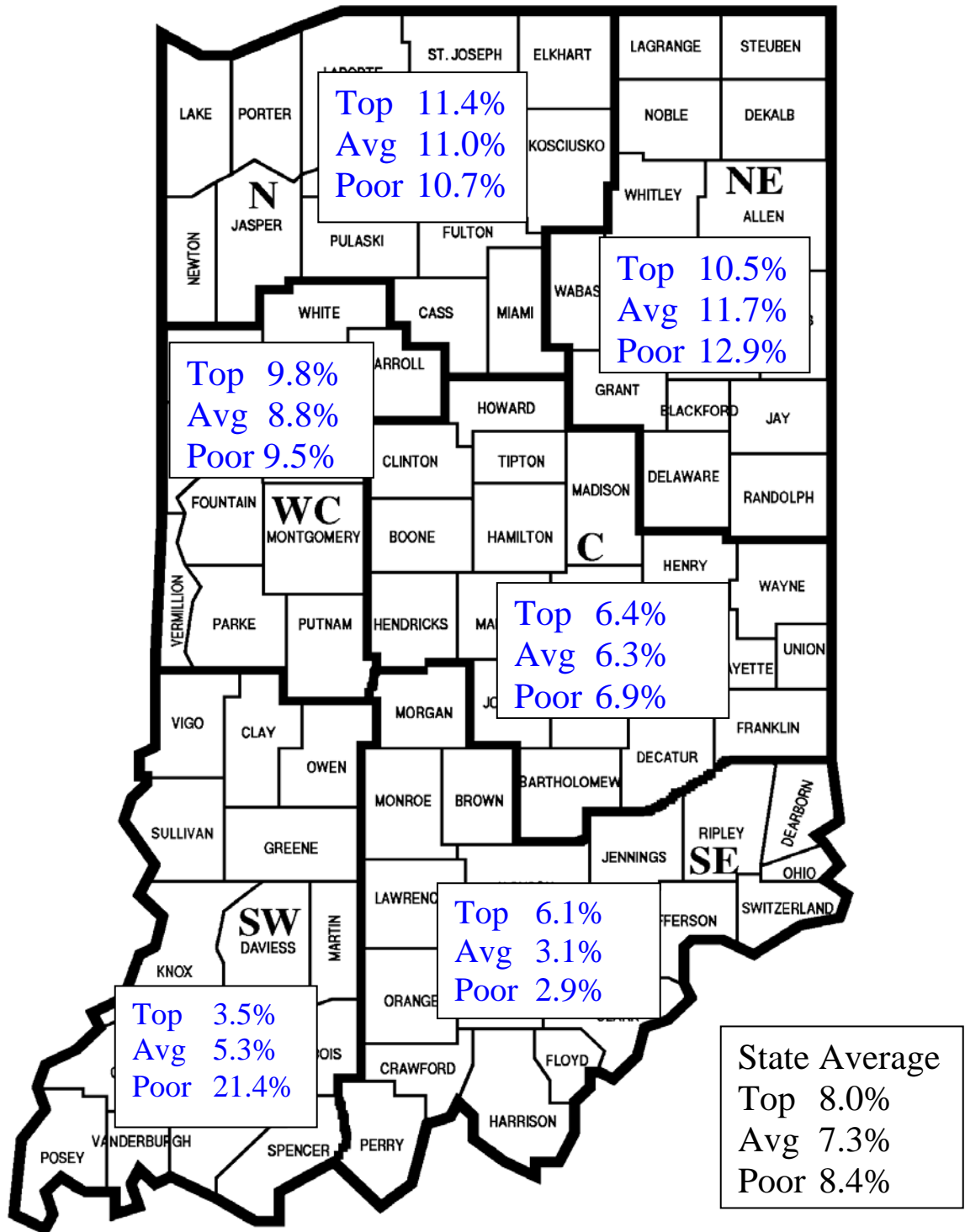


Figure 1. Percentage change in land values, June 2003 to June 2004, Purdue Land Value Survey

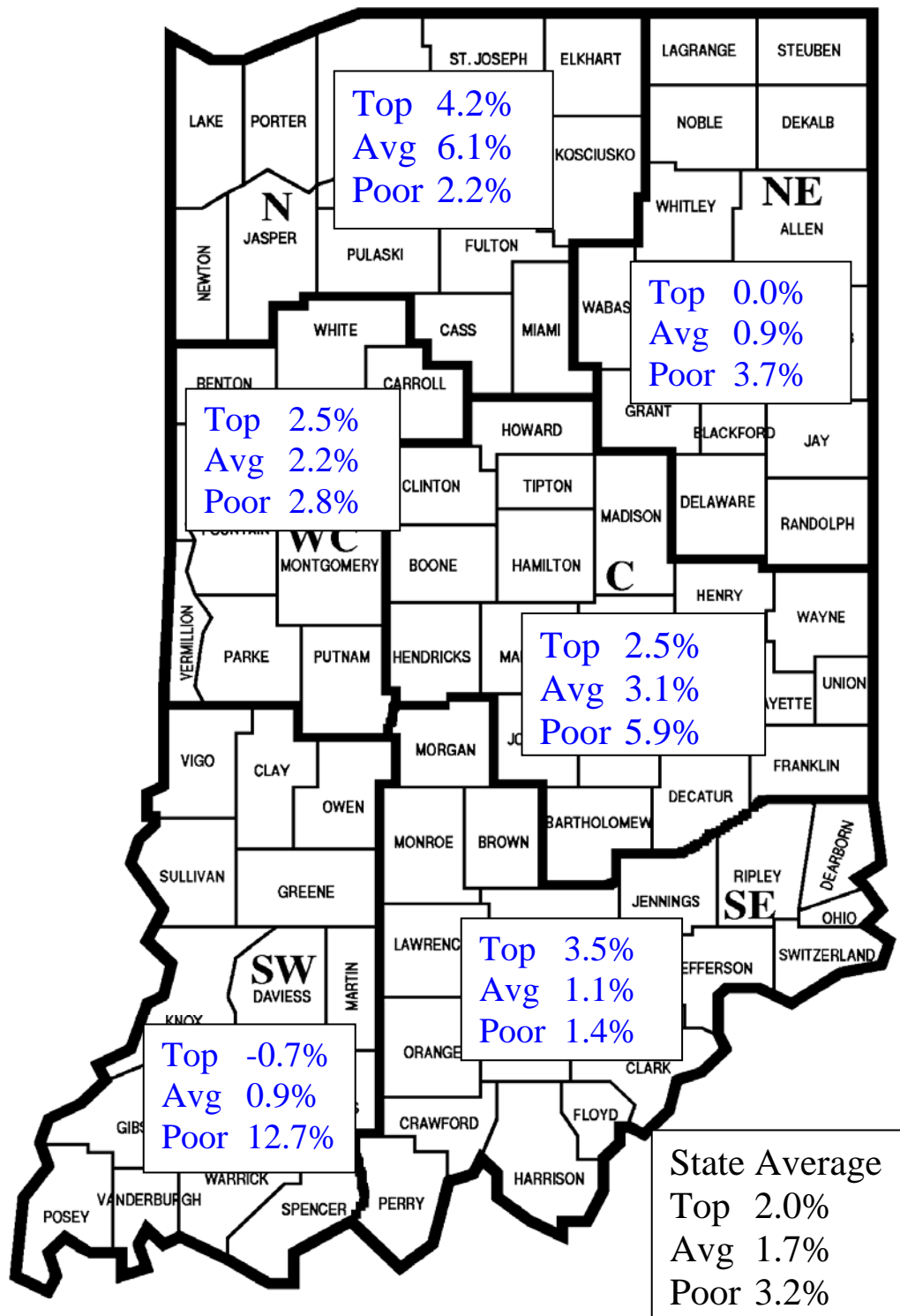


Figure 3. Percentage change in cash rents, June 2003 to June 2004, Purdue Land Value Survey