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STATE OF INDIANA

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FINANCE



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**REFERENCE  
MATERIALS  
FOR VALUING  
AGRICULTURAL  
LAND FOR  
MARCH 1, 2012**

**BASE RATE - \$1,630**

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**General Notes for the Agricultural Land Market  
Value in Use for March 1, 2012 Rate of \$1,630**

December, 2011

**History:**

The 2002 Real Property Assessment Guidelines contained a section on valuing agricultural land based on its value in use. A summary of our calculations can be found in Chapter 2, Page 100 of these guidelines, in Table 2-18. For the 2002 reassessment, the base rate for agricultural land calculated to be \$1,050 and remained unchanged for 2003 and 2004. Pursuant to 50 IAC 21-6-1(a), the department issued the annual rate for March 1, 2005 to be \$880. In the 2005 legislative session, SEA 327 was passed. This bill contained a non-code provision that set the base rate for agricultural land for both March 1, 2005 and March 1, 2006 at \$880. SEA 327 also contained language for March 1, 2007 which instructed the Department of Local Government Finance to adjust our methodology from a four year rolling average to a six year rolling average (IC 6-1.1-4-4.5). The base rate for March 1, 2007 was calculated to be \$1,140 per acre. The base rate for March 1, 2008 was updated by removing 1999 data and adding 2005 data to the six year average which resulted in a base rate of \$1,200. The base rate for March 1, 2009 was updated by removing 2000 data and adding 2006 data to the six year average which resulted in a base rate of \$1,250. The base rate for March 1, 2010 was updated by removing 2001 data and adding 2007 data to the six year average which resulted in a base rate of \$1,400; however in March of 2010, Senate Enrolled Act 396-2010 was signed into law which required the highest year of the six-year average to be excluded in the calculation. This change in the calculation lowered the base rate for March 1, 2010 from \$1,400 to \$1,290. The base rate for March 1, 2011 was updated by removing the 2002 data, adding the 2008 data, and excluding the highest year of the six-year average to arrive at a base rate of \$1,500.

**Table 2-18 – Years:**

For March 1, 2011, the six years used were: 2004, 2005, 2006, 2007, 2008 and 2009.

**Table 2-18 – Net Income from Cash Rents:**

Since agricultural land in Indiana is nearly evenly divided between cash rent and owner-occupied production, our agency used an average of both types of income in our calculation.

The data for cash rents came from three Purdue Agricultural Economics Reports (PAER). For the 2004 & 2005 rents, go to Table 2 of Page 3 of the August of 2005 report. For the 2006 & 2007 rents, go to Table 2 of Page 3 of the August of 2007 report. For the 2008 & 2009 rents, go to Table 2 of Page 3 of the August of 2009 report. From these tables, we used the statewide averages for average soil.

There is also an adjustment to these amounts to reduce the rents for property taxes paid on the land. This adjustment was based on a study conducted by the Department of Local Government Finance.

**Table 2-18 – Net Income from Operating:**

This income represents the profits from the owner-occupied production of crops on agricultural land.

The foundation for the calculations that our agency adopted comes from Table 1 of the June 24, 1999 Doster/Huie report.

**Doster/Huie Report – Table 1-Years:**

This report used the years of 1996, 1997, 1998, & 1999. The year of 1999 was removed from our 2002 calculations since our calculations were based on January 1, 1999. Information for 1995 was obtained and added to our calculations. (Also note the date of June 24, 1999 for the report which means that six months of data had been estimated.)

**Doster/Huie Report – Table 1-Yields:**

The yields in this report were obtained from the Indiana Agricultural Statistics Service (IASS) for both corn and soybeans. The IASS publishes these statistics on an annual basis. Yield information for these four years can be found in the 1999-2000 publication for corn on page 31 in the Final Yield per Acre column of the Crop Summary section and on page 32 for soybeans.

**Doster/Huie Report – Table 1-Prices:**

The prices used in this report were for the month of November. They can be found in IASS publications for that time period. Note: Our agency made an adjustment to this part of the calculation because the majority of the grain harvested in Indiana is not sold in November but throughout the year. This adjustment will be discussed later.

**Doster/Huie Report – Table 1-Sales:**

Yields for each type of crop (corn/soybeans) multiplied by the Price per Bushel for each type of crop equals Sales.

**Doster/Huie Report – Table 1-Less Variable Costs:**

This information can be found in the Purdue Crop Guide. This guide is an annual publication (ID-166). The dollar amount for each crop type can be found in section titled “Estimated XXXX (year) Per Acre Production Costs in the column for Corn/Soybean Rotation for Average Soil. See the line for “Total direct cost per acre at harvest”. The costs include labor, seed, fertilizer, chemicals, machinery repairs, and fuel.

**Doster/Huie Report – Table 1-Crop Contribution Margin:**

Sales less Variable Costs equal Crop Contribution Margin for each type of crop (corn/soybeans).

**Doster/Huie Report – Table 1-Plus Government Payment:**

The publication adds government payments as a source of additional revenue for the land. This amount for each year was estimated by the authors of the publication.

**Doster/Huie Report – Table 1-Total Contribution Margin:**

This number represents the average of the Crop Contribution Margin for corn and soybeans plus one-half (1/2) of the amount for the government payment. (The sum of the three numbers divided by two.)

**Doster/Huie Report – Table 1-Less Overhead:**

The overhead expense for machinery, drying/handling, & family/hired labor can be found on the Purdue Crop Guide (ID-166). The dollar amount for each crop type can be found in section titled “Estimated XXXX (year) Per Acre Production Costs in the column for Corn/Soybean Rotation for Average Soil. See the lines for “Indirect charges per acre”.

**Doster/Huie Report – Table 1-Real Estate Tax:**

A deduction of \$10 for real estate taxes was estimated by the authors.

**Doster/Huie Report – Table 1-Income:**

Total Contribution Margin less the Overhead Expenses of machinery, drying/handling, labor, & real estate taxes equals Income.

**Doster/Huie Report – Table 1-Estimated Land Value:**

The authors of the paper then averaged the four years (1996 – 1999) income and divided it by a 1999 interest rate to arrive at an Estimated Land Value of \$971.

**Table 2-18 – Net Income from Operating:**

This income represents the profits from the owner-occupied production of crops on agricultural land. While the foundation for the calculations that our agency adopted comes from Table 1 of the June 24, 1999 Doster/Huie report, we did make some alterations to it.

**Adjustments Made To The Doster/Huie Report By Our Department:**

**Years:**

We added the statistics for 1995 which were available and deleted the estimates for 1999 since interest rates and income data were not available.

**Price:**

We added two averages to the Doster/Huie report since this report used only November prices. Since only a small portion of Indiana's grain is sold in November, the Department of Local Government Finance developed two annual averages for the calculation. The first average was the calendar year average of the grain prices which are published in the IASS book. The second average was the market year average. This average is calculated by the IASS and is a weighted average that is based on the end of the month grain price and the percentage of the total grain harvested that was sold that month.

**Interest Rate:**

Instead of using the 1999 St. Paul Farm Credit Bank interest rate, we chose to use the quarterly farm loan rates published by the Federal Reserve Bank of Chicago. The FRBC publishes an agricultural newsletter on a quarterly basis called the "AgLetter". This newsletter provides interest rates on farm loans for operating loans, feeder cattle, and real estate. The Department averaged the interest rates for the operating loans and real estate categories. A study was conducted on different sources of interest rates between Purdue Agricultural Economics Reports, the St. Paul Farm Credit Bank, and the Federal Reserve Bank of Chicago. The study found that the rates varied from year to year but when averaged out over the four year period were comparable.

## **SUMMARY:**

**When comparing the data compiled to calculate the \$1,500 base rate for March 1, 2011 to the data compiled to calculate the \$1,630 base rate for March 1, 2012, the study of two separate sets of data are worth noting.**

**The first comparison of the data covers the removal of the 2003 data and the addition of the 2009 data in the six year average. Net Cash Rents increased from \$106 in 2003 to \$140 on 2009. Yields for corn changed from 146 bushels in 2003 to 171 bushels in 2009 and yields for soybeans increased from 38 bushels in 2003 to 49 bushels in 2009. Prices for corn increased considerably from \$2.41 in 2003 to \$4.10 in 2009 (market year average) and prices for soybeans also increased considerably from \$5.55 in 2003 to \$10.20 in 2009 (market year average). Variable costs (seed, fertilizer, chemicals, etc.) also increased as costs to produce corn increased from \$154 in 2003 to \$425 in 2009 and from \$99 in 2003 to \$223 in 2009 for soybeans. Interest rates dropped from 6.29% in 2003 to 6.17% in 2009 which would slightly increase market value under the income approach.**

**The second comparison of the data covers the changes that occurred between 2004 and 2005. While Net Cash Rents increased from \$104 in 2004 to \$110 in 2005, Net Operating Incomes were cut in half as income dropped from \$135 in 2004 to \$60 in 2005. Reasons for this decrease include: yields for corn decreasing from 168 bushels in 2004 to 154 bushels in 2005 and yields for soybeans decreasing from 51.5 bushels in 2004 to 49 bushels in 2005. Prices for corn decreased from \$2.53 in 2004 to \$1.99 in 2005 (market year average) while prices for soybeans decreased from \$7.67 in 2004 to \$5.66 in 2005 (market year average). While lower yields and lower prices affected the gross income, higher variable costs made it more expensive for Indiana's farmers to produce their crops. Dr. Alan Miller of Purdue University says that higher fuel costs are the main reason for the increase to production (variable) costs. These costs increased from \$171 to \$184 for corn and \$106 to \$114 for soybeans. This type of shift from one year to the next demonstrates the volatility of the industry and supports the legislative action to use a six-year average to develop a base rate.**

## Valuing Agricultural Land

The agricultural land assessment formula involves the identification of agricultural tracts using data from detailed soil maps, aerial photography, and local plat maps. Each variable in the land assessment formula is measured using appropriate devices to determine its size and effect on the parcel's assessment. Uniformity is maintained in the assessment of agricultural land through the proper use of soil maps, interpreted data, and unit values.

In order to apply the agricultural land assessment formula, you need to understand the following topics, which are discussed in the sections below:

- agricultural land base rate values
- assessment of agricultural land
- units of measurement for agricultural land
- classification of agricultural land into land use types
- use of soil maps
- calculating the soil productivity index
- valuation of strip mined agricultural land
- valuation of oil and gas interests

The rest of the chapter provides instructions for completing the "Land Data and Computations" section of the agricultural property record card.

### Agricultural Land Base Rate Value

The 2002 general reassessment agricultural land value utilizes the land's current market value in use, which is based on the productive capacity of the land, regardless of the land's potential or highest and best use. The most frequently used valuation method for use-value assessment is the income capitalization approach. In this approach, use-value is based on the residual or net income that will accrue to the land from agricultural production.

As illustrated in the following equation, the market value in use of agricultural land is calculated by dividing the net income of each acre by the appropriate capitalization rate.

$$\text{Market value in use} = \text{Net Income} \div \text{Capitalization Rate}$$

The net income of agricultural land can be based on either the net operating income or the net cash rent. Net operating income is the gross income received from the sale of crops less the variable costs (i.e. seed and fertilizer) and fixed costs (i.e. machinery, labor, property taxes) of producing crops. The net cash rent income is the gross cash rent of an acre of farmland less the property taxes on the acre. Both methods assume the net income will continue to be earned into perpetuity.

The capitalization rate converts the net income into an estimate of value. The capitalization rate reflects, in percentage terms, the annual income relative to the value of an asset; in this case agricultural land. Conceptually, this capitalization

rate incorporates the required returns to various forms of capital, associated risks, and the anticipated changes over time.

Since agricultural land in Indiana is nearly evenly divided between cash rent and owner-occupied production, the State Board of Tax Commissioners utilized a four-year rolling average (1995 to 1998) of both methods in determining the market value in use of agricultural land. The capitalization rate applied to both types of net income was based on the annual average interest rate on agricultural real estate and operating loans in Indiana for this same period. The table below summarizes the data used in developing the average market value in use.

**Table 2-18. Agricultural Land market value in use**

YEAR	NET INCOMES		CAP. RATE	MARKET VALUE IN USE		
	Cash Rent	Operating		Cash Rent	Operating	Average
1995	\$88	\$56	9.92%	\$887	\$565	\$ 726
1996	\$94	\$131	9.29%	\$1012	\$1410	\$1,211
1997	\$100	\$124	9.31%	\$1074	\$1332	\$1,203
1998	\$102	\$91	9.10%	\$1121	\$1000	\$1,060
				Average Market Value		\$1,050
				in Use =		

The statewide agricultural land base rate value for the 2002 general reassessment will be the average market value in use calculated as shown above or \$1,050 per acre.

### Assessing Agricultural Land

The agricultural land assessment formula involves identifying agricultural tracts using data from a detailed soil map, aerial photography, and local plat maps. Each variable of the land assessment formula is measured using various devices to determine its size and effect on the parcel's assessment. The proper use of the soil maps, interpreted data, and unit values results in greater uniformity in the assessment process of agricultural lands. Some commercial and industrial zoned acreage tracts devote a portion of the parcel to an agricultural use. The assessor classifies these parcels as either commercial or industrial. However, the portion of land devoted to agricultural use should be valued using the agricultural land assessment formula. Portions not used for agricultural purposes would be valued using the commercial and industrial acreage guidelines described in this chapter.

### Converting Units of Measurement for Agricultural Land

Figure 2-23 shows the units of measurement commonly used to measure agricultural land. Table 2-19 describes equivalencies for these units of measurement.

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## Certification of Agricultural Land Base Rate Value for Assessment Year 2012

This memorandum hereby serves to notify assessing officials of the agricultural base rate to be used for the March 1, 2012 assessment date: **\$1,630 per acre.**

Land used for agricultural purposes shall be adjusted consistent with the guideline methodology developed for the 2012 general reassessment agricultural land value except, in determining the annual base rate, the Department of Local Government Finance ("Department") shall adjust the methodology to use the lowest five years of a six (6) year rolling average. The Department will issue annually, before January 1, the base rate to be applied for the following March 1 assessment date. 50 IAC 21-6-1(a)

Those portions of agricultural parcels that include land and buildings not used agriculturally, such as homes, homesites, and excess land and commercial or industrial land and buildings, shall be adjusted by the factor or factors developed for other similar property within the geographic stratification. The residence portion of agricultural properties will be adjusted by the factors applied to similar residential properties.

50 IAC 21-6-1(b)

The 2012 assessment year agricultural land value utilizes the land's current market value in use, which is based on the productive capacity of the land, regardless of the land's potential or highest and best use. The most frequently used valuation method for use-value assessment is the income capitalization approach. In this approach, use-value is based on the residual or net income that will accrue to the land from agricultural production.

As illustrated in the following equation, the market value in use of agricultural land is calculated by dividing the net income of each acre by the appropriate capitalization rate.

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The capitalization rate converts the net income into an estimate of value. The capitalization rate reflects, in percentage terms, the annual income relative to the value of an asset; in this case agricultural land. Conceptually, this capitalization rate incorporates the required returns to various forms of capital, associated risks, and the anticipated changes over time.

Since agricultural land in Indiana is nearly evenly divided between cash rent and owner-occupied production, the Department utilized a six-year rolling average (2004 to 2009) of both methods in determining the market value in use of agricultural land. The capitalization rate applied to both types of net income was based on the annual average interest rate on agricultural real estate and operating loans in Indiana for this same period. The table below summarizes the data used in developing the average market value in use.

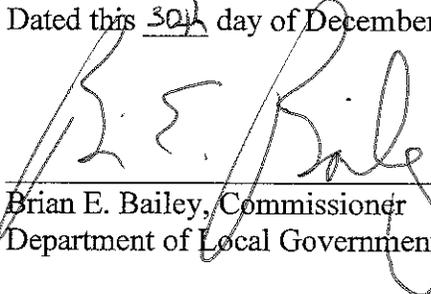
**Table 2-18. Agricultural Land market value in use**  
**Source: Real Property Assessment Guidelines**

Year	<u>NET INCOMES</u>			<u>MARKET VALUE IN USE</u>		
	Cash Rent	Operating	Cap. Rate	Cash Rent	Operating	Average
2004	104	135	6.35%	1,638	2,126	1,882
2005	110	59	7.22%	1,524	817	1,170
2006	110	74	8.18%	1,345	905	1,125
2007	122	184	7.94%	1,537	2,137	1,927
2008	140	189	6.56%	2,134	2,881	2,508
2009	139	116	6.17%	2,253	1,880	2,066

**Average  
Market Value in Use** **\$1,630**

The statewide agricultural land base rate value for the 2012 assessment year will be \$1,630 per acre.

Dated this 30<sup>th</sup> day of December, 2011.

  
 Brian E. Bailey, Commissioner  
 Department of Local Government Finance

Attest:  
  
 Micah G. Vincent, General Counsel

## A Method for Assessing Indiana Cropland An Income Approach to Value

D. Howard Doster & John M. Huie, Purdue Ag Economists  
June 24, 1999

### Summary

A method for taxing agricultural cropland based on the income potential of the land can be developed. The method is illustrated below. Data components of this method include detailed soil maps, estimated yields and production costs by soil type, reported average yields by county, reported average Indiana November corn and soybean prices, USDA corn and soybean loan prices by county, and the interest rate on new Farm Credit Bank loans in the St Paul district.

Using this information, a land value can be calculated for each soil type in each county in Indiana. Using detailed soil maps, county staff can then calculate income, land value, and tax due for each ownership parcel.

Using state yields, prices, and costs for 1996, 1997, 1998, and estimates for 1999, income and land values are calculated below for average and high yield soil types. As shown in Table 1, the average land value is calculated to be \$971. In Table 2, the high yield land is valued at \$1510.

As shown in the tables, incomes for 1996 and 1997 are much higher than incomes for 1998 and projected 1999. Though not shown, income for 1995 was much higher than projected income for 1999.

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### Detailed soil maps

Maps from The Natural Resource and Conservation Service (NRCS) are now available for all counties indicating the soil type of all land in the state. County staff have used this information in past years. For five counties, this soil type information has been transferred to a GIS data base. In these counties, county staff could identify land ownership units in the GIS data base and with appropriate computer software, calculate the real estate tax on cropland.

In 1998, computer software was developed by Purdue Ag Economists for calculating income for user entered ownership parcels in Tippecanoe County. This program was shown at the July, 1998 Purdue Top Farmer Crop Workshop and the September, 1998 Prairie Farmer Farm Progress Show. The purpose of these demonstrations was to show prospective landowners, prospective tenants, and professional appraisers a way to estimate income potential of an ownership parcel.

### Estimated yield and production cost by soil type

Purdue agronomists and NRCS staff have estimated crop yields for each soil type in Indiana. (These yield estimates may need to be updated, and possible differences considered for the same soil type in different counties.) Purdue staff annually estimate crop production costs for low, average, and high yielding soil types. The process could be computerized and budgets could be prepared for all Indiana soils.

#### Reported average yield by county

The Indiana Agricultural Statistics Service reports average yield for each county in May each year for the preceding year's crops. An expected trend yield could be calculated for each soil in each county. Each year, these trend yields could be adjusted by the same percentage change as the difference between the county expected and reported average yields.

#### Reported average Indiana November corn and soybean prices

The Indiana Agricultural Statistics Service reports average Indiana crop prices for each month. Prices for November<sup>1/</sup> are used in calculating per acre corn and soybean income.

#### USDA corn and soybean loan price

USDA has determined corn and soybean loan prices for each Indiana county. These prices reflect crop price differences because of the location of the county. Therefore, the November state average prices for corn and soybeans could be adjusted by the price location differences in loan prices to obtain an estimate of November prices by county.

#### St Paul Farm Credit Bank interest rate

For each year, the Internal Revenue Service issues a listing of the average annual effective interest rates charged on new loans under the Farm Credit Bank system. These rates are used in computing the special use value of real property used as a farm for which an election is made under section 2032A of the Internal Revenue Code. Indiana is in the St Paul district. For 1999, the reported interest rate is .0821.

#### Weighted annual incomes and estimated land values

As shown in Table 1, the 4-year average annual income is \$80 and the estimated land value is \$971. As shown in Table 2, for the high yield land the average income is \$124 and the land value is \$1510.

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Annual incomes could be weighted with income from the most recent year being weighted the most. One option would be a percentage weight of 40 - 30 - 20 - 10 with the most recent year at 40% and the most distant year at 10%. Using this criteria, the weighted average annual income is \$71.10 and the estimated average land value is \$866. A weighting of 33 - 27 - 22 - 18 with the most recent year at 33% and the most distant year at 18% produces a weighted average annual income of \$75.27 and an estimated average land value of \$917.

For high yield soil, the 40 - 30 - 20 - 10 optimal weights give an average income of \$113 and a land value of \$1379. The 33 - 27 - 22 - 18 weights give an average income of \$118 and a land value of \$1442.

This approach - discounting the potential agricultural income - to valuing farm land is reasonable so long as the income estimates and the discount rates are defensible. There is also logic to using a four year average with the most recent years being weighted higher, especially if the state were to go to annual assessments. So long as they stay with a four year assessment cycle it becomes more of a judgement call.

<sup>1/</sup>Prices tend to increase throughout the year. November, a month close to the end of the harvest season was chosen. If prices later than November are chosen then a storage cost would also need to be included.

Income and land value estimates

As illustrated in Tables 1 and 2, income from a corn/soybean rotation on average and high yield soils is calculated for 1996-99.

State average yields for each soil are multiplied by November prices to obtain per acre sales.

Variable costs as found in the Purdue Crop Guide for average and high yield soils are subtracted to obtain per acre contribution margin from crops.

Corn contribution margin plus soybean contribution margin plus government payment is added and the sum is divided by 2 to get per acre total contribution margin.

Overhead costs from the Purdue Crop Guide for a corn/soybean farm are subtracted from the contribution margin to get per acre income.

Incomes for the four years are averaged.

The average income is divided by the St Paul interest rate to get estimated land value.

Table 1. Indiana Land Value Calculation  
Based on an Income Approach, 1996-99  
Average Yield Soil

	1996		1997		1998		1999	
	Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans
Yield <sup>1/</sup>	123	38	122	43.5	132	42	134.1	42.9
Price (November) <sup>1/</sup>	\$2.69	\$6.90	\$2.60	\$6.88	\$2.06	\$5.49	\$2.04	\$5.40
Sales	\$331	\$262	\$317	\$299	\$282	\$231	\$274	\$232
Less variable costs <sup>2/</sup>	134	94	137	96	148	85	145	86
Crops contribution margin	\$197	\$168	\$180	\$203	\$134	\$146	\$129	\$146
Plus government payment <sup>3/</sup>	\$23		\$45		\$53		\$34	
Total contribution margin	\$194		\$214		\$167		\$154	
Less overhead:								
Annual machinery <sup>2/</sup>	48		50		49		49	
Drying/handling	6		6		7		7	
Family/hired labor <sup>2/</sup>	37		37		37		37	
Real estate tax <sup>3/</sup>	10		10		10		10	
Equals:								
Income	\$93		\$111		\$64		\$51	

4-year average income = \$80  
1999 St Paul interest rate<sup>4/</sup> = .0821  
Estimated land value = \$971

<sup>1/</sup> State average yield, state average November price as reported by Indiana Agricultural Statistics Service.

<sup>2/</sup> Costs are taken from annual Purdue Crop Guide, ID-166.

<sup>3/</sup> Government payments and real estate tax are estimated by the author.

<sup>4/</sup> Average annual effective interest rate on new loans under the Farm Credit Bank System, St Paul district.

Table 2. Indiana Land Value Calculation  
Based on an Income Approach, 1996-99  
High Yield Soil

	1996		1997		1998		1999	
	Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans
Yield <sup>1/</sup>	151.3	46.8	49.9	53.6	169	51	165	52.8
Price (November) <sup>1/</sup>	\$2.69	\$6.90	\$2.60	\$6.88	\$2.06	\$5.49	\$2.04	\$5.40
Sales	\$407	\$323	\$390	\$369	\$348	\$280	\$337	\$285
Less variable costs <sup>2/</sup>	153	103	157	106	170	91	167	92
Crops contribution margin	\$254	\$220	\$233	\$263	\$178	\$189	\$170	\$193
Plus government payment <sup>3/</sup>	\$29		\$56		\$64		\$42	
Total contribution margin	\$252		\$276		\$216		\$202	
Less overhead:								
Annual machinery <sup>2/</sup>	53		55		54		54	
Drying/handling	7		7		8		8	
Family/hired labor <sup>2/</sup>	37		37		37		37	
Real estate tax <sup>3/</sup>	14		14		14		14	
Equals:								
Income	\$141		\$163		\$103		\$89	

4-year average income = \$124  
1999 St Paul interest rate<sup>4/</sup> = .0821  
Estimated land value = \$1510

- <sup>1/</sup> State average yield, state average November price as reported by Indiana Agricultural Statistics Service.  
<sup>2/</sup> Costs are taken from annual Purdue Crop Guide, ID-166.  
<sup>3/</sup> Government payments and real estate tax are estimated by the author.  
<sup>4/</sup> Average annual effective interest rate on new loans under the Farm Credit Bank System, St Paul district.

Table 2-18 - Updated for March 1, 2012  
 Source: Real Property Assessment Guidelines

	Column A	Column B	Column C	Column D	Column E	Column F
	NET INCOMES			MARKET VALUE IN USE		AVERAGE
	PER ACRE			PER ACRE		MARKET VALUE
						IN USE
						PER ACRE
Year	Cash Rent	Owner-Operated	Cap. Rate	Cash Rent	Owner-Operated	PER ACRE
2004	104	135	6.35%	1,638	2,126	1,882 (1)
2005	110	59	7.22%	1,524	817	1,170 (1)
2006	110	74	8.18%	1,345	905	1,125 (1)
2007	122	184	7.94%	1,537	2,317	1,927 (1)
2008	440	489	6.56%	2,434	2,884	2,508 (1)
2009	139	116	6.17%	2,253	1,880	2,066 (1)

Base Rate 1,630 (2)  
 (Average - 5 Lowest Years)

Formula:	Gross Cash Rent Less Property Taxes	Gross Income Less Expenses	Average of Qty. Farm Loan Rates	Column A divided by Column C	Column B divided by Column C	The average of Columns D and E
Source:	Purdue Ag. Econ. Reports (PAER)	Indiana Ag. Statistics Service and Purdue Crop Guide	Federal Reserve Bank of Chicago			

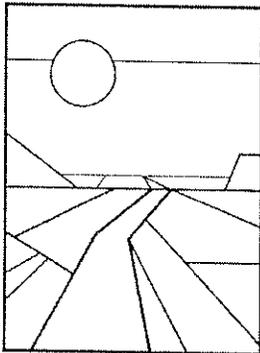
The base rate is (2)  
 the average of the  
 5 lowest averages  
 above rounded to  
 the nearest \$10.  
 [IC 6-1-1-4.5 (e) (2)]

As illustrated in the following equation, the market value in use of agricultural land is calculated by dividing the net income of each acre by the appropriate capitalization rate.

$$\text{Market Value In Use} = \text{Net Income Divided By The Capitalization Rate}$$

Table 2-18 - Updated for March 1, 2012  
 Calculation for Net Income-Cash Rent Column

<u>Year</u>	Gross Cash <u>Rent</u>	Less Property <u>Taxes</u>	Net Cash <u>Rent</u>	Cap. <u>Rate</u>	Cash Rent <u>Value</u>
2004	122	-18	104	6.35%	1,638
2005	126	-16	110	7.22%	1,524
2006	127	-17	110	8.18%	1,345
2007	139	-17	122	7.94%	1,537
2008	157	-17	140	6.56%	2,134
2009	158	-19	139	6.17%	2,253



# PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2005

## Indiana Farmland Values & Cash Rents Jump Upward

*Craig L. Dobbins and Kim Cook*

### Statewide Land Values

The June 2005 Purdue Land Values Survey found that on a state-wide basis bare Indiana cropland ranged in value from \$2,367 per acre for poor land, to \$3,556 per acre for top land (Table 1). Average bare Indiana cropland had an estimated value of \$2,945 per acre. For the 12-month period ending in June 2005, this was an increase of 11.1%, 9.4% and 8.5%, respectively for poor, average, and top land. Increases this large have not occurred since 1996-1997 when the Purdue Land Values Survey reported a state wide increase of 12% to 15%.

Part of the difference in land values reflects productivity differences. As a measure of productivity, survey respondents provide an estimate of long-term corn yields. The average

reported yield was 108, 139, and 169 bushels per acre, respectively for poor, average, and top land. The value per bushel for different land qualities was very similar, ranging from \$21.08 to \$22.01 per bushel.

The average value of transitional land, land moving out of agriculture, increased 8.5% this year. The average value of transitional land in June 2005 was \$8,207 per acre. Due to the wide variation in estimates for transitional land, the median value\* may give a more meaningful picture than the arithmetic average. The median value of transitional land in June 2005 was \$7,000 per acre.

### Statewide Rents

Cash rents increased statewide \$3 to \$4 per acre (Table 2), continuing the steady increase of the past several years. The estimated cash rent was \$154 per acre on top land, \$126 per acre on average land, and \$99 per acre on poor land. This was an increase in rental rates of 3.1% for poor land, 3.3% for

average land, and 2.7% for top land. State wide, rent per bushel of estimated corn yield ranged from \$0.91 to \$0.92 per bushel.

Cash rent as a percentage of value continued to decline. For top and average farmland, cash rent as a percentage of farmland value was 4.3%. For poor farmland, cash rent as a percentage of farmland value was 4.2%. These values are the lowest reported in the 31 year history of the Purdue Land Value Survey.

### Area Land Values

Survey responses were organized into six geographic regions of Indiana (Figure 1). In past years, there have been definite geographic differences in land value changes. This year there is only one notable difference – the change in land values in the Southeast was not as large as in other areas of the state (Table 1). The highest valued land continues to be in the Central region followed by the West Central, North, Northeast, Southwest, and Southeast.

\* The median is the middle observation in data that have been arranged in ascending or descending numerical order.

acre (Table 3). Estimated per acre median values of the larger tracts (10 acres) ranged from \$5,250 to \$8,500 per acre.

### Area Cash Rents

All areas of the state reported an increase in cash rent for all land qualities (Table 2). The largest percentage increases in cash rent occurred in the Southern regions of the state.

Cash rents are the highest in the Central and West Central regions. Across all three land qualities, cash rents in these two regions were very similar. When looking at the cash rent per bushel for the West Central and Central regions, these values ranged from \$0.97 to \$1.03 per bushel. These per bushel rents are the highest in the state. The next highest per-bushel rent was in the North and Southwest, ranging from \$0.88 to \$0.91. Per bushel rents in the Northeast ranged from \$0.84 to \$0.86. The lowest per bushel cash rents were \$0.74 to \$0.77, reported for the Southeast.

### Farmland Supply & Demand

The supply of land on the market and the number of interested buyers and their expectations has an important influence on farmland prices. To assess the supply of land on the market, respondents were asked to provide their opinion of the amount of farmland on the market now compared to a year earlier. The respondents indicated either more, the same, or less. Only 16% of the 2005 respondents indicated more land was on the market now compared to year-ago levels (Figure 2). The

Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2004 and 2005, Purdue Land Value Survey, June 2005

Area	Land Class	Corn bu/A	Rent/Acre		Change '04-'05 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2004 \$/A	2005 \$/A		2004 \$/bu.	2005 \$/bu.	2004 %	2005 %
North	Top	173	149	153	2.7%	0.89	0.88	4.4	4.1
	Average	140	122	125	2.5%	0.89	0.89	4.5	4.2
	Poor	107	93	97	4.3%	0.88	0.90	4.5	4.1
Northeast	Top	165	138	141	2.2%	0.84	0.86	4.3	4.1
	Average	134	107	111	3.7%	0.81	0.83	4.1	3.9
	Poor	104	85	87	2.4%	0.85	0.84	4.1	3.7
W. Central	Top	168	162	166	2.5%	0.98	0.99	4.8	4.5
	Average	140	137	140	2.2%	0.99	1.00	4.9	4.5
	Poor	108	109	112	2.8%	1.02	1.03	4.9	4.6
Central	Top	172	162	167	3.1%	0.95	0.97	4.6	4.2
	Average	142	133	138	3.8%	0.94	0.97	4.4	4.1
	Poor	113	108	112	3.7%	0.97	0.99	4.3	4.0
Southwest	Top	170	146	155	6.2%	0.90	0.91	5.0	5.0
	Average	138	116	123	6.0%	0.89	0.89	5.2	4.9
	Poor	106	89	93	4.5%	0.89	0.88	5.6	5.0
Southeast	Top	161	118	123	4.2%	0.77	0.77	4.1	4.2
	Average	133	94	99	5.3%	0.76	0.74	3.9	4.0
	Poor	103	72	77	6.9%	0.74	0.74	3.7	3.8
Indiana	Top	169	150	154	2.7%	0.91	0.91	4.6	4.3
	Average	139	122	126	3.3%	0.90	0.91	4.5	4.3
	Poor	108	96	99	3.1%	0.92	0.92	4.5	4.2

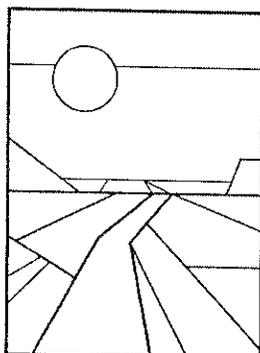
remaining 84% of the respondents indicated the amount of land on the market at the current time was the same or less than a year ago. These results indicate the quantity of land for sale remains limited.

Respondents were also asked to indicate if interest in a farmland purchase by

farmers, rural residents, or nonfarm investors had increased, decreased, or remained the same compared to a year earlier. A total of 55% of the respondents indicated increased farmer interest (Figure 3). Forty-one percent of the respondents indicated

Table 3. Median value of five-acre and ten-acre home sites

Area	Median value, \$ per acre							
	5 Acres or less for home site				10 Acres & over for subdivision			
	2002 \$/A	2003 \$/A	2004 \$/A	2005 \$/A	2002 \$/A	2003 \$/A	2004 \$/A	2005 \$/A
North	6,000	6,000	6,000	7,250	5,000	5,000	5,000	6,000
Northeast	5,000	6,000	6,000	6,500	4,500	5,000	5,000	5,000
West Central	5,800	6,000	6,000	6,000	5,000	5,000	5,000	6,000
Central	7,000	8,500	8,000	10,000	5,750	7,500	7,900	8,500
Southwest	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,250
Southeast	5,500	6,000	6,000	7,000	5,000	4,750	5,000	6,000



# PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2007

## Indiana Farmland Values & Cash Rents Jump Upward

*Craig L. Dobbins, Professor and Kim Cook, Research Associate*

**W**hat a difference a year can make. Last year at this time, there were questions about whether or not farmland values were nearing a top. There are no such discussions this year. This year the question is "How high might farmland values and cash rent go?"

### State-wide Land Values

Higher corn and soybean prices brought about by the increased demand for these crops are being translated into higher farmland values and cash rents. The June 2007 Purdue Land Value Survey found that farmland values in all areas of the state took a sharp turn upward. On a state-wide basis, the average value of bare Indiana cropland ranged from \$2,991 per acre for poor quality land to \$4,407 per acre for top quality land (Table 1). Average quality Indiana cropland had an estimated average value of \$3,688 per acre. For the 12-month period ending in June 2007, this was an increase of 19.2%, 16.6%, and 16.9%, respectively for poor, average, and top quality land. One needs to go back to 1977 to find a larger annual increase in Indiana farmland values.

Land quality was measured in the survey by asking survey respondents

\* The median is the middle observation in data that have been arranged in ascending or descending numerical order.

to provide an estimate of long-term corn yields. The average reported yield was 112, 144, and 175 bushels per acre, respectively for poor, average, and top quality land. State-wide, the value per bushel for different land qualities was very similar, ranging from \$25.15 to \$26.80 per bushel. On a per bushel basis, the most expensive land is the poor quality land with a value of \$26.80 per bushel. Top quality land was the least expensive at \$25.15 per bushel.

The average value of transitional land, land moving out of agriculture, increased 4.5% this year. The average value of transitional land in June 2007 was \$9,520 per acre. However, there is a very wide range of values for transitional land – from twice its agricultural value to more than ten times its agricultural value. These values are strongly influenced by what the land is transitioning into and its location. Due to the wide variation in estimates for transitional land, the median value\* may give a more meaningful picture than the arithmetic average. The median value of transitional land in June 2007 was \$7,500 per acre.

Survey respondents indicated the value of rural recreational land, land used for hunting and other recreational uses, is \$3,873 per acre across Indiana. This average is more than average quality farmland. But as with transitional land, there is a wide range of values for rural recreational

land. The June values reported for recreational land varied from \$975 to \$10,000 per acre. The median value for rural recreational land in June was \$3,500 per acre.

### State-wide Rents

One important contributor to the value of farmland is the annual rent that can be obtained from ownership. State-wide, cash rents increased \$10 to \$16 per acre (Table 2). The largest dollar increase in rent was for top quality land. The smallest dollar increase in rent was for poor quality land. The estimated cash rent was \$171 per acre on top quality land, \$139 per acre on average quality land, and \$110 per acre on poor quality land. This was an increase in rental rates of 10% for poor quality land, 9.4% for average quality land, and 10.3% for top quality land. Again, this is the largest annual increase in cash rent since 1977. State-wide, rent per bushel of estimated corn yield ranged from \$0.97 to \$0.99 per bushel.

Cash rent as a percentage of value continued to decline. For top quality farmland, cash rent as a percentage

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from 12.6% to 17.6%. The exceptions to this were the changes in the value of poor quality land in the North and Southwest with changes of 24.7% and 22.3%, respectively. The increase in farmland values in the Southeast was more modest, ranging from 6.2% to 12.9%.

The highest average farmland values are in West Central and Central Indiana. While the Central Indiana top and poor quality farmland values are slightly higher than those in West Central Indiana, average quality land values are slightly higher in West Central Indiana. Land value per bushel of estimated long-term corn yield (land value divided by bushels) is the highest in the Central and West Central regions, ranging from \$26.39 to \$28.24 per bushel. This was followed by the Northeast, ranging from \$25.56 to \$28.06 per bushel and the North, ranging from \$24.57 to \$26.51. The Southwest and Southeast had the lowest land values per bushel and ranged from \$21.02 to \$25.38 per bushel.

#### Area Cash Rents

All areas of the state reported an increase in cash rent for all land qualities (Table 2). The strongest percentage increases were in the North and Northeast, ranging in value from 12.3% to 14.9%. This was followed by Central and West Central Indiana with changes of 7.6% to 10.9%. The changes in the Southwest and Southeast ranged from 3.2% to 8.7%.

Cash rents are the highest in the West Central region, followed by the Central region. Cash rent per bushel in West Central Indiana ranges in value from \$1.06 to \$1.12 per bushel. In the Central region, these values ranged from \$1.01 to \$1.04 per bushel. Per bushel rents in these two regions are the highest in the state. Cash rents in the North are similar to those in Central and West Central Indiana. Cash rents in the North range from \$1.14 to \$1.18 per acre and \$1.00 to \$1.02 per bushel. The per bushel rent in the Northeast and Southwest ranged from \$0.89 to \$0.95. The lowest per bushel cash rents continue to be in

Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2006 and 2007, Purdue Land Value Survey, June 2007

Area	Land Class	Corn bu/A	Rent/Acre		Change '06-'07 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2006 \$/A	2007 \$/A		2006 \$/bu.	2007 \$/bu.	2006 %	2007 %
North	Top	181	155	180	13.9	0.91	1.00	4.2	4.1
	Average	145	128	145	13.3	0.91	1.00	4.2	4.0
	Poor	112	101	114	12.9	0.94	1.02	4.2	3.8
Northeast	Top	173	141	162	14.9	0.86	0.93	4.1	3.7
	Average	143	114	128	12.9	0.84	0.89	3.9	3.5
	Poor	110	89	100	12.4	0.85	0.91	3.7	3.2
W. Central	Top	177	169	187	10.7	0.98	1.06	4.2	4.0
	Average	147	143	157	9.8	1.01	1.07	4.1	3.9
	Poor	114	118	127	7.6	1.05	1.12	4.2	4.0
Central	Top	177	154	181	10.4	0.96	1.02	4.0	3.8
	Average	147	136	149	9.6	0.96	1.01	4.0	3.8
	Poor	117	110	122	10.9	0.99	1.04	3.9	3.8
Southwest	Top	177	158	168	6.3	0.91	0.95	4.3	4.0
	Average	145	126	134	6.3	0.90	0.93	4.3	4.1
	Poor	111	92	100	8.7	0.87	0.90	4.6	4.1
Southeast	Top	162	124	128	3.2	0.75	0.79	3.9	3.8
	Average	132	97	102	5.2	0.73	0.77	3.8	3.5
	Poor	99	75	78	4.0	0.75	0.78	3.4	3.1
Indiana	Top	175	155	171	10.3	0.91	0.98	4.1	3.9
	Average	144	127	139	9.4	0.91	0.97	4.0	3.8
	Poor	112	100	110	10.0	0.93	0.99	4.0	3.7

the Southeast, ranging from \$0.77 to \$0.79 per bushel.

#### Rural Home Sites

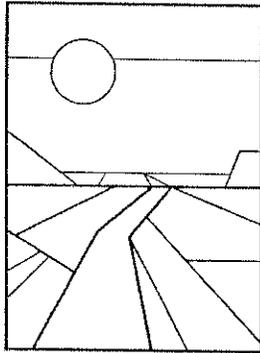
Respondents were asked to estimate the value of rural home sites with no accessible gas line or city utilities and located on a black top or well-maintained gravel road. The median value for five-acre home sites ranged from \$7,000 to \$10,000 per acre (Table 3). Estimated per acre median values of the larger tracts (10 acres) ranged from \$6,000 to \$9,000 per acre.

#### Farmland Supply & Demand

To assess the supply of land on the market, respondents were asked to provide their opinion of the amount of farmland on the market now compared to a year earlier. The respondents indicated either more, the same, or less land was on the market than one year ago. Only 15.9% of the 2007 respondents indicated more land was on the market now compared to year-ago levels (Figure 2). The remaining 84.1% of the respondents indicated the amount of land on the market

Table 3. Median value of five-acre and ten-acre home sites

Area	Median value, \$ per acre							
	5 Acres or less for home site				10 Acres & over for subdivision			
	2004 \$/A	2005 \$/A	2006 \$/A	2007 \$/A	2004 \$/A	2005 \$/A	2006 \$/A	2007 \$/A
North	6,000	7,250	7,000	8,100	5,000	6,000	7,000	8,000
Northeast	6,000	6,500	7,000	8,000	5,000	5,000	6,000	9,000
West Central	6,000	6,000	7,500	8,000	5,000	6,000	7,500	8,000
Central	8,000	10,000	10,000	10,000	7,900	8,500	10,000	9,000
Southwest	5,000	5,000	5,000	7,000	6,000	6,250	7,000	6,000
Southeast	6,000	7,000	7,000	9,000	5,000	6,000	6,250	6,750



# PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2009

## Indiana Farmland Values & Cash Rents: Relative Calm in a Turbulent Economy

*Craig L. Dobbins, Professor and Kim Cook, Research Associate*

**W**ith a credit crisis, bankruptcies of business icons, turmoil in the housing industry, stock market uncertainties, and declining crop margins, are sharply falling Indiana farmland values the next item of bad news? To gather information about changes in farmland values and cash rents, professionals working in the farmland market are contacted each June\*. Based on the 2009 Purdue Farmland Value Survey, Indiana farmland values have not been immune to the negative economic forces sweeping through the general economy, but for the state as a whole, the decline in farmland values has been small. This report provides a summary of the survey results.

\* The individuals surveyed include rural appraisers, agricultural loan officers, FSA personnel, farm managers, and farmers. The results of the survey provide information about the general level and trend in farmland values.

### State-wide Farmland Values

For the period of June 2006 to June 2008, Indiana farmland values increased about one-third (35.8%, 34.1% & 32.7% for poor, average, and top quality farmland). In the farmland market, it is common to have a period of little change or even small declines after a period of strong increases.

For the state as a whole, the survey showed little change in farmland values from June 2008 to June 2009. The average value of bare Indiana cropland ranged from \$3,351 per acre for poor quality land to \$4,994 per acre for top quality land (Table 1). Average quality cropland had an average value of \$4,188 per acre. For the 12-month period ending June 2009, there were modest declines in all three land qualities. The value of top, average, and poor quality land declined 0.2%, 1.2% and 1.7%, respectively.

The value of farmland is influenced by many factors. One often cited reason for differences in the value of farmland is soil productivity. To assess the productivity of the various land qualities, survey respondents are asked to provide an

estimate of the long-term corn yield for poor, average, and top quality land. These long-term corn yield estimates are averaged to provide a land productivity measure. For the state, the averages of the reported yields for poor, average, and top quality land were 118, 150, and 182 bushels per acre, respectively. State-wide, the value per estimated bushel of corn yield for poor, average, and top land qualities was \$28.40, \$27.92 and \$27.44 per bushel, respectively.

Last year saw a decline in the average value of transitional land, farmland moving out of agriculture. This decline continued this year, but was much larger. The average value of transitional land in June 2009 was \$8,770 per acre, a decline of 6.9%. Given the recession and the difficulties in the housing industry, it is not surprising to see a softening in this market. The estimated value of land in this market continues to have a wide range. In June 2009, transitional land value estimates ranged from \$3,000 to \$50,000 per acre. This is a specialized market with the value of transitional land strongly influenced by what the land is transitioning into and its location. Because of

is a wide range of values for rural recreational land, again making the median value a more meaningful indicator of changes in value than the arithmetic average. The median value for rural recreational land in June 2009 declined from \$3,500 per acre in 2008 to \$3,000.

**State-wide Rents**

One important contributor to the value of farmland is the annual rent that can be obtained from ownership. State-wide, cash rents both increased and decreased. Top and average quality land increased \$4 per acre and \$1 per acre, respectively. Cash rent on poor quality land decreased by \$2 per acre (Table 2). The average estimated cash rent was \$198 per acre on top quality land, \$158 per acre on average quality land, and \$121 per acre on poor quality land. This was an increase in rental rates of 2.1% for top quality land, 0.6% for average quality land, and a decrease of 1.6% for poor quality land. State-wide, rent per bushel of estimated corn yield was \$1.03 to \$1.09 per bushel.

In assessing these cash rents, it is important to recognize that 2009 rents were established during the Fall of 2008 and the Winter of 2009. Market changes that have occurred since then are not reflected in the reported 2009 cash rent, but will have an important influence on the negotiation of 2010 cash rent.

For top quality farmland, cash rent as a percentage of farmland value was 4.0%. For average and poor quality farmland, cash rent as a percentage of farmland value was 3.8% and 3.6%, respectively. These percentage values were either the same or slightly more than those reported in 2008. This is the first time in a number of years that these percentages have not declined. Over the 35-year history of the survey, rent

as a percentage of farmland value has averaged 5.8%.

**Area Land Values**

Survey responses were organized into six geographic regions (Figure 1). As in the past, there are geographic differences in land value changes. This year, the West Central region reported the strongest percentage increase in farmland values. Bare farmland in this area was estimated to have increased 1.9% to 3.7% (Table 1). This was the only region to report increases for all three land qualities. The Central region had an increase for poor quality land and the Southwest region had an increase in top and average land. The North, Northeast, and Southeast regions reported declines in land values across all three productivity levels. These declines ranged from 0.6% to 6.3%. The largest declines were

in the Southeast region, ranging from 4.7% to 6.3%.

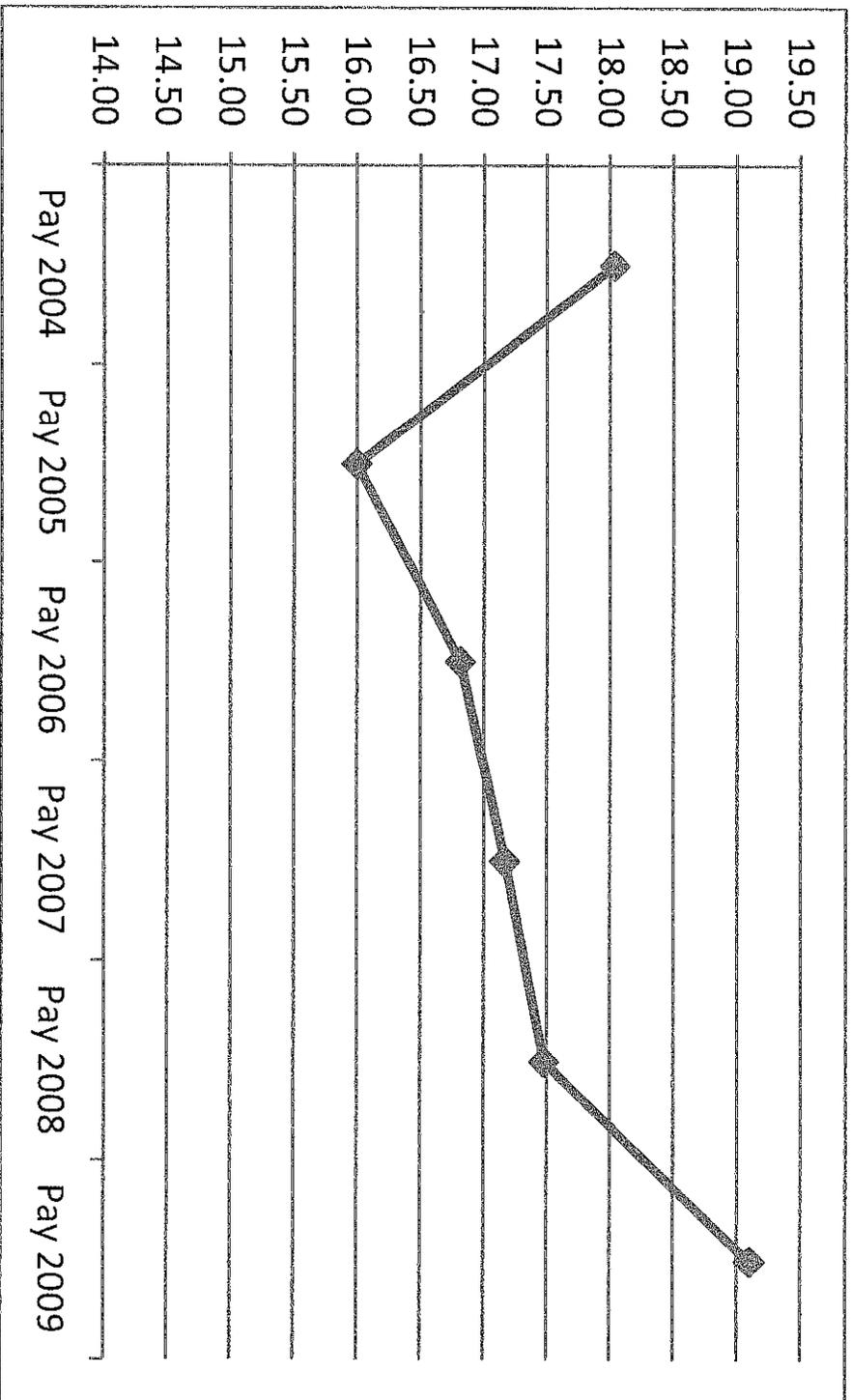
Per acre farmland values are the highest in the Central and West Central regions. The highest value per acre for top and average quality farmland was in the West Central region. The highest value for poor quality farmland is in Central Indiana. The lowest farmland values statewide continue to be in the Southeast.

Land value per bushel of estimated long-term corn yield (land value divided by bushels) is the highest in the Central region, ranging from \$29.70 to \$30.90 per bushel. This was followed by the West Central region, ranging from \$28.74 to \$29.52 per bushel. Per bushel values for the North and Northeast regions ranged from \$26.96 to \$29.28 per bushel. The Southeast had the lowest

**Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2008 and 2009, Purdue Land Value Survey, June 2009**

Area	Land Class	Corn bu/A	Rent/Acre		Change '08-'09 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2008 \$/A	2009 \$/A		2008 \$/bu.	2009 \$/bu.	2008 %	2009 %
North	Top	193	211	214	1.4%	1.12	1.11	4.0	4.0
	Average	155	167	165	-1.2%	1.10	1.06	3.8	3.8
	Poor	121	129	121	-6.2%	1.12	1.00	3.8	3.7
Northeast	Top	175	188	192	2.1%	1.08	1.10	3.9	4.0
	Average	144	148	147	-0.7%	1.03	1.02	3.6	3.7
	Poor	112	114	111	-2.6%	1.01	0.99	3.4	3.4
W. Central	Top	189	207	220	6.3%	1.14	1.16	4.0	4.1
	Average	159	173	181	4.6%	1.13	1.14	3.8	3.9
	Poor	128	142	145	2.1%	1.17	1.13	3.8	3.8
Central	Top	181	201	201	0.0%	1.12	1.11	3.7	3.7
	Average	151	165	165	0.0%	1.10	1.09	3.6	3.6
	Poor	123	133	130	-2.3%	1.11	1.06	3.5	3.4
Southwest	Top	185	189	200	5.8%	1.04	1.08	3.9	4.0
	Average	146	146	154	5.5%	1.01	1.05	3.8	4.0
	Poor	109	105	112	6.7%	0.97	1.03	3.9	4.1
Southeast	Top	165	147	146	-0.7%	0.90	0.88	3.9	4.1
	Average	135	117	118	0.9%	0.87	0.87	3.5	3.8
	Poor	102	90	86	-4.4%	0.86	0.84	3.2	3.3
Indiana	Top	182	194	198	2.1%	1.09	1.09	3.9	4.0
	Average	150	157	158	0.6%	1.06	1.05	3.7	3.8
	Poor	118	123	121	-1.6%	1.07	1.03	3.6	3.6

# Average Net Tax Bill/Acre of Farmland



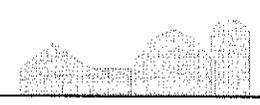
# Average Net Tax Bill/Acre of Farmland

Pay 2004	18.04
Pay 2005	16.00
Pay 2006	16.82
Pay 2007	17.17
Pay 2008	17.48
Pay 2009	19.10

Indiana		<u>Real Estate Loans</u>	<u>Operating Loans</u>	<u>Avg.</u>
2004	Jan.	5.87	6.22	
	April	6.23	6.39	
	July	6.28	6.57	
	Oct.	6.39	6.81	
	<b>Average</b>	<b>6.19</b>	<b>6.50</b>	<b>6.35</b>
2005	Jan.	6.63	7.07	
	April	6.74	7.33	
	July	7.02	7.68	
	Oct.	7.25	8.02	
	<b>Average</b>	<b>6.91</b>	<b>7.53</b>	<b>7.22</b>
2006	Jan.	7.48	8.30	
	April	7.85	8.76	
	July	7.82	8.73	
	Oct.	7.74	8.71	
	<b>Average</b>	<b>7.72</b>	<b>8.63</b>	<b>8.18</b>
2007	Jan.	7.67	8.61	
	April	7.70	8.65	
	July	7.53	8.42	
	Oct.	7.09	7.82	
	<b>Average</b>	<b>7.50</b>	<b>8.38</b>	<b>7.94</b>
2008	Jan.	6.41	6.74	
	April	6.51	7.06	
	July	6.56	6.74	
	Oct.	6.23	6.21	
	<b>Average</b>	<b>6.43</b>	<b>6.69</b>	<b>6.56</b>
2009	Jan.	6.14	6.20	
	April	6.16	6.18	
	July	6.13	6.17	
	Oct.	6.13	6.23	
	<b>Average</b>	<b>6.14</b>	<b>6.20</b>	<b>6.17</b>

Source: Federal Reserve Bank of Chicago.  
AgLetter (a quarterly newsletter)

# AgLetter



## FARMLAND VALUES AND CREDIT CONDITIONS

### Summary

The 2006 annual increase in farmland values was 9 percent for the Seventh Federal Reserve District, extending the strongest stretch of gains since the 1970s. Based on 213 survey responses from agricultural bankers, the quarterly rise in the value of "good" agricultural land was 5 percent in the fourth quarter of 2006. Almost 50 percent of the respondents expected farmland values to increase, as well as to remain stable, in the first quarter of 2007.

Agricultural credit conditions in the District improved from a year ago, reversing some of the slippage in recent quarters. Indexes of non-real-estate farm loan repayment rates and funds availability demonstrated stronger activity than both the last quarter of 2005 and the third quarter of 2006, as did loan renewals and extensions. Loan demand in the fourth quarter of 2006 was below the level of the prior quarter, but above that of the fourth quarter of 2005. Agricultural interest rates were stable for the third consecutive quarter. Loan-to-deposit ratios averaged 76.6 percent for the fourth quarter of 2006.

### Farmland values

The value of "good" agricultural land in the District increased 9 percent in 2006, just missing a third consecutive double-digit annual gain. Annual farmland values adjusted for inflation have risen at least 5 percent for five

years in a row (see chart on next page). Surging ahead of the other District states, Iowa posted a 13 percent annual increase because of a fourth quarter gain of 7 percent (see table and map below). Indiana and Wisconsin farmland value increases slowed to 6 percent and 10 percent for the year, respectively, while the Illinois and Michigan annual increases were unchanged from the third quarter of 2006. All District states had higher gains in farmland values in the fourth quarter compared with those of the third quarter.

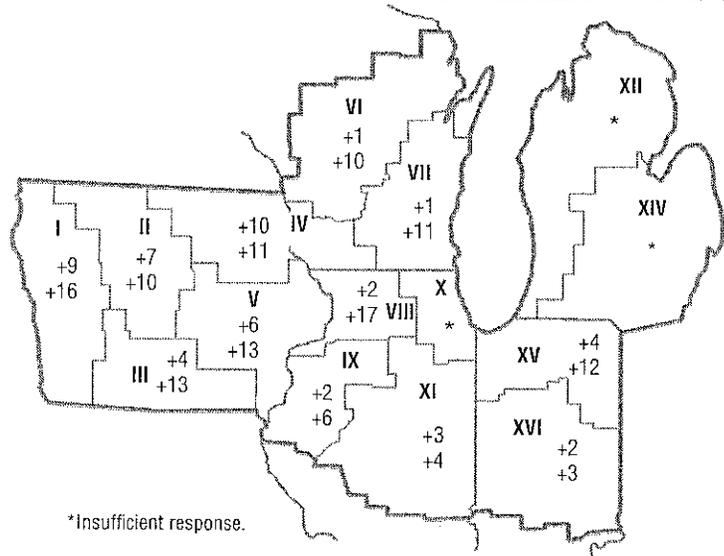
This shift to faster growth in farmland values during the last half of 2006 coincided with significantly higher corn and soybean prices, which boosted net farm income. Cash corn prices in central Illinois increased to \$3.53 per bushel in December, 89 percent higher than those in December 2005 and the highest in over a decade. December cash soybean prices in central Illinois rose to \$6.40 per bushel, 12 percent above the previous year's prices. Based on U.S. Department of Agriculture data for 2006, District corn production slipped 1.4 percent from that of 2005, falling to 5.40 billion bushels, whereas soybean production rose 4.7 percent to 1.44 billion bushels, a new record. In 2006, District states produced 51.3 percent of U.S. corn output and 45.1 percent of national soybean output, so the District reaped much of the benefits from higher prices.

Moreover, District states had the capacity to produce 55 percent of U.S. ethanol output in 2006, calculated using data from the Renewable Fuels Association. U.S.

### Percent change in dollar value of "good" farmland

Top: October 1, 2006 to January 1, 2007  
 Bottom: January 1, 2006 to January 1, 2007

	October 1, 2006 to January 1, 2007	January 1, 2006 to January 1, 2007
Illinois	+2	+6
Indiana	+2	+6
Iowa	+7	+13
Michigan	+6	+5
Wisconsin	+2	+10
Seventh District	+5	+9



## Credit conditions at Seventh District agricultural banks

	Loan demand (index) <sup>b</sup>	Funds availability (index) <sup>b</sup>	Loan repayment rates (index) <sup>b</sup>	Average loan-to-deposit ratio (percent)	Interest rates on farm loans		
					Operating loans <sup>a</sup> (percent)	Feeder cattle <sup>a</sup> (percent)	Real estate <sup>a</sup> (percent)
<b>2004</b>							
Jan-Mar	116	131	128	73.2	6.22	6.28	5.87
Apr-June	101	117	118	73.7	6.39	6.46	6.23
July-Sept	109	111	112	74.5	6.57	6.61	6.28
Oct-Dec	109	121	127	74.1	6.81	6.80	6.39
<b>2005</b>							
Jan-Mar	117	112	116	74.4	7.07	7.08	6.63
Apr-June	119	101	103	76.3	7.33	7.30	6.74
July-Sept	115	97	87	76.9	7.68	7.65	7.02
Oct-Dec	120	110	90	75.8	8.02	7.95	7.25
<b>2006</b>							
Jan-Mar	131	102	87	76.7	8.30	8.27	7.48
Apr-June	115	101	85	78.0	8.76	8.66	7.85
July-Sept	124	95	87	79.1	8.73	8.70	7.82
Oct-Dec	109	116	130	76.6	8.71	8.70	7.74

Note: Historical data on Seventh District agricultural credit conditions is available for download from the *AgLetter* homepage, [www.chicagofed.org/economic\\_research\\_and\\_data/ag\\_letter.cfm](http://www.chicagofed.org/economic_research_and_data/ag_letter.cfm).

<sup>a</sup>At end of period.

<sup>b</sup>Bankers responded to each item by indicating whether conditions during the current quarter were higher, lower, or the same as in the year-earlier period. The index numbers are computed by subtracting the percent of bankers that responded "lower" from the percent that responded "higher" and adding 100.

in Illinois and Iowa offset decreased demand in Indiana, Michigan, and Wisconsin for the fourth quarter of 2006.

Funds availability increased across the District from a year ago, after a slight dip in the third quarter. The index of funds availability reached 116, the highest value in the last two years, as 26 percent of the respondents reported higher funds availability and 9 percent lower. Collateral requirements tightened a bit at District banks, with 8 percent raising and one percent lowering the amount of collateral required during the October-December period in 2006. Fewer bankers than a year ago indicated tightening credit standards for agricultural loans in the fourth quarter of 2006 versus the fourth quarter of 2005. Just 1 percent of District customers with operating credit were not likely to qualify for new credit in 2007, according to respondents, which was half the level of a year ago.

Interest rates for agricultural loans haven't increased in three quarters. As of January 1, 2007, the District averages for interest rates were 8.71 percent on new operating loans and 7.74 percent on farm real estate loans. Interest rates on agricultural loans were lowest in Illinois (8.41 percent on operating loans and 7.62 percent on farm mortgages). Interest rates on operating loans were highest in Iowa (8.93 percent), and Wisconsin had the highest farm real estate loan rates (8.15 percent).

### Looking forward

For January, February, and March of 2007, 35 percent of the respondents expected higher non-real-estate loan volumes, compared with 18 percent expecting lower volumes. Higher loan volumes were anticipated for operating, farm machinery, and grain storage construction loans. Lower volumes were anticipated for feeder cattle loans,

dairy loans, and loans guaranteed by the Farm Service Agency. With 27 percent of the bankers expecting higher real estate loan volumes in the first quarter of 2007 and 14 percent expecting lower volumes, the volume of mortgages on agricultural real estate will likely expand, mainly in Illinois, Indiana, and Iowa.

Finally, the surveyed bankers thought capital expenditures by farmers would increase in 2007. About 70 percent of the bankers anticipated increased purchases of machinery and equipment in 2007. Around 40 percent expected higher spending on land purchases, improvements, buildings, and facilities in 2007 than in 2006. With less than 10 percent expecting lower capital expenditures of each kind, the survey respondents indicated that capital spending by farmers will pick up in 2007.

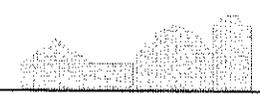
David B. Oppedahl, *Business economist*

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# AgLetter



## FARMLAND VALUES AND CREDIT CONDITIONS

### Summary

The largest annual increase in farmland values, 16 percent, in almost three decades highlighted an amazing year for agriculture in the Seventh Federal Reserve District. The values of both crop and livestock production set records in 2007 for the U.S. and, in all likelihood, the District. Based on 265 surveys returned by District agricultural bankers, the quarterly rise in the value of "good" agricultural land was 6 percent in the fourth quarter of 2007. Over half of the respondents expected farmland values to keep going up in the first quarter of 2008.

Agricultural credit conditions in the District strengthened in the fourth quarter of 2007. The index of non-real-estate farm loan repayment rates shot up to the highest value on record, while loan renewals and extensions dropped from a year ago. The index of funds availability was higher than at any point in the last four years. Loan demand softened in the fourth quarter of 2007, but was still higher than the previous year. Agricultural interest rates fell to their lowest levels in two years. Loan-to-deposit ratios averaged 77.2 percent for the fourth quarter of 2007, with 59 percent of banks below their desired ratio.

### Farmland values

With a 16 percent annual increase for 2007 in the value of "good" agricultural land in the District, annual gains averaged 12 percent from 2004 through 2007. Adjusted for inflation, annual farmland values still rose an average of 8 percent per year over the past four years, versus an average of 2 percent during the previous 15 years (see chart 1 on next page). Iowa led the District with an 18 percent annual increase (see table and map below). Indiana was next with a 16 percent annual gain, followed by Illinois and Michigan with 15 percent annual gains. Wisconsin trailed with an 11 percent annual increase in farmland values. All District states had similar gains in farmland values in the fourth quarter as they had experienced in the third quarter, though some were slightly stronger.

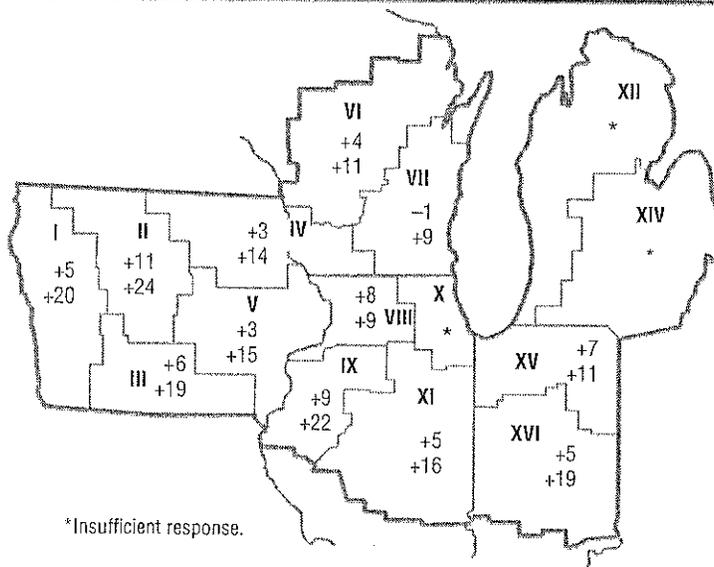
Higher net farm income boosted farmland values toward the end of 2007 as corn and soybean prices moved even higher than a year ago. December cash corn prices rose to \$3.76 per bushel, 25 percent above those in December 2006. Cash soybean prices jumped to \$10.00 per bushel in December, 62 percent higher than the previous year's prices. National production estimates for 2007 from the U.S. Department of Agriculture (USDA) were a record 13.1 billion bushels for corn and 2.59 billion bushels for soybeans. The harvest was 24 percent above that of 2006 for corn and 19 percent below that of 2006 for soybeans.

### Percent change in dollar value of "good" farmland

Top: October 1, 2007 to January 1, 2008

Bottom: January 1, 2007 to January 1, 2008

	October 1, 2007 to January 1, 2008	January 1, 2007 to January 1, 2008
Illinois	+6	+15
Indiana	+6	+16
Iowa	+6	+18
Michigan	+9	+15
Wisconsin	+2	+11
Seventh District	+6	+16



\* Insufficient response.

## Credit conditions at Seventh District agricultural banks

	Loan demand (index) <sup>b</sup>	Funds availability (index) <sup>b</sup>	Loan repayment rates (index) <sup>b</sup>	Average loan-to-deposit ratio (percent)	Interest rates on farm loans		
					Operating loans <sup>a</sup> (percent)	Feeder cattle <sup>a</sup> (percent)	Real estate <sup>a</sup> (percent)
<b>2005</b>							
Jan-Mar	117	112	116	74.4	7.07	7.08	6.63
Apr-June	119	101	103	76.3	7.33	7.30	6.74
July-Sept	115	97	87	76.9	7.68	7.65	7.02
Oct-Dec	120	110	90	75.8	8.02	7.95	7.25
<b>2006</b>							
Jan-Mar	131	102	87	76.7	8.30	8.27	7.48
Apr-June	115	101	85	78.0	8.76	8.66	7.85
July-Sept	124	95	87	79.1	8.73	8.70	7.82
Oct-Dec	109	116	130	76.6	8.71	8.70	7.74
<b>2007</b>							
Jan-Mar	128	113	131	78.4	8.61	8.60	7.67
Apr-June	121	115	117	77.8	8.65	8.63	7.70
July-Sept	118	118	122	78.1	8.42	8.40	7.53
Oct-Dec	110	125	148	77.2	7.82	7.89	7.09

Note: Historical data on Seventh District agricultural credit conditions is available for download from the *AgLetter* homepage, [www.chicagofed.org/economic\\_research\\_and\\_data/ag\\_letter.cfm](http://www.chicagofed.org/economic_research_and_data/ag_letter.cfm).  
<sup>a</sup>At end of period.

<sup>b</sup>Bankers responded to each item by indicating whether conditions during the current quarter were higher, lower, or the same as in the year-earlier period. The index numbers are computed by subtracting the percent of bankers that responded "lower" from the percent that responded "higher" and adding 100.

reporting higher funds availability and 5 percent lower. Collateral requirements were slightly tighter at District banks, as 11 percent raised the amount of collateral required during the October-December period in 2007. More bankers than a year ago indicated a tightening of credit standards for agricultural loans in the fourth quarter versus the previous year, but there also were more bankers who reported easing standards. As was the case the previous year, only 1 percent of District customers with operating credit were not likely to qualify for new credit in 2008, according to respondents.

Interest rates for agricultural loans declined to the lowest levels in two years. As of January 1, 2008, the District averages for interest rates were 7.82 percent on new operating loans and 7.09 percent on farm real estate loans. Interest rates on agricultural loans were lowest in Illinois (7.49 percent on operating loans and 6.93 percent on farm mortgages). Interest rates on agricultural loans were highest in Michigan (8.10 percent on operating loans and 7.44 percent on farm mortgages).

### Looking forward

For January, February, and March of 2008, 41 percent of the respondents expected higher non-real-estate loan volumes, while 16 percent expected lower volumes. Higher loan volumes were anticipated for operating, farm machinery, and grain storage construction loans. With little change in dairy loans, lower volumes were anticipated for feeder cattle loans and loans guaranteed by the Farm Service Agency. The volume of mortgages on agricultural real estate will continue to grow, with 32 percent of the

bankers expecting higher real estate loan volumes in the first quarter of 2008 and 9 percent expecting lower volumes.

Even more strongly than last year, respondents forecast this year's capital expenditures by farmers to increase from the previous year's levels. With 55 percent expecting higher spending on land purchases, improvements, buildings, and facilities in 2008 than in 2007, the agricultural sector contrasted sharply with the downturn in residential real estate and construction. And with only 2 percent of respondents expecting lower purchases, 83 percent of the bankers thought purchases of machinery and equipment would climb in 2008, and 67 percent thought that truck and auto purchases by farmers would rise.

*David B. Oppedahl, business economist*

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# AgLetter

## FARMLAND VALUES AND CREDIT CONDITIONS

### Summary

The annual change in farmland values was positive at 2 percent in 2009 for the Seventh Federal Reserve District, though 2009's first three quarters had negative year-over-year comparisons. The quarterly increase in the value of "good" agricultural land was 2 percent as well, based on 214 surveys from agricultural bankers. Over 80 percent of respondents expected farmland values to stay unchanged from January through March of 2010 in their respective areas.

The Seventh District's agricultural credit conditions were mixed in the fourth quarter of 2009 because of greater financial stress relative to a year ago. Non-real-estate loan demand was almost the same in October through December of 2009 compared with the same period of the previous year. Funds availability also improved again in the fourth quarter of 2009. However, farm loan repayment rates in the final quarter of 2009 were below the level of a year ago, and rates of loan renewals and extensions were higher than a year earlier. Agricultural interest rates remained low. Averaging 75.4 percent, loan-to-deposit ratios were essentially the same as in the third quarter of 2009.

### Farmland values

With a 2 percent annual increase for 2009 in the value of "good" agricultural land, the District experienced its

smallest change in a decade (see chart 1 on next page). Still, this small annual increase, registered for the final quarter of 2009, was better than the year-over-year comparisons for each of the three previous quarters. Not all District states contributed to the increase in farmland values for 2009: Michigan and Wisconsin farmland values fell 6 percent and 1 percent for the year, respectively (see table and map below). At the other end of the spectrum, Indiana and Iowa had higher annual increases in farmland values than the District average. The annual gain for Illinois matched the District average.

District land values rose 2 percent from the third quarter to the fourth quarter of 2009, reflecting higher agricultural prices in the final three months of the year. Michigan had a quarterly decrease in land values, diverging from the other states in the District.

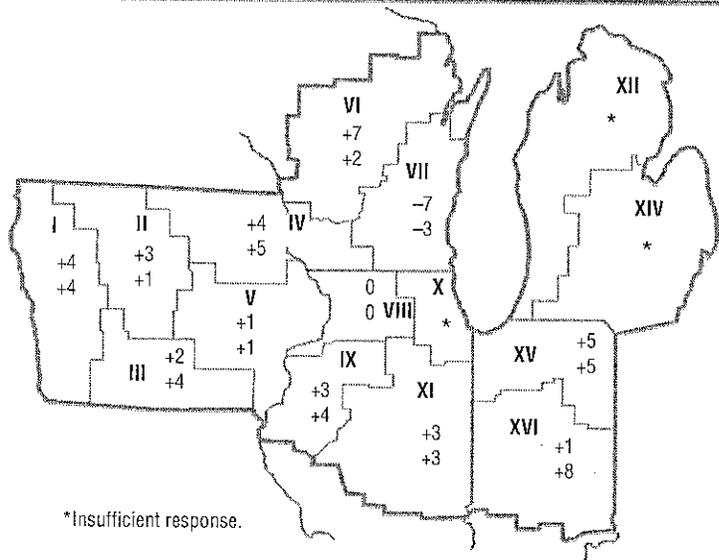
Adjusted for inflation, annual farmland values increased only 1 percent in 2009 for the District—the same as in 2008. Even though the annual index of nominal farmland values had more than doubled by the end of 2009 from its 1981 peak (see chart 2 on next page), the index of inflation-adjusted farmland values only approached the level of 1981. The compound annual growth rate in farmland values (adjusted for inflation) was 1.8 percent from 1970 through 2009. So, 2009's gain in land values was below the pace seen over the past four decades.

### Percent change in dollar value of "good" farmland

Top: October 1, 2009 to January 1, 2010

Bottom: January 1, 2009 to January 1, 2010

	October 1, 2009 to January 1, 2010	January 1, 2009 to January 1, 2010
Illinois	+2	+2
Indiana	+3	+7
Iowa	+3	+4
Michigan	-2	-6
Wisconsin	+1	-1
Seventh District	+2	+2



## Credit conditions at Seventh District agricultural banks

	Loan demand (index) <sup>b</sup>	Funds availability (index) <sup>b</sup>	Loan repayment rates (index) <sup>b</sup>	Average loan-to-deposit ratio (percent)	Interest rates on farm loans		
					Operating loans <sup>a</sup> (percent)	Feeder cattle <sup>a</sup> (percent)	Real estate <sup>a</sup> (percent)
<b>2008</b>							
Jan-Mar	110	129	147	75.9	6.74	6.86	6.41
Apr-June	101	124	137	75.2	7.06	6.77	6.51
July-Sept	117	103	115	78.8	6.74	6.85	6.56
Oct-Dec	115	110	113	76.4	6.21	6.33	6.23
<b>2009</b>							
Jan-Mar	116	112	105	76.2	6.20	6.31	6.14
Apr-June	88	118	93	77.3	6.18	6.36	6.16
July-Sept	95	121	89	75.3	6.17	6.35	6.13
Oct-Dec	102	125	92	75.4	6.23	6.40	6.13

<sup>a</sup>At end of period.

<sup>b</sup>Bankers responded to each item by indicating whether conditions during the current quarter were higher, lower, or the same as in the year-earlier period. The index numbers are computed by subtracting the percentage of bankers that responded "lower" from the percentage that responded "higher" and adding 100.

Note: Historical data on Seventh District agricultural credit conditions are available for download from the *AgLetter* webpage, [www.chicagofed.org/webpages/publications/agletter/index.cfm](http://www.chicagofed.org/webpages/publications/agletter/index.cfm).

rates of loan repayment and 21 percent reporting lower rates. Repayment rates weakened in all District states except Iowa. Wisconsin was particularly challenged, with over half of the respondents noting lower repayment rates. Over 8 percent of the volume of Wisconsin banks' agricultural loan portfolios was classified as having major or severe repayment problems, versus 4 percent for the District. Both of these numbers were under 3 percent at the end of 2008.

The availability of funds grew during the October through December period of 2009 relative to the same period of 2008. The index of funds availability climbed to 125, since 30 percent of the responding bankers had more funds available to lend and 5 percent had fewer. However, the amount of collateral required for loans increased in the fourth quarter of 2009 at 25 percent of the banks. Tighter credit standards for agricultural loans relative to the fourth quarter of 2008 were instituted at 44 percent of the reporting banks in 2009. Almost 4 percent of District customers with operating credit would probably not receive new credit lines in 2010; Wisconsin, at 11 percent, faced the highest level of troubled operating credit.

Interest rates on agricultural loans remained at low levels in the fourth quarter of 2009. Though operating loan rates edged up, mortgage rates were unchanged from three months earlier. As of January 1, 2010, the District averages for interest rates were 6.23 percent on new operating loans and 6.13 percent on farm real estate loans.

### Looking forward

Respondents expected to make about the same volumes of non-real-estate loans in the first quarter of 2010 as they made in the first quarter of 2009. Lower volumes were predicted for feeder cattle, dairy, farm machinery, and grain storage construction loans; higher volumes were predicted for operating loans and loans guaranteed by the Farm Service Agency. Responding bankers anticipated farm real

estate loan volumes to lessen during January, February, and March of 2010 relative to the same months of 2009.

Capital expenditures by farmers in 2010 were expected to be lower than in 2009. Thirteen percent of the respondents anticipated increased spending in 2010 on land purchases or improvements, while 37 percent anticipated reduced spending. For buildings and facilities, 17 percent predicted higher spending and 42 percent predicted lower spending. With 19 percent of respondents anticipating higher purchases and 36 percent anticipating lower purchases, the prospects for sales of machinery and equipment were not much better. Expenditures on trucks and autos were forecasted to decline as well, with 19 percent more of the respondents expecting lower rather than higher spending by farmers. Reduced investments in capital goods for farming would support the view that agriculture will continue to face challenges throughout 2010.

David B. Oppedahl, *business economist*

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Income Approach: November, Annual Average, & Marketing Year Average Prices

Line #	Column	2004		2005		2006		2007		2008		2009		Source or Formula:
		Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans	
1	Yield	168	51.5	154	49	157	50	154	46	160	45	171	49	IASS - Crop Summary
2	Price - November	1.81	5.22	1.71	5.58	3.03	6.13	3.68	9.65	4.04	9.47	3.66	9.63	IASS - Crop Prices
3	Price - Annual Avg.	2.49	7.63	1.97	6.02	2.39	5.82	3.52	8.01	4.98	11.78	3.85	10.35	DLGF Calculation
4	Price - Market Avg.	2.53	7.67	1.99	5.66	2.00	5.78	3.17	6.53	4.39	10.20	4.10	10.20	IASS - Crop Prices
5	GI - November	304.08	268.83	263.34	273.42	475.71	306.50	566.72	443.90	646.40	426.15	625.86	471.87	Line 1 times Line 2
6	GI - Annual Avg.	418.32	392.95	303.38	294.98	375.23	291.00	542.08	368.46	796.80	530.10	658.35	507.15	Line 1 times Line 3
7	GI - Market Avg.	425.04	395.01	306.46	277.34	314.00	289.00	488.18	300.38	702.40	459.00	701.10	499.80	Line 1 times Line 4
8	AA v Nov	114.24	124.12	40.04	21.56	-100.48	-15.50	-24.64	-75.44	150.40	103.95	32.49	35.28	Line 6 minus Line 5
9	MA v Nov	120.96	126.18	43.12	3.92	-161.71	-17.50	-78.54	-143.52	56.00	32.85	75.24	27.93	Line 7 minus Line 5
10	NRTL - November	54		41		123		238		132		88		DLGF Calculation
11	NRTL - Annual Avg	173		72		65		188		259		122		Line 10 + or - Avg. Line 8
12	NRTL - Market Avg	178		65		33		127		176		140		Line 10 + or - Avg. Line 9
13	NRTL Average	135		59		74		184		189		116		Average Lines 10, 11, & 12
14	FRBC RE Rate	0.0619		0.0691		0.0772		0.0750		0.0643		0.0614		Fed. Res. Bank of Chicago
15	FRBC OP Rate	0.0650		0.0753		0.0863		0.0838		0.0669		0.0620		Fed. Res. Bank of Chicago
16	Avg. FRBC Rate	0.0635		0.0722		0.0818		0.0794		0.0656		0.0617		Average Lines 14 & 15
17	Operating Market Value In Use	2,126		817		905		2,321		2,881		1,880		Line 13 / Line 16

NRTL = Net Return To Land  
 FRBC = Federal Reserve Bank of Chicago

Doster/Hule -Table 1		C		D		E		F		G		H		I		J		K		L		K		L		Source of
Updated-October, 2011		2004		2005		2006		2007		2008		2009		2009		2009		2009		2009		2009		2009		Information
Line #		Corn	Beans																							
1	Yield per Acre	168	51.5	154	49	157	50	154	46	160	45	171	49	171	49	171	49	171	49	171	49	171	49	171	49	IN Ag. Stats. Service
2	Price per Bu. - November	1.81	5.22	1.71	5.58	3.03	6.13	3.68	9.65	4.04	9.47	3.66	9.63	3.66	9.63	3.66	9.63	3.66	9.63	3.66	9.63	3.66	9.63	3.66	9.63	IN Ag. Stats. Service
3	Sales	304	269	263	273	476	307	567	444	646	426	626	472	626	472	626	472	626	472	626	472	626	472	626	472	Line 1 X Line 2
4	Less Variable Costs	171	106	184	114	222	125	239	120	380	182	425	223	425	223	425	223	425	223	425	223	425	223	425	223	Purdue Crop Guide
5	Contribution Margin	133	163	79	159	254	182	328	324	266	244	201	249	201	249	201	249	201	249	201	249	201	249	201	249	Line 3 - Line 4
6	Plus Government Pymt.	41	163	71	159	41	182	23	324	25	244	23	249	23	249	23	249	23	249	23	249	23	249	23	249	IN Ag. Stats. Service
7	Total Contribution Margin	168	168	155	155	238	182	337	337	268	268	236	236	236	236	236	236	236	236	236	236	236	236	236	236	Lines 5 + 6 / 2
Less Overhead:																										
8	Annual Machinery	52	52	52	52	52	52	43	43	58	58	66	66	66	66	66	66	66	66	66	66	66	66	66	66	Purdue Crop Guide
9	Drying/Handling	7	7	7	7	7	7	9	9	9	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	Purdue Crop Guide
10	Family/Hired Labor	37	37	39	39	39	39	30	30	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	Purdue Crop Guide
11	Real Estate Tax	18	18	16	16	17	17	17	17	17	17	19	19	19	19	19	19	19	19	19	19	19	19	19	19	DLGF Study
12	Net Return To Land - Nov.	54	54	41	41	123	123	238	238	132	132	88	88	88	88	88	88	88	88	88	88	88	88	88	88	Line 7 - 8,9,10, 11

Source for Calculation: Doster/Hule Publication titled "A Method for Assessing Indiana Cropland-An Income Approach to Value" dated June 24, 1999 (See Table 1)

**Indiana Corn Yields:****Indiana Soybean Yields:**

1975	98
1976	110
1977	102
1978	108
1979	112
1980	96
1981	108
1982	126
1983	73
1984	117
1985	123
1986	122
1987	135
1988	83
1989	133
1990	129
1991	92
1992	147
1993	132
1994	144
1995	113
1996	123
1997	122
1998	137
1999	132
2000	146
2001	156
2002	121
2003	146

1975	33.5
1976	34
1977	37
1978	34.5
1979	36
1980	36
1981	33
1982	38.5
1983	31
1984	34.5
1985	41.5
1986	37
1987	40
1988	27.5
1989	36.5
1990	41
1991	39
1992	43
1993	46
1994	47
1995	39.5
1996	38
1997	43.5
1998	42
1999	39
2000	46
2001	49
2002	41.5
2003	38

2004	168	2004	51.5
2005	154	2005	49
2006	157	2006	50
2007	154	2007	46
2008	160	2008	45
2009	171	2009	49

2010 IASS has not published yet.

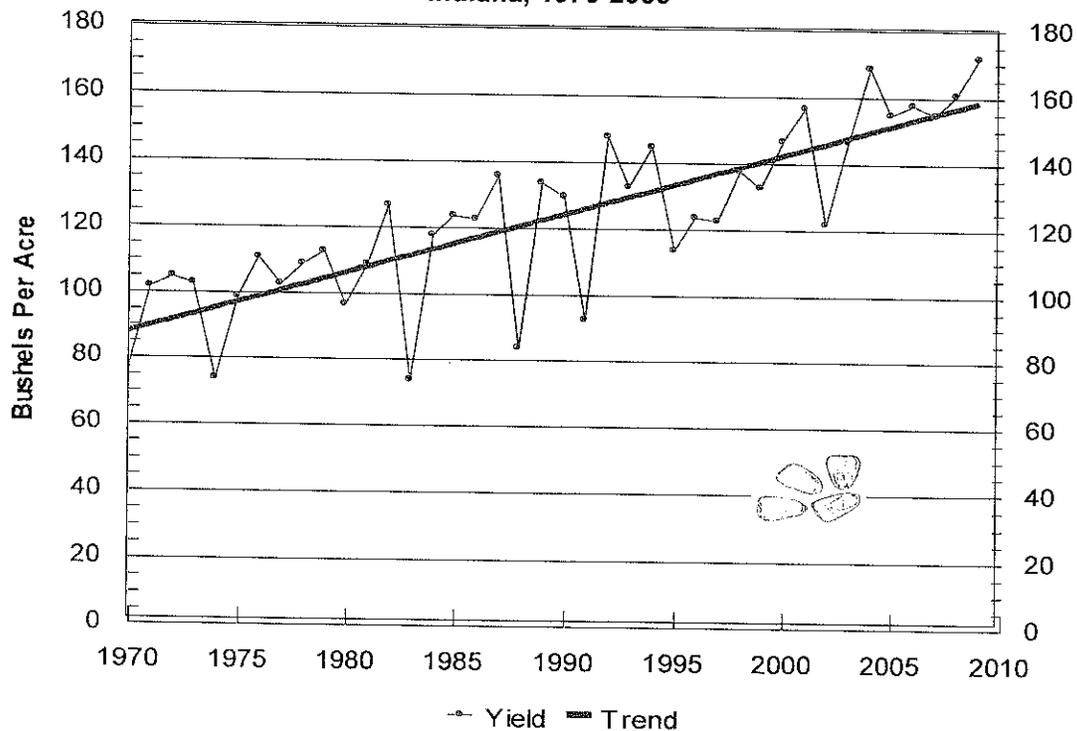
Source: Indiana Agricultural Statistics Service

# CROP SUMMARY

## CORN FORECAST AND FINAL YIELD INDIANA, 1986-2009

Year	August Forecast	September Forecast	October Forecast	November Forecast	Final Yield Per Acre
	Yield (Bu)	Yield (Bu)	Yield (Bu)	Yield (Bu)	(Bushels)
1986	132	129	127	124	122
1987	135	135	135	135	135
1988	70	74	74	78	83
1989	123	128	130	134	133
1990	128	132	132	130	129
1991	98	93	94	94	92
1992	130	130	133	143	147
1993	140	136	133	128	132
1994	132	132	137	141	144
1995	135	125	119	116	113
1996	118	118	120	124	123
1997	127	122	120	120	122
1998	136	139	137	137	137
1999	130	128	128	130	132
2000	155	155	151	147	146
2001	147	152	160	160	156
2002	124	119	117	117	121
2003	144	145	148	150	146
2004	168	168	168	168	168
2005	145	149	149	151	154
2006	167	167	165	159	157
2007	157	160	158	158	154
2008	164	162	160	160	160
<b>2009</b>	<b>163</b>	<b>163</b>	<b>166</b>	<b>166</b>	<b>171</b>

Corn Yield Trend  
Indiana, 1970-2009

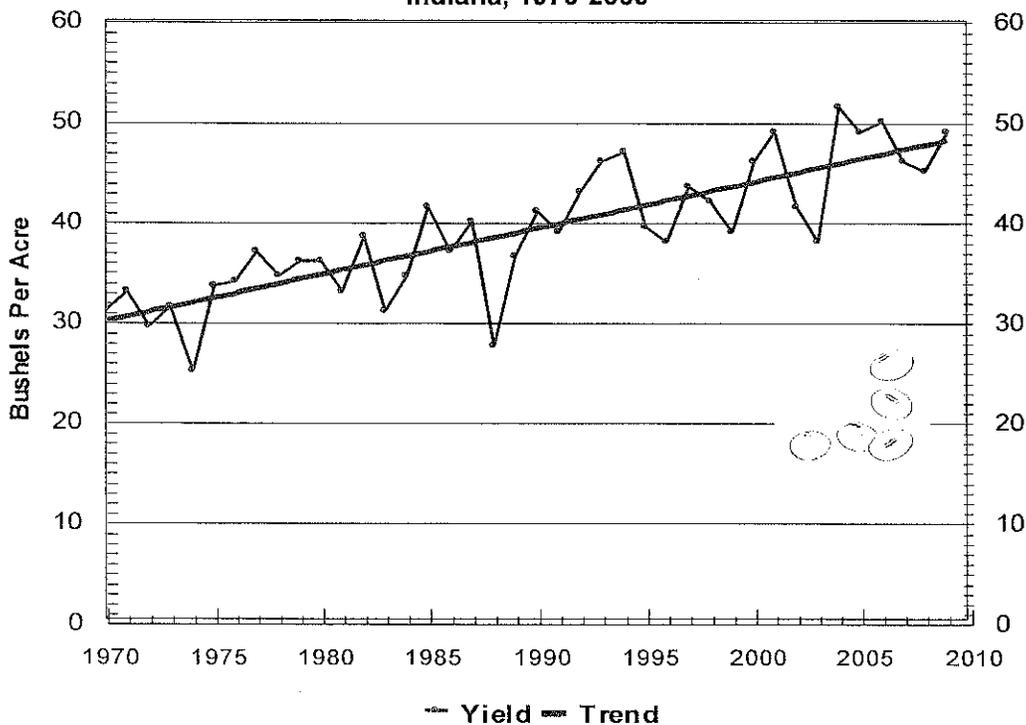


# CROP SUMMARY

## SOYBEAN FORECAST AND FINAL YIELD INDIANA, 1986-2009

Year	August Forecast Yield (Bu)	September Forecast Yield (Bu)	October Forecast Yield (Bu)	November Forecast Yield (Bu)	Final Yield Per Acre (Bushels)
1986	40.0	39.0	39.0	38.0	37.0
1987	42.0	41.0	40.0	40.0	40.0
1988	29.0	30.0	30.0	28.0	27.5
1989	39.0	39.0	39.0	39.0	36.5
1990	36.0	37.0	39.0	41.0	41.0
1991	35.0	35.0	38.0	39.0	39.0
1992	41.0	41.0	41.0	42.0	43.0
1993	45.0	47.0	47.0	45.0	46.0
1994	43.0	43.0	46.0	46.0	47.0
1995	43.0	44.0	40.0	39.0	39.5
1996	35.0	35.0	38.0	39.0	38.0
1997	44.0	42.0	42.0	44.0	43.5
1998	45.0	45.0	42.0	42.0	42.0
1999	41.0	40.0	39.0	38.0	39.0
2000	46.0	46.0	46.0	46.0	46.0
2001	46.0	48.0	49.0	49.0	49.0
2002	41.0	41.0	40.0	41.0	41.5
2003	43.0	43.0	40.0	38.0	38.0
2004	45.0	45.0	51.0	53.0	51.5
2005	46.0	45.0	46.0	48.0	49.0
2006	49.0	50.0	51.0	51.0	50.0
2007	47.0	43.0	43.0	44.0	46.0
2008	46.0	43.0	42.0	44.0	45.0
2009	45.0	43.0	43.0	46.0	49.0

Soybean Yield Trend  
Indiana, 1970-2009



Corn Prices  
Source: Indiana Agricultural Statistics

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average	Marketing Average *
1988	1.88	1.91	1.97	1.99	2.10	2.51	2.90	2.86	2.78	2.62	2.56	2.65	2.39	2.08
1989	2.72	2.64	2.70	2.66	2.70	2.63	2.65	2.48	2.38	2.32	2.28	2.37	2.54	2.65
1990	2.46	2.43	2.49	2.68	2.81	2.85	2.81	2.75	2.44	2.21	2.18	2.25	2.53	2.47
1991	2.35	2.37	2.43	2.42	2.46	2.37	2.34	2.41	2.37	2.36	2.36	2.44	2.39	2.31
1992	2.55	2.55	2.61	2.58	2.55	2.55	2.36	2.18	2.18	1.92	1.95	1.96	2.33	2.45
1993	2.06	2.04	2.17	2.23	2.20	2.17	2.31	2.37	2.26	2.26	2.52	2.73	2.28	2.09
1994	2.73	2.78	2.76	2.67	2.63	2.66	2.27	2.12	2.18	1.98	1.93	2.12	2.40	2.51
1995	2.25	2.27	2.34	2.41	2.45	2.56	2.76	2.73	2.76	2.85	3.11	3.33	2.65	2.25
1996	3.20	3.42	3.81	4.31	4.52	4.70	4.70	4.55	3.63	2.80	2.69	2.64	3.75	3.38
1997	2.77	2.73	2.86	2.96	2.86	2.73	2.59	2.60	2.60	2.62	2.60	2.61	2.71	2.78
1998	2.66	2.62	2.61	2.46	2.36	2.29	2.17	1.91	1.96	1.97	2.06	2.23	2.28	2.53
1999	2.26	2.20	2.22	2.24	2.15	2.12	1.94	1.97	1.82	1.74	1.75	1.89	2.03	2.11
2000	1.97	2.06	2.08	2.15	2.15	1.95	1.65	1.63	1.67	1.75	1.83	2.06	1.91	1.88
2001	2.03	2.01	2.02	1.98	1.95	1.84	1.97	2.01	1.93	1.83	1.83	1.92	1.94	1.90
2002	1.98	1.99	1.91	1.91	2.05	2.07	2.25	2.58	2.55	2.38	2.41	2.43	2.21	1.98
2003	2.42	2.44	2.44	2.47	2.49	2.44	2.28	2.25	2.27	2.15	2.25	2.46	2.36	2.41
2004	2.50	2.75	2.96	3.07	3.08	2.80	2.57	2.44	2.07	1.88	1.81	1.95	2.49	2.53
2005	2.09	2.01	2.01	1.96	2.02	2.07	2.20	1.97	1.80	1.72	1.71	2.04	1.97	1.99
2006	2.09	2.07	2.15	2.20	2.26	2.21	2.31	2.08	2.32	2.70	3.03	3.23	2.39	2.00
2007	3.16	3.53	3.64	3.54	3.65	3.73	3.36	3.27	3.32	3.34	3.68	4.07	3.52	3.17
2008	4.23	4.67	4.96	5.49	5.82	5.89	5.92	5.67	4.73	4.15	4.04	4.14	4.98	4.39
2009	4.46	4.06	3.92	4.11	4.12	4.14	3.64	3.45	3.31	3.70	3.66	3.61	3.85	4.10
2010	3.80	3.69	3.62	3.52	3.65	3.55	3.69	IASS has not published this information yet.						

\*Marketing average is Sept. of the previous year to Aug. in the current year.

## Soybean Prices

Source: Indiana Agricultural Statistics

	Annual												Marketing Average *	
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		Average
1988	5.89	5.93	6.29	6.81	7.24	8.71	8.95	8.60	8.09	7.64	7.46	7.71	7.44	5.94
1989	7.76	7.44	7.64	7.32	7.37	7.18	6.95	6.26	5.83	5.62	5.74	5.77	6.74	7.55
1990	5.95	5.75	5.77	5.98	6.14	6.08	6.16	6.13	6.08	5.91	5.77	5.74	5.96	5.79
1991	5.76	5.78	5.76	5.82	5.74	5.57	5.40	5.66	5.76	5.52	5.52	5.51	5.65	5.81
1992	5.60	5.69	5.81	5.75	5.96	6.05	5.69	5.52	5.44	5.25	5.37	5.52	5.64	5.68
1993	5.66	5.65	5.77	5.87	5.94	6.03	6.82	6.84	6.17	5.97	6.42	6.75	6.16	5.61
1994	6.67	6.76	6.82	6.70	6.89	6.74	6.19	5.70	5.49	5.33	5.34	5.54	6.18	6.31
1995	5.54	5.50	5.66	5.68	5.70	5.86	6.10	5.98	6.07	6.24	6.61	6.98	5.99	5.53
1996	6.91	7.16	7.13	7.65	7.95	7.72	7.82	8.10	8.02	6.94	6.90	6.98	7.44	6.73
1997	7.31	7.34	7.94	8.38	8.60	8.22	7.71	7.18	6.54	6.62	6.88	6.68	7.45	7.34
1998	6.80	6.73	6.57	6.37	6.41	6.42	6.38	5.74	5.24	5.23	5.49	5.51	6.07	6.59
1999	5.41	4.94	4.71	4.77	4.63	4.50	4.28	4.55	4.54	4.58	4.56	4.56	4.67	5.05
2000	4.65	4.90	5.06	5.18	5.27	5.11	4.62	4.63	4.71	4.51	4.57	4.93	4.85	4.71
2001	4.74	4.53	4.52	4.25	4.43	4.62	4.98	5.15	4.60	4.17	4.18	4.25	4.54	4.61
2002	4.29	4.34	4.56	4.63	4.79	5.05	5.51	5.67	5.53	5.24	5.53	5.61	5.06	4.42
2003	5.62	5.69	5.70	5.92	6.28	6.15	5.87	5.84	6.49	6.90	7.25	7.44	6.26	5.55
2004	7.38	8.38	9.43	9.76	9.62	9.45	8.89	7.18	5.51	5.24	5.22	5.47	7.63	7.67
2005	5.57	5.46	6.02	5.99	6.32	6.76	6.93	6.29	5.76	5.60	5.58	6.01	6.02	5.66
2006	6.06	5.83	5.76	5.69	5.83	5.80	5.85	5.53	5.40	5.63	6.13	6.38	5.82	5.78
2007	6.44	6.95	7.17	7.13	7.36	7.83	7.97	8.03	8.49	8.81	9.65	10.30	8.01	6.53
2008	10.10	12.30	11.70	12.30	12.80	14.50	14.50	13.50	11.00	9.78	9.47	9.70	11.80	10.20
2009	10.30	9.88	9.49	10.10	11.10	11.90	11.10	11.00	9.97	9.49	9.63	10.20	10.35	10.20
2010	10.00	9.82	9.70	9.79	9.75	9.78	10.10	IASS has not published this information yet.						

\*Marketing average is Sept. of the previous year to Aug. in the current year.

# CROP PRICES

## MONTHLY PRICES RECEIVED BY FARMERS CROPS, INDIANA, 2003-2010 <sup>1/</sup>

Year	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Marketing Year Avg.
<b><u>Corn (Dollars per Bushel)</u></b>													
2003-04	2.27	2.15	2.25	2.46	2.50	2.75	2.96	3.07	3.08	2.80	2.57	2.44	2.53
2004-05	2.07	1.88	1.81	1.95	2.09	2.01	2.01	1.96	2.02	2.07	2.20	1.97	1.99
2005-06	1.80	1.72	1.71	2.04	2.09	2.07	2.15	2.20	2.26	2.21	2.31	2.08	2.00
2006-07	2.32	2.70	3.03	3.23	3.16	3.53	3.64	3.54	3.65	3.73	3.36	3.27	3.17
2007-08	3.32	3.34	3.68	4.07	4.23	4.67	4.96	5.49	5.82	5.89	5.92	5.67	4.39
2008-09	4.73	4.15	4.04	4.14	4.46	4.06	3.92	4.11	4.12	4.14	3.64	3.45	4.10
<b>2009-10</b>	<b>3.31</b>	<b>3.70</b>	<b>3.66</b>	<b>3.61</b>	<b>3.80</b>	<b>3.69</b>	<b>3.62</b>	<b>3.52</b>	<b>3.65</b>	<b>3.55</b>	<b>3.69</b>	<u>2/</u>	<u>2/</u>
<b><u>Soybeans (Dollars per Bushel)</u></b>													
2003-04	6.49	6.90	7.25	7.44	7.38	8.38	9.43	9.76	9.62	9.45	8.89	7.18	7.67
2004-05	5.51	5.24	5.22	5.47	5.57	5.46	6.02	5.99	6.32	6.76	6.93	6.29	5.66
2005-06	5.76	5.60	5.58	6.01	6.06	5.83	5.76	5.69	5.83	5.80	5.85	5.53	5.78
2006-07	5.40	5.63	6.13	6.38	6.44	6.95	7.17	7.13	7.36	7.83	7.97	8.03	6.53
2007-08	8.49	8.81	9.65	10.30	10.10	12.30	11.70	12.30	12.80	14.50	14.50	13.50	10.20
2008-09	11.00	9.78	9.47	9.70	10.30	9.88	9.49	10.10	11.10	11.90	11.10	11.00	10.20
<b>2009-10</b>	<b>9.97</b>	<b>9.49</b>	<b>9.63</b>	<b>10.20</b>	<b>10.00</b>	<b>9.82</b>	<b>9.70</b>	<b>9.79</b>	<b>9.75</b>	<b>9.78</b>	<b>10.10</b>	<u>2/</u>	<u>2/</u>
Year	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Marketing Year Avg.
<b><u>Wheat (Dollars per Bushel)</u></b>													
2003-04	3.05	3.07	3.35	3.35	3.53	3.71	4.01	3.91	3.63	3.84	3.81	3.87	3.21
2004-05	3.37	3.28	3.01	3.09	2.90	2.85	3.06	3.24	2.98	3.25	2.97	3.08	3.24
2005-06	3.16	3.18	2.92	2.88	3.03	3.02	3.04	3.21	3.34	3.29	2.98	3.43	3.15
2006-07	3.34	3.18	2.95	3.31	3.56	4.38	4.46	4.08	4.16	4.05	4.07	4.54	3.41
2007-08	4.90	5.10	5.70	7.09	8.02	5.52	7.58	7.56	9.05	9.56	10.70	6.36	5.20
2008-09	6.18	6.32	6.43	5.10	4.14	3.82	4.93	5.46	5.23	5.79	4.52	5.10	5.91
<b>2009-10</b>	<b>4.47</b>	<b>4.33</b>	<b>3.91</b>	<b>3.35</b>	<b>3.77</b>	<b>3.79</b>	<b>4.24</b>	<b>4.22</b>	<b>4.30</b>	<b>4.17</b>	<b>4.27</b>	<b>5.03</b>	<b>4.27</b>

<sup>1/</sup> Weighted monthly average for market year. 2009 and 2010 are preliminary.

<sup>2/</sup> Data not available.

Purdue Crop Cost & Return Guide January 2004  
Table 1. Estimated Per Acre Crop Budgets

ID-165W (Rev)

	Crop Budgets for Three Yield Levels <sup>1</sup>																	
	Miami (Low Yield)				Crosby (Average Yield)				Brookston (High Yield)									
	Cont. Corn	Rot Corn	Rot Beans	Second- Year Beans	Cont. Corn	Rot Corn	Rot Beans	Second- Year Beans	Cont. Corn	Rot Corn	Rot Beans	Second- Year Beans						
Expected yield per acre <sup>2</sup>	106.6	114.6	37.1	33.4	61.0	21.7	131.9	141.9	46.0	41.4	68.6	27.0	182.4	174.6	56.6	50.9	76.0	33.1
Harvest price <sup>3</sup>	\$2.29	\$2.29	\$6.14	\$6.14	\$3.56	\$6.14	\$2.29	\$2.29	\$6.14	\$6.14	\$3.56	\$6.14	\$2.29	\$2.29	\$6.14	\$3.56	\$3.56	\$6.14
Market Revenue	\$244	\$262	\$228	\$205	\$217	\$133	\$302	\$325	\$282	\$254	\$244	\$186	\$372	\$400	\$348	\$313	\$271	\$203
Loan Deficiency Payment (LDP) <sup>4</sup>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total revenue	\$244	\$262	\$228	\$205	\$217	\$133	\$302	\$325	\$282	\$254	\$244	\$186	\$372	\$400	\$348	\$313	\$271	\$203
Less variable costs <sup>5</sup>																		
Fertilizer <sup>6</sup>	\$50	\$46	\$18	\$17	\$37	\$12	\$62	\$60	\$22	\$20	\$43	\$14	\$78	\$76	\$27	\$24	\$50	\$17
Seed <sup>7</sup>	28	28	33	33	20	38	33	33	33	33	20	38	33	33	33	33	20	38
Chemicals <sup>8</sup>	32	16	16	16	N/A	13	34	19	16	16	N/A	13	39	23	16	16	N/A	13
Dryer Fuel & Handling	14	12	1	1	N/A	2	18	15	1	10	5	4	11	11	11	11	5	4
Machinery Fuel @ \$1.20	8	8	8	8	5	4	10	10	9	9	5	4	10	10	10	10	5	4
Machinery Repairs <sup>9</sup>	8	8	8	8	4	4	9	9	9	9	4	4	10	10	10	10	5	4
Hauling <sup>10</sup>	6	7	2	2	4	1	8	9	3	2	4	3	10	10	3	3	5	4
Interest <sup>11</sup>	5	4	3	3	3	3	6	5	4	3	3	3	7	6	4	4	3	3
Insurance/misc.	11	11	8	8	7	4	11	11	8	8	8	4	11	11	8	8	9	4
Total variable cost <sup>1</sup>	\$162	\$140	\$97	\$98	\$80	\$81	\$191	\$171	\$106	\$102	\$88	\$85	\$221	\$198	\$113	\$110	\$96	\$88
Contribution margin <sup>11</sup> (Revenue - variable costs) per acre	\$82	\$122	\$131	\$109	\$137	\$52	\$111	\$154	\$176	\$152	\$156	\$81	\$151	\$202	\$235	\$203	\$75	\$115

<sup>1</sup>Estimated yields and costs are for normal yields with average management for three different soils representing low, average, and high productivity. On each soil, these estimated yields may vary ± 10% for management, and ± 10% for plant/harvest date. These yields assume normal weather conditions.

<sup>2</sup>Average yield based on timely plant/harvest date, except soybean double crop yield, which is based on July 1 plant date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 93%, drill soybeans 93.5% (second year drill beans or for 30-inch beans in central Indiana 90.2%), wheat 55% on low yield, 50% on average yield, and 45% on high yield soils; and double crop soybeans (South-central Indiana) 19% (Source: ID-152 "Estimating Potential Yield for Corn, Soybeans, and Wheat").

<sup>3</sup>Harvest corn price is December 2004 CBOT opening futures price on January 6, 2004 less \$0.25 basis. Harvest soybean price is November 2004 CBOT opening futures price on January 6, 2004, less \$0.30 basis. Harvest wheat price is July 2004 CBOT opening futures price quoted on January 5, 2004, less \$0.30 basis.

<sup>4</sup>Loan Deficiency Payment is paid on all bushels produced. The per bushel payment is the amount by which the loan rate exceeds the market price. Loan rates are \$2.01 for corn, \$5.12 for soybeans, and \$2.48 for wheat. Seed, fertilizer, chemical, and fuel prices are early January 2004 quotes.

<sup>5</sup>Fertilizer based on tri-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2967, July 1999). Lime amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O/lime by crop and soil: continuous corn, 119-39-49-357, 153-49-56-460, 195-60-64-595; rotation corn, 100-42-51-300, 137-52-56-411, 182-65-67-544; rotation beans, 0-31-74-0, 0-38-86-0, 0-47-102-0; wheat, 63-40-43-188, 77-45-46-230, 90-49-49-270; double crop beans, 0-17-50-0, 0-22-59-0, 0-26-66-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.24; urea @ \$0.32; P<sub>2</sub>O<sub>5</sub> @ \$0.28; K<sub>2</sub>O @ \$0.14; lime @ \$1.60/lb. 5-10%, more nitrogen might be needed on both excessively and poorly drained soils. All soil tests for phosphorus and potassium are in the maintenance range, and the pH is in the recommended range.

<sup>6</sup>The polish recommendations are for a light color beam or silt loam soil with a Cation Exchange Capacity (CEC) of 10. This recommendation will vary with CEC.

<sup>7</sup>Add \$7 per acre for Bt corn seed. Soybean seed prices include Round-Up Ready@ varieties.

<sup>8</sup>Om insecticide @ \$16 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

<sup>9</sup>Repairs are based on approximately five-year-old machinery. For older machinery, per acre repairs and downtime cost will be \$6-10 higher, and indirect machinery costs will be lower.

<sup>10</sup>Interest is based on 6.0% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs and all the insurance/misc.

<sup>11</sup>Contribution margin is the return to the unpaid operator/ labor/management, machinery services, and land resources.

Purdue Crop Cost & Return Guide January 2004  
 Table 2. Estimated Per Farm Crop Budgets For 2004 - January Estimates  
 Effect on Earnings for Each of Four Crop Rotations on Three Soil Types Using Similar Machinery and Labor When Farm Size is Adjusted to Permit Timely Fieldwork<sup>1</sup>

Farm Acres	(Miami) Low Yield Soils				(Crosby) Average Yield Soils				(Brookston) High Yield Soils			
	900	1000	1200	1200 <sup>c-b, c-w, dc</sup>	900	1000	1200	1200 <sup>c-b, c-w, dc</sup>	900	1000	1200	1200 <sup>c-b, c-w, dc</sup>
Rotation	c-c	c-b	c-b	c-b, c-w, dc	c-c	c-b	c-b, c-w	c-b, c-w, dc	c-c	c-b	c-b, c-w	c-b, c-w, dc
Crop contribution margin <sup>2</sup>	\$3,800	\$126,500	\$153,000	\$163,400	\$99,900	\$165,000	\$194,000	\$210,200	\$135,900	\$218,500	\$250,200	\$273,200
Government payment <sup>3</sup>	20,241	17,175	22,596	22,596	23,670	20,070	26,222	26,222	29,259	24,820	31,794	31,794
Total contribution margin	\$94,041	\$143,675	\$175,596	\$185,996	\$123,570	\$185,070	\$220,222	\$236,422	\$165,159	\$243,320	\$281,994	\$304,994
Annual overhead costs:												
Machinery replacement <sup>4</sup>	45,000	48,500	48,500	49,000	48,600	52,100	52,100	52,600	54,000	57,500	57,500	58,000
Drying/handling	6,300	6,300	6,300	6,300	7,200	7,200	7,200	7,200	8,100	8,100	8,100	8,100
Family and hired labor <sup>5</sup>	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000
Land <sup>6</sup>	\$92,700	\$103,000	\$123,600	\$123,600	\$115,200	\$128,000	\$153,600	\$153,600	\$141,300	\$157,000	\$188,400	\$188,400
Earnings or (losses)	\$ (86,959)	\$ (51,125)	\$ (39,804)	\$ (29,804)	\$ (84,430)	\$ (39,230)	\$ (29,678)	\$ (13,978)	\$ (75,241)	\$ (19,280)	\$ (9,006)	\$ 13,494

<sup>1</sup> Rotations are as follows: c-c = 900 acres continuous corn; c-b = 500 acres rotation corn - 500 acres soybeans; c-b, c-w = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat; c-b, c-w, dc = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat, double crop beans (dc).

<sup>2</sup> Crops contribution margin is per acre contribution margin from Table 1 times number of acres.

<sup>3</sup> Government payment includes the direct payment and the counter cyclical payment. The per bushel direct payment rate is \$0.28 for corn, \$0.44 for soybeans, and \$0.52 for wheat. Direct payment yields for corn were 94.5, 110.5, 136.6 on low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Direct payment yields for wheat were 45.8, 49.3, 55.5 on low, average, and high soils. The counter cyclical payments were based on a target price of \$2.63 for corn, \$5.80 for soybeans, and \$3.92 for wheat. The average marketing year price assumed was \$2.36 for corn, \$6.40 for soybeans, and \$3.85 for wheat. The counter cyclical yields for corn were 108.1, 133.4, and 184.1 for low, average, and high soils. The counter cyclical yields for soybeans were 36.2, 44.7, and 55.0 for low, average and high soils. The counter cyclical yields for wheat were 59.5, 66.7, 73.8 for low, average, and high soils. A base acre of each acre of crop raised was assumed.

<sup>4</sup> The same basic machinery set, which is timely for each rotation, is used on all four farms of the same soil type. A no-till drill is added for beans, and a larger combine platform is added for double-crop beans. Average annual replacement costs were calculated using the Purdue Machinery Cost Calculator for timely set of fall plow or chisel tillage. Replacement costs for no-till are about 75% of fall chisel tillage. Seven-year trading policy assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well drained soils where more days are suitable for spring field work, machinery costs could be lower.

<sup>5</sup> Labor expenses include a family living withdrawal of \$24,139 (\$48,855 of family living expenses less \$24,716 in net nonfarm income reported by Illinois Farm Business Farm Management Association records in 2002) and \$12,000 for part-time hired labor.

<sup>6</sup> Based on cash rent at \$103 per acre on low yield soil, \$128 per acre on average yield soil, and \$157 per acre on high yield soil.

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## January 2005 Purdue Crop Cost & Return Guide

Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils

	Crop Budgets for Three Yield Levels <sup>1</sup>														
	Low Productivity Soil					Average Productivity Soil					High Productivity Soil				
	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	DC Beans
Expected yield per acre <sup>2</sup>	104.0	116.5	37.1	33.4	61.5	128.7	143.0	46.0	41.4	68.6	168.3	175.9	56.6	50.9	75.8
Harvest price <sup>3</sup>	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88
Market Revenue	\$220	\$245	\$194	\$175	\$177	\$273	\$303	\$241	\$217	\$198	\$336	\$373	\$296	\$266	\$218
Loan Deficiency Payment (LDP) <sup>4</sup>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total revenue	\$220	\$245	\$194	\$175	\$177	\$273	\$303	\$241	\$217	\$198	\$336	\$373	\$296	\$266	\$218
Less variable costs <sup>5</sup>															
Fertilizer <sup>6</sup>	\$53	\$51	\$22	\$20	\$44	\$67	\$66	\$26	\$24	\$50	\$83	\$84	\$31	\$29	\$57
Seed <sup>7</sup>	29	29	36	36	21	34	34	36	36	21	34	34	36	36	21
Chemicals <sup>8</sup>	34	16	14	14	N/A	36	19	14	14	N/A	41	23	14	14	N/A
Dyer Fuel & Handling	16	14	1	1	N/A	20	17	1	1	N/A	24	21	1	1	N/A
Machinery Fuel @ \$1.55	11	11	11	11	6	12	12	12	12	6	14	14	14	14	6
Machinery Repairs <sup>9</sup>	9	9	9	9	4	10	10	10	10	4	11	11	11	11	5
Healing <sup>10</sup>	6	7	2	2	4	8	9	3	2	4	10	11	3	3	2
Interest <sup>11</sup>	6	5	4	4	3	7	6	4	4	4	8	7	5	4	4
Insurance/misc.	11	11	8	8	7	11	11	8	8	8	11	11	8	8	8
Total variable cost <sup>11</sup>	\$175	\$153	\$107	\$105	\$89	\$205	\$184	\$114	\$111	\$98	\$236	\$216	\$123	\$120	\$108
Contribution margin <sup>11</sup>	\$45	\$92	\$87	\$70	\$88	\$68	\$119	\$127	\$106	\$100	\$43	\$100	\$157	\$146	\$110
(Revenue - variable costs)	\$45	\$92	\$87	\$70	\$88	\$68	\$119	\$127	\$106	\$100	\$43	\$100	\$157	\$146	\$110

<sup>1</sup> Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. On each soil, these estimated yields may vary  $\pm$  10% for management, and  $\pm$  10% for plant/harvest date. These yields assume average weather conditions.

<sup>2</sup> Average yield based on timely plant/harvest date, except soybean double crop yield, which is based on July 1 plant date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 90%; drill soybeans 33.5% (second year drill beans or for 30-inch beans in central Indiana 30.2%); wheat 53% on low yield, 48% on average yield, and 43% on high yield soils; and double crop soybeans (South-central Indiana) 18% (Source: ID-152, "Estimating Potential Yield for Corn, Soybeans, and Wheat").

<sup>3</sup> Harvest corn price is December 2005 CBOT futures price less \$0.25 basis. Harvest soybean price is November 2005 CBOT futures price less \$0.30 basis. Harvest wheat price is July 2005 CBOT futures price less \$0.30 basis.

<sup>4</sup> Loan Deficiency Payment is paid on all bushels produced. The per bushel payment is the amount by which the loan rate exceeds the market price. Loan rates are \$2.01 for corn, \$5.12 for soybeans, and \$2.49 for wheat.

<sup>5</sup> Seed, fertilizer, chemical, and fuel prices are early January 2005 quotes.

<sup>6</sup> Fertilizer based on in-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2567, July 1995). Line amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O-lime by crop and soil: continuous corn, 115-39-48-546, 149-48-55-447, 189-59-63-588; rotation corn, 101-43-51-303, 139-53-59-415, 183-65-66-550; rotation beans, 0-30-72-0, 0-37-84-0, 0-46-101-0, wheat, 80-39-43-180, 73-43-45-218, 85-48-48-256; double crop beans, 0-17-48-0, 0-21-57-0, 0-26-65-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.26; urea @ \$0.36; P<sub>2</sub>O<sub>5</sub> @ \$0.30; K<sub>2</sub>O @ \$0.18; lime @ \$16/ton. 5-10% more nitrogen might be needed on both excessively and poorly drained soils. All soil tests for phosphorus and potassium are in the maintenance range, and the pH is in the recommended range. The potash recommendations are for a light color loam or silt loam soil with a Cation Exchange Capacity (CEC) of 10. This recommendation will vary with CEC.

<sup>7</sup> Add \$7 per acre for Bt corn seed. Soybean seed prices include Round-Up Ready® varieties

<sup>8</sup> Corn insecticide @ \$17.80 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

<sup>9</sup> Repairs are based on approximately five-year-old machinery. For older machinery, per acre repairs and downtime cost will be \$5-10 higher, and indirect machinery costs will be lower.

<sup>10</sup> Interest is based on 6.5% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs and all the insurance/misc.

<sup>11</sup> Contribution margin is the return to the unpaid operator labor/management, machinery services, and land resources.

## January 2005 Purdue Crop Cost & Return Guide

Table 2. Estimated per Farm Crop Budgets for Low, Average, and High Productivity Indiana Soils

Farm Acres	Low Productivity Soil						Average Productivity Soil						High Productivity Soil <sup>1</sup>					
	900 c-c	1000 c-b	1200 c-b, c-w	1200 c-b, c-w, dc	900 c-c	1000 c-b	1200 c-b, c-w	1200 c-b, c-w, dc	900 c-c	1000 c-b	1200 c-b, c-w	1200 c-b, c-w, dc	900 c-c	1000 c-b	1200 c-b, c-w	1200 c-b, c-w, dc		
Crop contribution margin <sup>2</sup>	\$40,500	\$89,500	\$107,500	\$112,000	\$61,200	\$123,000	\$142,200	\$150,800	\$90,000	\$165,000	\$185,800	\$200,200	\$90,000	\$165,000	\$185,800	\$200,200		
Government payment <sup>3</sup>	30,168	22,690	32,450	32,450	35,919	26,875	38,016	38,016	44,325	33,190	45,852	45,852	44,325	33,190	45,852	45,852		
Total contribution margin	\$70,668	\$112,190	\$140,050	\$144,450	\$97,119	\$149,875	\$180,216	\$188,816	\$134,325	\$198,190	\$231,652	\$246,052	\$134,325	\$198,190	\$231,652	\$246,052		
Annual overhead costs:																		
Machinery replacement <sup>4</sup>	45,000	48,500	48,500	49,000	48,600	52,100	52,100	52,600	54,000	57,500	57,500	58,000	54,000	57,500	57,500	58,000		
Drying/handling	6,300	6,300	6,300	6,300	7,200	7,200	7,200	7,200	8,100	8,100	8,100	8,100	8,100	8,100	8,100	8,100		
Family and hired labor <sup>5</sup>	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000		
Land <sup>6</sup>	\$94,500	\$105,000	\$126,000	\$126,000	\$116,100	\$129,000	\$154,800	\$154,800	\$113,400	\$160,000	\$192,000	\$192,000	\$113,400	\$160,000	\$192,000	\$192,000		
Earnings or (losses)	-\$14,132	-\$86,610	-\$79,750	-\$75,850	-\$113,781	-\$77,425	-\$72,884	-\$64,784	-\$80,175	-\$66,410	-\$64,948	-\$51,048	-\$80,175	-\$66,410	-\$64,948	-\$51,048		

<sup>1</sup>Rotations are as follows: c-c = 900 acres continuous corn; c-b = 500 acres rotation corn - 500 acres soybeans; c-b, c-w = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat, double crop beans (dc); c-b, c-w, dc = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat, double crop beans (dc).

<sup>2</sup>Crops contribution margin is per acre contribution margin from Table 1 times number of acres.

<sup>3</sup>Government payment includes the direct payment and the counter cyclical payment. The per bushel direct payment rate is \$0.28 for corn, \$0.44 for soybeans, and \$0.52 for wheat. Direct payment yields for corn were 94.5, 110.5, 136.6 on low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Direct payment yields for wheat were 45.8, 49.3, 55.5 on low, average, and high soils. The counter cyclical payments were based on a target price of \$2.63 for corn, \$5.80 for soybeans, and \$3.92 for wheat. The average marketing year price assumed was \$2.23 for corn, \$5.66 for soybeans, and \$3.08 for wheat. The counter cyclical yields for corn were 108.1, 133.4, and 164.1 for low, average, and high soils. The counter cyclical yields for soybeans were 36.2, 44.7, and 55.0 for low, average and high soils. The counter cyclical yields for wheat were 59.5, 66.7, 73.8 for low, average, and high soils. A base acre of each acre of crop raised was assumed.

<sup>4</sup>The same basic machinery set, which is timely for each rotation, is used on all four farms of the same soil type. A no-till drill is added for beans, and a larger combine platform is added for double-crop beans. Average annual replacement costs were calculated using the Purdue Machinery Cost Calculator for timely set of fall plow or chisel tillage. Replacement costs for no-till are about 75% of fall chisel tillage. Seven-year trading policy assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well-drained soils where more days are suitable for spring field work, machinery costs could be lower.

<sup>5</sup>Labor expenses include a family living withdrawal of \$26,989 (\$52,908 of family living expenses less \$25,919 in net nonfarm income. Values are reported in *Farm Income & Production Costs for 2003*, University of Illinois Extension, AE-4556, April 2004) and \$12,000 for part-time hired labor.

<sup>6</sup>Based on cash rent at \$105 per acre on low yield soil, \$129 per acre on average yield soil, and \$160 per acre on high yield soil.

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## 2006 Purdue Crop Cost & Return Guide

Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils

	Low Productivity Soil				Average Productivity Soil				High Productivity Soil				
	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	Cont. Corn	Rot. Corn	Rot. Beans	Second-Year Beans	DC Beans
Expected yield per acre <sup>2</sup>	107.0	118.9	37.3	33.5	132.4	147.1	46.2	41.6	162.8	180.9	56.8	51.2	72.7
Harvest price <sup>3</sup>	\$2.31	\$2.31	\$5.84	\$5.84	\$2.31	\$2.31	\$5.84	\$5.84	\$2.31	\$2.31	\$5.84	\$5.84	\$3.48
Market Revenue	\$247	\$275	\$218	\$196	\$306	\$340	\$270	\$243	\$376	\$418	\$332	\$299	\$253
Loan Deficiency Payment (LDP) <sup>4</sup>	0	0	0	0	0	0	0	0	0	0	0	0	0
Total revenue	\$247	\$275	\$218	\$196	\$306	\$340	\$270	\$243	\$376	\$418	\$332	\$299	\$253
Less variable costs <sup>5</sup>													
Fertilizer <sup>6</sup>	\$69	\$66	\$27	\$24	\$87	\$66	\$32	\$29	\$55	\$20	\$108	\$109	\$35
Seed <sup>7</sup>	30	30	37	37	35	35	37	37	25	43	35	37	37
Chemicals <sup>8</sup>	36	17	12	12	39	20	12	12	44	25	25	12	12
Dyer Fuel & Handling	24	20	1	N/A	30	25	1	N/A	36	31	1	1	N/A
Machinery Fuel @ \$2.15	15	15	15	15	17	17	17	17	19	19	19	19	19
Machinery Repairs <sup>9</sup>	9	9	9	9	10	10	10	10	11	11	11	11	11
Hauling <sup>10</sup>	6	7	2	2	8	9	3	3	4	2	11	3	3
Interest <sup>11</sup>	9	7	5	5	10	9	5	5	12	11	6	6	5
Insurance/misc.	11	11	8	8	11	11	8	8	11	11	8	8	8
Total variable cost	\$209	\$182	\$116	\$113	\$247	\$222	\$125	\$122	\$286	\$263	\$135	\$132	\$119
Contribution margin <sup>11</sup>	\$38	\$93	\$102	\$83	\$59	\$118	\$145	\$121	\$90	\$155	\$197	\$167	\$134

Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. On each soil, these estimated yields may vary  $\pm$  10% for management and  $\pm$  10% for plant/harvest date. These yields assume average weather conditions.

<sup>2</sup>Average yield based on timely plant/harvest date, except soybean double crop yield, which is based on July 1 plant date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 90%; drill soybeans 33.5% (second year drill beans or for 30-inch beans in central Indiana, 30.2%); wheat 53% on low yield, 48% on average yield, and 43% on high yield soils; and double crop soybeans (South-central Indiana) 18% (Source: ID-162 "Estimating Potential Yield for Corn, Soybeans, and Wheat").

<sup>3</sup>Harvest corn price is December 2006 CBOT futures price less \$0.25 basis. Harvest soybean price is November 2006 CBOT futures price less \$0.30 basis. Harvest wheat price is July 2006 CBOT futures price less \$0.30 basis.

<sup>4</sup>Loan Deficiency Payment is paid on all bushels produced. The per bushel payment is the amount by which the loan rate exceeds the market price. Loan rates are \$2.01 for corn, \$5.12 for soybeans, and \$2.49 for wheat.

<sup>5</sup>Seed, fertilizer, chemical, and fuel prices are early February 2006 quotes.

<sup>6</sup>Fertilizer based on in-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2567, July 1995). Lime amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O/lime by crop and soil: continuous corn, 120-39-49-359; 154-49-56-462; 195-60-64-584; rotation corn, 106-44-52-317; 144-54-60-432; 189-67-69-567; rotation beans, 0-30-72-0, 0-37-85-0, 0-46-100-0, wheat, 66-37-42-167, 68-42-44-203, 80-46-47-239; double crop beans, 0-17-49-0, 0-21-56-0, 0-25-64-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.34; urea @ \$0.42; P<sub>2</sub>O<sub>5</sub> @ \$0.36; K<sub>2</sub>O @ \$0.22; lime @ \$18/ton. 5-10% more nitrogen might be needed on both excessively and poorly drained soils. All soil tests for phosphorus and potassium are in the maintenance range, and the pH is in the recommended range.

The polish recommendations are for a light color loam or sil loam soil with a Cation Exchange Capacity (CEC) of 10. This recommendation will vary with CEC.

<sup>7</sup>Add \$7 per acre for Bt corn seed. Soybean seed prices include Round-Up Ready varieties.

<sup>8</sup>Corn rootworm insecticide @ \$18.50 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

<sup>9</sup>Repairs are based on approximately five-year-old machinery. For older machinery, per acre repairs and downtime cost will be \$6-10 higher, and indirect machinery costs will be lower.

<sup>10</sup>Interest is based on 7.75% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs and all the insurance/misc.

<sup>11</sup>Contribution margin is the return to the unpaid operator labor/management, machinery services, and land resources.

## 2006 Purdue Crop Cost & Return Guide

Table 2. Estimated per Farm Crop Budgets for Low, Average, and High Productivity Indiana Soils

Farm Acres	Low Productivity Soil				Average Productivity Soil				High Productivity Soil			
	900	1000	1200	1200	900	1000	1200	1200	900	1000	1200	1200
Rotation	c-c	c-b	c-b, c-w	c-b, c-w, dc	c-c	c-b	c-b, c-w	c-b, c-w, dc	c-c	c-b	c-b, c-w	c-b, c-w, dc
Crop contribution margin <sup>1</sup>	\$34,200	\$97,500	\$117,400	\$123,600	\$53,100	\$131,500	\$152,200	\$162,600	\$81,000	\$176,000	\$198,600	\$215,400
Government payment <sup>2</sup>	20,241	17,175	22,596	22,596	23,670	20,070	26,222	26,222	29,259	24,820	31,794	31,794
Total contribution margin	\$54,441	\$114,675	\$139,996	\$146,196	\$76,770	\$151,570	\$178,422	\$188,822	\$110,259	\$200,820	\$230,394	\$247,194
Annual overhead costs:												
Machinery replacement <sup>4</sup>	45,000	48,500	48,500	49,000	48,600	52,100	52,100	52,600	54,000	57,500	57,500	58,000
Dry/handling	6,300	6,300	6,300	6,300	7,200	7,200	7,200	7,200	8,100	8,100	8,100	8,100
Family and hired labor <sup>5</sup>	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000
Land <sup>6</sup>	\$87,200	\$108,000	\$129,600	\$129,600	\$120,800	\$134,000	\$160,800	\$160,800	\$148,500	\$165,000	\$198,000	\$198,000
Earnings or (losses)	-\$133,059	-\$87,125	-\$83,404	-\$77,704	-\$128,630	-\$80,730	-\$60,678	-\$70,778	-\$139,341	-\$68,780	-\$72,206	-\$55,906

<sup>1</sup>Rotations are as follows: c-c = 900 acres continuous corn; c-b = 500 acres rotation corn - 500 acres soybeans; c-b, c-w = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat; c-b, c-w, dc = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat; double crop beans (dc).

<sup>2</sup>Crop's contribution margin is per acre contribution margin from Table 1 times number of acres.

<sup>3</sup>Government payment includes the direct payment and the counter-cyclical payment. The per bushel direct payment rate is \$0.28 for corn, \$0.44 for soybeans, and \$0.52 for wheat. Direct payment yields for corn were 94.5, 110.5, 136.6 on low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Direct payment yields for wheat were 45.8, 49.3, 55.5 on low, average, and high soils. The counter-cyclical payments were based on a target price of \$2.63 for corn, \$5.86 for soybeans, and \$3.92 for wheat. The average marketing year price assumed was \$2.43 for corn, \$6.07 for soybeans, and \$3.72 for wheat. The counter-cyclical yields for corn were 108.1, 133.4, and 164.1 for low, average, and high soils. The counter-cyclical yields for soybeans were 36.2, 44.7, and 55.0 for low, average and high soils. The counter-cyclical yields for wheat were 59.5, 66.7, 73.8 for low, average, and high soils. A base acre for each acre of crop raised was assumed.

<sup>4</sup>The same basic machinery set, which is timely for each rotation, is used on all four farms of the same soil type. A no-till drill is added for beans, and a larger combine platform is added for double-crop beans. Average annual replacement costs were calculated using the Purdue Machinery Cost Calculator for timely set of fall plow or chisel tillage. Replacement costs for no-till are about 75% of fall chisel tillage. Seven-year trading policy assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well-drained soils where more days are suitable for spring field work, machinery costs could be lower.

<sup>5</sup>Labor expenses include a family living withdrawal of \$26,989 (\$52,908 of family living expenses less \$25,919 in net nonfarm income. Values are reported in Farm Income & Production Costs for 2003, University of Illinois Extension, AE-4566, April 2004), and the balance is used for part-time hired labor.

<sup>6</sup>Based on cash rent at \$108 per acre on low-yield soil, \$134 per acre on average-yield soil, and \$165 per acre on high-yield soil.

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## 2007 Purdue Crop Cost & Return Guide

(The numbers in this publication are best considered as general guidelines when beginning the process of generating one's own specific crop budgets for 2007.)

Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils

	Crop Budgets for Three Yield Levels <sup>1</sup>															
	Low Productivity Soil					Average Productivity Soil					High Productivity Soil					
	Cont.	Rot.	Rot.	Wheat	DC	Cont.	Rot.	Rot.	Wheat	DC	Cont.	Rot.	Rot.	Wheat	DC	
Expected yield per acre <sup>2</sup>	118.9	126.5	39.6	56.4	23.4	147.1	156.5	49.0	69.8	28.9	181.0	192.5	60.3	85.9	35.6	
Harvest price <sup>3</sup>	\$3.71	\$3.71	\$7.65	\$4.05	\$7.65	\$3.71	\$3.71	\$7.65	\$4.05	\$7.65	\$3.71	\$3.71	\$7.65	\$4.05	\$7.65	
Market Revenue	\$441	\$469	\$303	\$228	\$179	\$546	\$581	\$375	\$263	\$221	\$671	\$714	\$461	\$348	\$272	
Less variable costs <sup>4</sup>																
Fertilizer <sup>5</sup>	\$68	\$63	\$28	\$44	\$18	\$85	\$79	\$34	\$58	\$21	\$106	\$98	\$40	\$75	\$25	
Seed <sup>6</sup>	39	39	39	26	45	43	43	39	26	45	45	45	39	26	45	
Chemicals <sup>7</sup>	49	30	12	N/A	10	49	30	12	N/A	10	49	30	12	N/A	10	
Dyer Fuel	22	18	N/A	N/A	3	27	22	N/A	N/A	3	34	27	N/A	N/A	4	
Machinery Fuel @ \$2.20	16	16	7	10	7	16	16	7	10	7	16	16	7	10	7	
Machinery Repairs <sup>8</sup>	10	10	6	10	9	10	10	6	10	9	10	10	6	10	9	
Hauling <sup>9</sup>	10	11	3	5	2	12	13	4	6	2	15	16	5	7	3	
Interest <sup>10</sup>	11	9	6	5	5	12	11	6	6	6	14	12	6	7	6	
Insurance/misc.	15	15	12	3	4	15	15	12	3	4	16	16	12	3	4	
Total variable cost <sup>11</sup>	\$240	\$211	\$113	\$103	\$103	\$269	\$239	\$120	\$119	\$107	\$305	\$270	\$127	\$138	\$113	
Contribution margin <sup>11</sup>	\$201	\$258	\$190	\$125	\$76	\$277	\$342	\$255	\$164	\$114	\$366	\$444	\$334	\$210	\$159	
(Revenue - variable costs)																

<sup>1</sup>Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity soils. Historically, the high yield has been based on Brookston soil, which is one of the most productive soils in Indiana. The high rotation corn yield shown here is likely 5 to 10 bushels per acre higher than one would expect on average for the top one-third of corn yields in Indiana.

<sup>2</sup>These yields assume average weather conditions and timely plantharvest date, except soybean double crop yield, which is based on July 1 plant date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 94%, assumes a chisel plow tillage system; drill soybeans 31.3%, and wheat 49.2% on low productivity soil and 44.6% on average and high productivity soils. Double crop soybeans (South-central Indiana) are 59% of rotation soybeans.

<sup>3</sup>Harvest corn price is December 2007 CBOT futures price less \$0.25 basis. Harvest soybean price is November 2007 CBOT futures price less \$0.30 basis. Harvest wheat price is July 2007 CBOT futures price less \$0.75 basis. The prices shown here were estimated using closing prices on February 8, 2007. These prices will change.

<sup>4</sup>Seed, fertilizer, chemical, and fuel prices are based on January 2007 quotes.

<sup>5</sup>Fertilizer based on in-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2567, July 1995). Lime amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O/lime by crop and soil: continuous corn, 130-44-52-391, 169-54-60-506, 215-67-66-644; rotation corn, 111-47-54-332, 143-58-62-430, 180-71-72-540; rotation beans, 0-32-75-0, 0-38-89-0, 0-48-104-0; wheat, 51-36-41-154, 75-44-46-224, 102-54-52-308; double crop beans, 0-19-53-0, 0-23-61-0, 0-29-70-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.28; urea @ \$0.40; P<sub>2</sub>O<sub>5</sub> @ \$0.38; K<sub>2</sub>O @ \$0.21; lime @ \$1.80/ton. 5-10% more nitrogen might be needed on poorly drained soils. All soil tests for phosphorus and potassium are in the maintenance range, and the pH is in the recommended range.

<sup>6</sup>Corn assumes non-GMO seed. Depending on variety and seeding rate, GMO corn would add \$15 or more per acre. Soybean seed prices include Round-Up Ready® varieties. Corn rootworm insecticide @ \$1.90 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

<sup>7</sup>Repairs are based on approximately five-year-old machinery. For older machinery, per acre repairs and downtime cost will be higher and indirect machinery costs will be lower.

<sup>8</sup>Hauling charge represents moving grain from field to storage. Based on Machinery Cost Estimates: Harvesting, University of Illinois, Farm Business Management Handbook, FBW 0203, July 2006.

<sup>9</sup>Interest is based on 8.75% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs and all the insurance/misc.

<sup>10</sup>Contribution margin is the return to the unpaid operator, labor/management, machinery services, and land resources.

## 2007 Purdue Crop Cost & Return Guide

(The numbers in this publication are best considered as general guidelines when beginning the process of generating one's own specific crop budgets for 2007.)

**Table 2. Estimated per Acre Indirect Charges for Low, Average, and High Productivity Indiana Soils**

Farm Acres Rotation <sup>1</sup>	Low Productivity Soil		Average Productivity Soil		High Productivity Soil	
	2700	3000	2700	3000	2700	3000
	c-c	c-b	c-c	c-b	c-c	c-b
Crop contribution margin <sup>2</sup>	\$201	\$224	\$277	\$299	\$366	\$389
Government payment <sup>3</sup>	\$17	\$17	\$20	\$20	\$25	\$25
Total contribution margin	\$218	\$241	\$297	\$319	\$391	\$414
Annual overhead costs:						
Machinery replacement <sup>4</sup>	\$43	\$43	\$43	\$43	\$43	\$43
Drying/handling	\$14	\$9	\$14	\$9	\$14	\$9
Family and hired labor <sup>5</sup>	\$34	\$30	\$34	\$30	\$34	\$30
Land <sup>6</sup>	\$115	\$115	\$142	\$142	\$175	\$175
Earnings or (losses)	\$13	\$44	\$65	\$95	\$126	\$157

<sup>1</sup>Rotations are as follows: c-c = 2,700 acres continuous corn; c-b = 1,500 acres rotation corn - 1,500 acres soybeans.

<sup>2</sup>Crop's contribution margin is per acre contribution margin from Table 1 times number of acres.

<sup>3</sup>Government payment includes only the direct payment. The per bushel direct payment rate is \$0.28 for corn and \$0.44 for soybeans. Direct payment yields for corn were 94.5, 110.5, 136.6 on low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Base acres for the farm are assumed half corn and half soybeans. Federal regulations pertaining to payment limits may limit this payment to a smaller amount than is shown here.

<sup>4</sup>The same basic machinery set, which is timely for each rotation, is used. Corn production utilizes a chisel plow tillage system and soybeans utilize no-till. Average annual replacement costs were calculated using the Purdue Machinery Cost Calculator for a timely machinery set. Seven-year trading policy assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well-drained soils where more days are suitable for spring field work, machinery costs could be lower.

<sup>5</sup>Labor expenses include a family living withdrawal of \$40,826 (\$58,285 of family living expenses less \$27,810 in net nonfarm income plus \$10,351 in income and self-employment taxes. Values are reported in *Farm Income & Production Costs for 2005*, University of Illinois Extension, AE-4566, April 2006). A full-time employee with total compensation of \$35,800. Employee compensation based on Wages and Benefits for Farm Employees, Iowa State University, University Extension FM 1862, July 2006. The balance is used for part-time hired labor.

<sup>6</sup>Based on cash rent per bushel reported in Indiana Farmland Values Continue to Increase, *Purdue Agricultural Economics Report*, August, 2006. Cash rent for low-yield soil estimated to be \$115 per acre, average-yield soil estimated to be \$142 per acre, and high-yield soil estimated to be \$175 per acre. The sharp rise in crop prices since the time of the survey may result in a wide variation in cash rents and thus the estimated land charge.

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## 2008 Purdue Crop Cost & Return Guide

### Revised February 2008

*The numbers in this publication are best considered general guidelines for beginning the process of generating one's own specific crop budgets. Both product prices and input prices may have significantly changed since these estimates were prepared.*

**Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils**

	Low Productivity Soil					Average Productivity Soil					High Productivity Soil				
	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans
Expected yield per acre <sup>2</sup>	118	125	39	62	23	147	157	49	70	29	177	188	59	84	35
Harvest price <sup>3</sup>	\$5.00	\$5.00	\$12.40	\$8.30	\$12.40	\$5.00	\$5.00	\$12.40	\$8.30	\$12.40	\$5.00	\$5.00	\$12.40	\$8.30	\$12.40
Market revenue	\$590	\$625	\$484	\$515	\$285	\$735	\$785	\$608	\$581	\$360	\$885	\$940	\$732	\$697	\$434
Less variable costs <sup>4</sup>															
Fertilizer <sup>5</sup>	\$142	\$130	\$50	\$81	\$33	\$152	\$141	\$61	\$95	\$39	\$162	\$151	\$71	\$119	\$45
Seed <sup>6</sup>	67	67	48	36	54	79	79	48	36	54	79	79	48	36	54
Pesticides <sup>7</sup>	39	39	19	7	17	39	39	19	7	17	39	39	19	7	17
Dyer fuel <sup>8</sup>	28	23	N/A	N/A	3	35	28	N/A	N/A	3	42	34	N/A	N/A	4
Machinery fuel @ \$3.25	24	24	11	15	10	24	24	11	15	10	24	24	11	15	10
Machinery repairs <sup>9</sup>	11	11	8	8	8	11	11	8	8	8	11	11	8	8	8
Hauling <sup>10</sup>	10	11	3	5	2	12	13	4	6	2	15	16	5	7	3
Interest <sup>11</sup>	17	16	8	8	7	19	18	9	9	8	11	11	10	11	8
Insurance/misc. <sup>12</sup>	26	26	22	3	4	27	27	22	3	4	28	28	23	3	4
Total variable cost	\$364	\$347	\$169	\$163	\$138	\$398	\$380	\$182	\$179	\$145	\$411	\$390	\$195	\$206	\$153
Contribution margin <sup>13</sup> (Revenue - variable costs) per acre	\$226	\$278	\$315	\$352	\$147	\$337	\$405	\$426	\$402	\$215	\$474	\$550	\$537	\$491	\$281

<sup>1</sup>Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. The high productivity soils represent soils capable of producing corn and soybeans with yields about 20% higher than average soils. Low productivity soils represent soils capable of producing corn and soybeans with yields about 20% lower than the average soils.

<sup>2</sup>These yields assume average weather conditions and timely plant/harvest date, except soybean double-crop yield, which is based on July 1 plant date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 94%; rotation soybeans 31.3%; wheat 49.2% on low productivity soil and 44.6% on average and high productivity soils; and double-crop soybeans 18.5%. Continuous corn yields assume chisel plow tillage system. Double-crop soybean yields apply to central and southern Indiana.

<sup>3</sup>Harvest corn price is December 2008 CBOT futures price less \$0.40 basis. Harvest soybean price is November 2008 CBOT futures price less \$0.75 basis. Harvest wheat price is July 2008 CBOT futures price less \$1.10 basis. The prices shown here were estimated using closing prices on February 18, 2008. These prices will change.

<sup>4</sup>Seed, fertilizer, chemical, and fuel prices are based on projections for 2008.

## Table 1 (Continued)

<sup>5</sup> Phosphate, polish, and lime applications are based on Tri-State Fertilizer Recommendations (Source: Michigan Extension Bulletin E-2567, July 1995). Lime amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Nitrogen application rate for corn is based on research from Department of Agronomy, Purdue University. Anhydrous ammonia is used as the nitrogen source for corn. Urea is used as the nitrogen source for wheat. Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O-lime by crop and soil: continuous corn, 190-44-52-570, 190-54-60-570, 190-65-68-570; rotation corn, 160-48-54-480, 160-58-62-480, 160-69-71-480; rotation beans, 0-31-75-0, 0-39-89-0, 0-47-102-0; wheat, 60-39-43-181, 75-44-46-224, 99-53-51-298; double crop beans, 0-19-53-0, 0-23-61-0, 0-28-69-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.63; P<sub>2</sub>O<sub>5</sub> @ \$0.62; K<sub>2</sub>O @ \$0.41; lime @ \$18/ton. 5-10% more nitrogen might be needed on poorly drained soils. All soil tests for phosphorus and potassium are in the maintenance range, and the pH is in the recommended range.

<sup>6</sup> Corn seed prices assume a triple-stacked biotech variety (Bt-RW, Bt-CB, & RR traits). A 20% refuge is planted with varieties that do not contain insect resistant traits. According to the USDA's Agricultural Prices report for April 2007, biotech corn seed prices averaged 154% of non-biotech corn seed. This price differential is expected to increase in 2008. Seeding rates for corn are 28,000 seeds per acre on low productivity soils and 33,000 seeds per acre on average and high productivity soils. Soybean seed prices include Round-Up Ready® varieties. Rotation soybeans are drilled with a seeding rate of 180,000 seeds per acre. Double-crop soybeans are drilled with a seeding rate of 208,000 seeds per acre.

<sup>7</sup> Includes both insecticides and herbicides. For corn, rootworm insecticide is applied to the refuge acres. In some areas of Indiana, this may not be required. Herbicide costs can vary widely based on both the herbicides selected and the required rate of application.

<sup>8</sup> Fuel used to dry crop to a safe moisture level for storage. For double-crop soybeans, the drying charge represents the drying of wheat in order to allow an earlier planting of soybeans.

<sup>9</sup> Repairs are based on approximately five-year-old machinery. For older machinery, per acre repairs and downtime cost will be higher.

<sup>10</sup> Hauling charge represents moving grain from field to storage. Based on Machinery Cost Estimates: Harvesting, University of Illinois, Farm Business Management Handbook, FBW 0203, July 2006.

<sup>11</sup> Interest is based on 8.75% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs, and all miscellaneous expenses.

<sup>12</sup> The cost of crop insurance represents the premium for CRC insurance at the 75% level. Crop insurance is included in budgets for corn and full-season soybeans, but is not included for wheat and double-crop soybeans.

<sup>13</sup> Contribution margin is the return to labor and management, machinery services, and land resources.

Table 2. Estimated per Acre Indirect Charges for Low, Average, and High Productivity Indiana Soils

Farm Acres Rotation <sup>1</sup>	Low Productivity Soil						Average Productivity Soil						High Productivity Soil					
	900 c-c	1000 c-b	2700 c-c	3000 c-b	900 c-c	1000 c-b	2700 c-c	3000 c-b	900 c-c	1000 c-b	2700 c-c	3000 c-b	900 c-c	1000 c-b	2700 c-c	3000 c-b		
Crop contribution margin <sup>2</sup>	\$226	\$297	\$226	\$297	\$337	\$416	\$337	\$416	\$474	\$544	\$474	\$544	\$474	\$544	\$474	\$544		
Government payment <sup>3</sup>	\$17	\$17	\$17	\$17	\$20	\$20	\$20	\$20	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25		
Total contribution margin	\$243	\$314	\$243	\$314	\$357	\$436	\$357	\$436	\$499	\$569	\$499	\$569	\$499	\$569	\$499	\$569		
Annual overhead costs:																		
Machinery replacement <sup>4</sup>	\$64	\$58	\$48	\$43	\$64	\$58	\$51	\$46	\$70	\$63	\$52	\$47	\$64	\$58	\$48	\$43		
Drying/handling	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9		
Family and hired labor <sup>5</sup>	\$60	\$52	\$33	\$29	\$60	\$52	\$33	\$29	\$60	\$52	\$33	\$29	\$60	\$52	\$33	\$29		
Land <sup>6</sup>	\$124	\$124	\$124	\$124	\$155	\$155	\$155	\$155	\$186	\$186	\$186	\$186	\$186	\$186	\$186	\$186		
Earnings or (losses)	-\$19	\$71	\$25	\$109	\$64	\$162	\$104	\$196	\$169	\$258	\$214	\$297	\$169	\$258	\$214	\$297		

<sup>1</sup>Rotations are as follows: c-c = all of the farm acres in continuous corn; c-b = one-half of the farm acres in rotation corn and one-half in rotation soybeans.

<sup>2</sup>Crop's contribution margin is per acre contribution margin from Table 1.

<sup>3</sup>Government payment includes only the direct payment. The per bushel direct payment rate is \$0.28 for corn and \$0.44 for soybeans. These are the payment rates for 2007. These payment rates could be changed in the new Farm Bill. Direct payment yields for corn were 94.5, 110.5, 136.6 or low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Base acres for the farm are assumed half corn and half soybeans. Federal regulations pertaining to payment limits may limit this payment to a smaller amount than is shown here.

<sup>4</sup>The same basic machinery set, which is timely for each rotation, is used for both the c-c and c-b rotation. The larger farm size requires larger, more expensive machinery. Corn production utilizes a chisel plow tillage system, and soybeans utilize no-till. Average annual replacement costs for the larger farm size were calculated using the Purdue Machinery Cost Calculator for a timely machinery set. Seven-year trading policy assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well-drained soils where more days are suitable for spring field work, machinery costs could be lower. The machinery costs for the smaller farm size were estimated using a machinery complement and cost estimates adapted from budgets published by The Ohio State University. A 10-year trading policy was assumed for all machinery on the smaller acreages. Machinery ownership costs are likely to vary widely from farm to farm.

<sup>5</sup>For the larger acreages, labor expense includes a family living withdrawal of \$40,323 (\$59,666 of family living expenses less \$29,614 in net nonfarm income plus \$10,251 in income and self-employment taxes) and a full-time employee with total compensation of \$35,800. The balance is used for part-time hired labor. Family living withdrawal is from Farm Income & Production Costs for 2006, University of Illinois Extension, AE-4566, April 2007. Employee compensation is based on Wages and Benefits for Farm Employees, Iowa State University, University Extension FM 1862, July 2006. For the smaller acreages, labor expense includes the same operator costs plus part-time employee(s). The c-c rotation requires more total labor. Labor costs are likely to vary widely from farm to farm.

<sup>6</sup>Based on cash rent per bushel of corn yield reported in Indiana Farmland Values & Cash Rent Jump Upward, *Purdue Agricultural Economics Report*, August, 2007.

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Date: 2/08

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## 2009 Purdue Crop Cost & Return Guide

### January 2009 Estimates

*Both product prices and input prices may have significantly changed since these estimates were prepared.*

**Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils**

	Low Productivity Soil					Average Productivity Soil					High Productivity Soil				
	Cont.		Rot.		DC	Cont.		Rot.		DC	Cont.		Rot.		DC
	Corn	Beans	Corn	Wheat		Corn	Beans	Corn	Wheat		Corn	Beans	Corn	Beans	
Expected yield per acre <sup>2</sup>	118	126	39	62	23	149	158	49	70	29	179	190	59	84	35
Harvest price <sup>3</sup>	\$4.00	\$4.00	\$8.70	\$5.20	\$8.70	\$4.00	\$4.00	\$8.70	\$5.20	\$8.70	\$4.00	\$4.00	\$8.70	\$5.20	\$8.70
Market revenue	\$472	\$504	\$339	\$322	\$200	\$596	\$632	\$426	\$364	\$252	\$716	\$760	\$513	\$437	\$305
Less variable costs <sup>4</sup>															
Fertilizer <sup>5</sup>	\$178	\$166	\$74	\$91	\$49	\$192	\$180	\$89	\$104	\$58	\$205	\$194	\$104	\$128	\$67
Seed <sup>6</sup>	75	75	52	43	60	89	89	52	43	60	89	89	52	43	60
Pesticides <sup>7</sup>	41	41	29	8	26	41	41	29	8	26	41	41	29	8	26
Dryer fuel <sup>8</sup>	24	19	N/A	N/A	4	30	24	N/A	N/A	5	37	29	N/A	N/A	6
Machinery fuel @ \$2.40	18	18	8	11	8	18	18	8	11	8	18	18	8	11	8
Machinery repairs <sup>9</sup>	12	12	9	9	9	12	12	9	9	9	12	12	9	9	9
Hauling <sup>10</sup>	13	14	4	7	3	16	17	5	8	3	20	21	6	9	4
Interest <sup>11</sup>	16	16	9	7	8	18	17	9	8	8	9	9	10	9	9
Insurance/misc. <sup>12</sup>	26	26	22	3	4	27	27	22	3	4	28	28	23	3	4
Total variable cost	\$403	\$387	\$207	\$179	\$171	\$443	\$425	\$223	\$194	\$181	\$459	\$441	\$241	\$220	\$193
Contribution margin <sup>13</sup> (Revenue - variable costs)	\$69	\$117	\$132	\$143	\$29	\$153	\$207	\$203	\$170	\$71	\$257	\$319	\$272	\$217	\$112

<sup>1</sup>Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. The high productivity soils represent soils capable of producing corn and soybeans with yields about 20% higher than average soils. Low productivity soils represent soils capable of producing corn and soybeans with yields about 20% lower than the average soils.

<sup>2</sup>These yields assume average weather conditions and timely plantharvest date, except soybean double-crop yield, which is based on a July 1 planting date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 94%; rotation soybeans 31%; wheat 49% on low productivity soil and 44% on average and high productivity soils; and double-crop soybeans 18%. Continuous corn yields assume a chisel plow tillage system. Double-crop soybean yields apply to central and southern Indiana.

<sup>3</sup>Harvest corn price is December 2009 Chicago Board of Trade (CBOT) futures price less \$0.35 basis. Harvest soybean price is November 2009 CBOT futures price less \$0.60 basis. Harvest wheat price is July 2009 CBOT futures price less \$1.00 basis. The prices shown were estimated using closing prices on January 28, 2009. These prices will change.

<sup>4</sup>Seed, fertilizer, pesticide, and fuel prices are based on projections for 2009.

## Table 1 (Continued)

<sup>5</sup> Phosphate, potash, and lime applications are based on Tri-State Fertilizer Recommendations (Source: Michigan Extension Bulletin E-2567, July 1995). Lime amounts represent the pounds of standard ag lime needed to neutralize the acidity from the nitrogen supplied from sources other than ammonium sulfate. Nitrogen application rate for corn is based on research from the Department of Agronomy, Purdue University. Anhydrous ammonia is used as the nitrogen source for corn. Urea is used as the nitrogen source for wheat. Pounds of N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, and lime by crop and soil were as follows: continuous corn, 190-44-62-570, 190-55-60-570, 190-66-68-570; rotation corn, 160-47-54-480, 160-58-63-480, 160-70-71-480; rotation beans, 0-31-75-0, 0-39-89-0, 0-47-103-0, wheat, 61-39-43-183, 75-44-46-225, 99-53-51-299; double crop beans, 0-18-52-0, 0-23-61-0, 0-28-69-0. Fertilizer prices per lb.: NH<sub>3</sub> @ \$0.49; urea @ \$0.53; P<sub>2</sub>O<sub>5</sub> @ \$0.66; K<sub>2</sub>O @ \$0.71; lime @ \$24/ton spread on the field. 5-10% more nitrogen might be needed on poorly drained soils. All soil tests for phosphorus and potassium are assumed to be in the maintenance range, and the pH is in the recommended range.

<sup>6</sup> Corn seed prices assume a biotech variety with multiple traits. A 20%-refuge is planted with varieties that do not contain insect resistant traits. According to the USDA's Agricultural Prices report for April 2008, biotech corn seed prices averaged 60% more than non-biotech corn seed, which was up from 54% more a year earlier. Seeding rates for corn are 28,000 seeds per acre on low productivity soils and 33,000 seeds per acre on average and high productivity soils. Soybean seed prices include Round-Up Ready® varieties. Rotation soybeans are drilled with a seeding rate of 169,000 seeds per acre with a 90% germination rate. Double-crop soybeans are drilled with a seeding rate of 195,000 seeds per acre.

<sup>7</sup> Includes both insecticides and herbicides. For corn, rootworm insecticide is applied to the refuge acres. In some areas of Indiana, this may not be required. Herbicide costs can vary widely based on both the herbicides selected and the required rate of application.

<sup>8</sup> Fuel used to dry crop to a safe moisture level for storage. For double-crop soybeans, the drying charge represents the drying of wheat in order to allow an earlier planting of soybeans. Repairs are based on approximately 5-year-old machinery. For older machinery, per acre repairs and downtime cost will be higher.

<sup>10</sup> Hauling charge represents moving grain from field to storage. (Based on Machinery Cost Estimates: Harvesting, University of Illinois, Farm Business Management Handbook, May 2008.)

<sup>11</sup> Interest is based on 7% annual rate for 9 months for seed, fertilizer, and chemicals, and for 6 months for half the machinery fuel and repairs, and all miscellaneous expenses.

<sup>12</sup> The cost of crop insurance represents the premium for a Crop Revenue Coverage (CRC) policy at the 75% level. Since rates for the 2009 crop year are not available, estimates were based on rates in 2008. These rates are based on a base price of \$5.25 per bushel for corn and \$12.75 per bushel for soybeans. Rates will change based on the price guarantees and other parameters selected for the 2009 crop year. Crop insurance is included in budgets for corn and fall-season soybeans, but is not included for wheat and double-crop soybeans.

<sup>13</sup> Contribution margin is the return to labor and management, machinery services, and land resources.

Table 2. Estimated per Acre Indirect Charges for Low, Average, and High Productivity Indiana Soils

	Low Productivity Soil						Average Productivity Soil						High Productivity Soil							
	900		1000		2700		900		1000		2700		900		1000		2700		3000	
	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b
Farm Acres	900	1000	2700	3000	900	1000	2700	3000	900	1000	2700	3000	900	1000	2700	3000	900	1000	2700	3000
Rotation <sup>1</sup>	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b	c-c	c-b
Crop contribution margin <sup>2</sup>	\$69	\$125	\$69	\$125	\$153	\$205	\$153	\$205	\$257	\$296	\$257	\$296	\$257	\$296	\$257	\$296	\$257	\$296	\$257	\$296
Government payment <sup>3</sup>	\$17	\$17	\$17	\$17	\$20	\$20	\$20	\$20	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25
Total contribution margin	\$86	\$142	\$86	\$142	\$173	\$225	\$173	\$225	\$282	\$321	\$282	\$321	\$282	\$321	\$282	\$321	\$282	\$321	\$282	\$321
Annual overhead costs:																				
Machinery replacement <sup>4</sup>	\$74	\$66	\$55	\$49	\$74	\$66	\$59	\$53	\$81	\$73	\$60	\$54	\$81	\$73	\$60	\$54	\$81	\$73	\$60	\$54
Drying/handling	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11	\$16	\$11
Family and hired labor <sup>5</sup>	\$60	\$52	\$36	\$32	\$60	\$52	\$36	\$32	\$60	\$52	\$36	\$32	\$60	\$52	\$36	\$32	\$60	\$52	\$36	\$32
Land <sup>6</sup>	\$135	\$135	\$135	\$135	\$169	\$169	\$169	\$169	\$203	\$203	\$203	\$203	\$203	\$203	\$203	\$203	\$203	\$203	\$203	\$203
Earnings or (losses)	-\$198	-\$122	-\$155	-\$85	-\$145	-\$73	-\$107	-\$39	-\$78	-\$18	-\$33	-\$21	-\$78	-\$18	-\$33	-\$21	-\$78	-\$18	-\$33	-\$21

<sup>1</sup>Rotations are as follows: c-c = all of the farm acres in continuous corn; c-b = one-half of the farm acres in rotation corn and one-half in rotation soybeans.

<sup>2</sup>Crop's contribution margin is the per acre contribution margin from Table 1.

<sup>3</sup>Government payment includes only the direct payment. The per bushel direct payment rate is \$0.28 for corn and \$0.44 for soybeans. These are the payment rates for 2009. Direct payment yields for corn were 94.5, 110.5, 136.6 on low, average, and high soils. Direct payment yields for soybeans were 31.7, 37.0, and 45.8 for low, average, and high soils. Base acres for the farm are assumed half corn and half soybeans. It is assumed that the producer does not elect to enroll in the ACRE program. Direct payment rates are reduced 20% for producers who enroll in ACRE. Federal regulations pertaining to payment limits may limit this payment to a smaller amount than is shown here.

<sup>4</sup>The same basic machinery set, which is timely for each rotation, is used for both the c-c and c-b rotation. The larger farm size requires larger, more expensive machinery. Corn production utilizes a chisel plow tillage system, and soybeans utilize no-till. Average annual replacement costs for the larger farm size were calculated using the Purdue Machinery Cost Calculator for a timely machinery set. Seven-year trading policy is assumed for combine and planter, 10-year policy for other field machinery. On livestock farms where fewer hours each day are available for crops, or on small farms, machinery costs and/or labor costs will be higher. On well-drained soils where more days are suitable for spring field work, machinery costs could be lower. The machinery costs for the smaller farm size were estimated using a machinery complement and cost estimates adapted from budgets published by The Ohio State University. A 10-year trading policy was assumed for all machinery on the smaller acreages. Machinery ownership costs are likely to vary widely from farm to farm.

<sup>5</sup>For the larger acreages, labor expense includes a family living withdrawal of \$45,708 (\$66,412 of family living expenses less \$31,668 in net nonfarm income plus \$10,964 in income and self-employment taxes) and a full-time employee with total compensation of \$38,200. The balance is used for part-time hired labor. Family living withdrawal is from Farm Income & Production Costs for 2007, University of Illinois Extension, AE-4566, April 2008. Employee compensation is based on Wages and Benefits for Farm Employees, Iowa State University, University Extension FM 1862, July 2006 and adjusted for increases in wage rates. For the smaller acreages, labor expense includes the same operator costs plus part-time employee(s). The c-c rotation requires more total labor. Labor costs are likely to vary widely from farm to farm.

<sup>6</sup>Based on cash rent per bushel of corn yield reported in Indiana Farmland Values & Cash Rent Continue Sharp Upward Climb, *Purdue Agricultural Economics Report*, August, 2008.

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Date: 1/09

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Calculation of Average Government Payments per Acre

	2004	2005	2006	2007	2008	2009
Total Government Payment	(1) 532,024,000	(2) 917,903,000	(2) 541,285,000	(2) 302,505,000	(2) 321,903,000	(2) 305,371,000
Less Milk Income Loss Pymt	(1) -3,025,000	(2) -277,000	(2) -6,538,000	(2) -1,200,000	(2) -4,000	(2) -13,784,000
Net Government Payment	528,999,000	917,626,000	534,747,000	301,305,000	321,899,000	291,587,000
Cropland Acres	(3) 12,909,002	(3) 12,909,002	(3) 12,909,002	(3) 12,909,002	(4) 12,716,037	(4) 12,716,037
Pymt Per Acre	40.98	71.08	41.42	23.34	25.31	22.93

Source:  
Indiana Agricultural Statistics Service

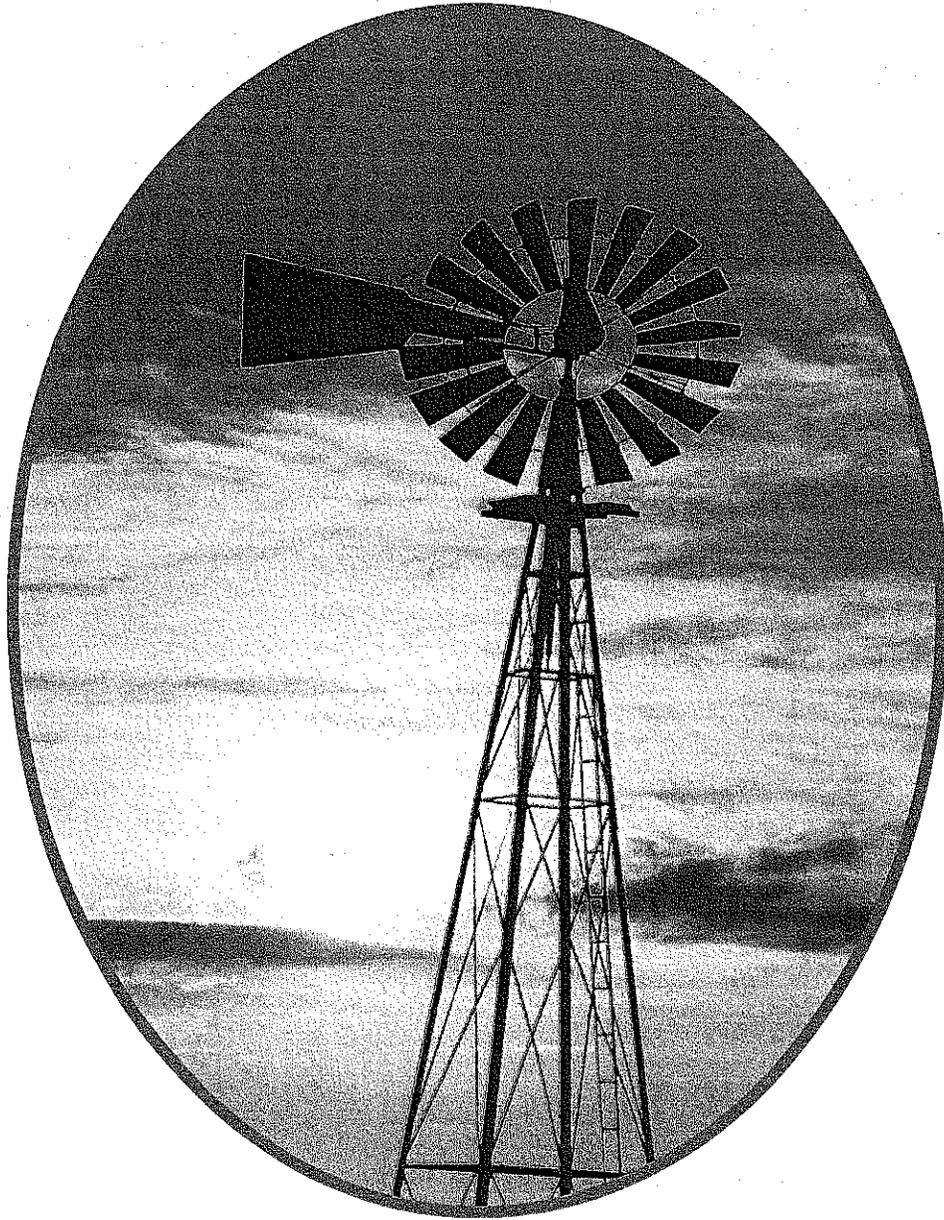
IASS - Page 12  
Ag. Stats. 2008-09 (1)

IASS - Page 8  
Ag. Stats. 2009-10 (2)

IASS - Page 101  
Ag. Stats. 2007-08 (3)

IASS - Page 93  
Ag. Stats. 2009-10 (4)

# INDIANA



## AGRICULTURAL STATISTICS 2007-2008

# COUNTY HIGHLIGHTS



## COUNTY HIGHLIGHTS

The following pages of county statistics represent the results of a survey of over 11,000 farm operators following the 2007 harvest season. In addition to these data are selected items of interest from the 2000 U.S. Population Census, 2002 Census of Agriculture, and 2006 Cash Receipts information from the Bureau of Economics Analysis. The County Highlights section summarizes the importance of agriculture to each and every Indiana county while comparing the magnitude of importance across counties.

Planted acreage for hay is represented by three dashes because this category is not estimated, planted acreage and yield for popcorn are represented by three dashes because these categories are not surveyed; in all other places the three dashes represent zero for that county. An asterisk signifies that the county has data for this item, but it cannot be disclosed for confidentiality purposes. The 2002 Chicken data from Census includes only layers twenty weeks old and older.

Below is a list of comparable items at the state level.

### STATE DATA

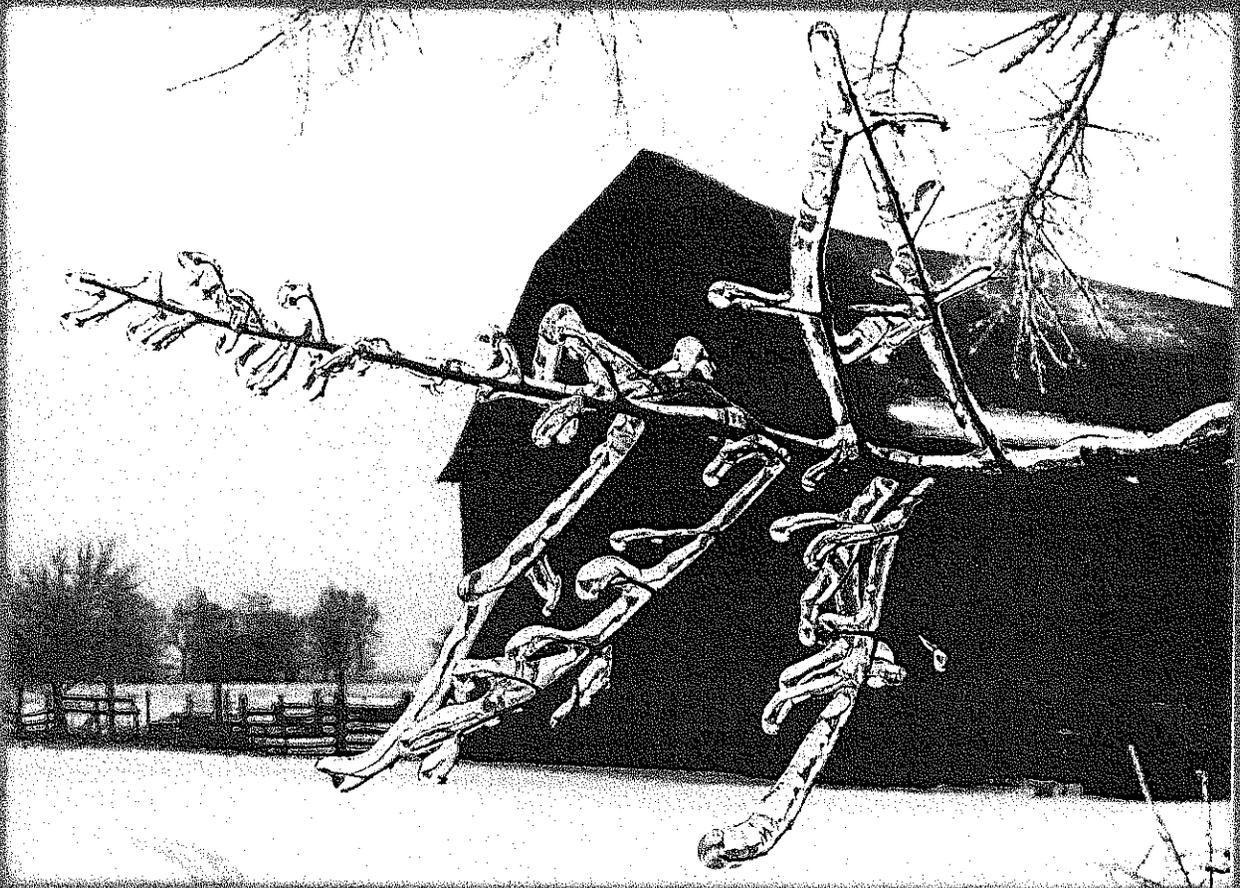
2000 Census Population	6,080,485
2002 Total Land Area (acres)	22,945,817
2002 Number of Farms	60,296
2002 Land in Farms (acres)	15,058,670
2002 Average Size of Farm (acres)	250
2002 Value of Land & Bldgs (avg/acre)	\$2,567
2002 Cropland (acres)	12,909,002
2002 Harvested Cropland (acres)	11,937,370
2002 Pastureland, all types (acres)	1,098,301
2002 Woodland (acres)	1,153,779

2006 Cash Receipts	\$6,040,112,000
Crop Receipts	\$3,787,303,000
Livestock Receipts	\$2,252,809,000
2006 Other Income	\$765,206,000
Government Payments	\$541,141,000
Imputed Income/Rent Received	\$224,065,000
2006 Total Income	\$6,805,318,000
Less: Production Expenses	\$6,222,612,000
Realized Net Income	\$582,706,000

<u>2007 CROPS</u>	<u>PLTD</u>	<u>HARV</u>	<u>YLD</u>	<u>UNIT</u>	<u>PROD</u>
Corn	6,500,000	6,370,000	155	Bu	987,350,000
Soybeans	4,700,000	4,680,000	45	Bu	210,600,000
Wheat	420,000	370,000	57	Bu	21,090,000
Hay	---	660,000	2.34	Ton	1,544,000
2002 Popcorn	---	69,207	---	Lbs	219,836,706

<u>LIVESTOCK</u>	<u>NUMBER HEAD</u>
Jan 2008 All Cattle	890,000
Beef Cows	234,000
Milk Cows	166,000
2002 All Hogs	3,478,570
2002 All Sheep	61,620
2002 Chickens	21,952,110
2002 Turkeys	3,848,054

# INDIANA



**AGRICULTURAL STATISTICS**

**2008-2009**

# FARM INCOME

## FARM INCOME INDICATORS, INDIANA, 2004-2008

Item	2004	2005	2006	2007	2008
	Thousand Dollars				
Gross Farm Income	7,967,958	7,305,033	7,365,402	9,079,940	<b>11,240,562</b>
Gross Cash Income	6,850,986	6,525,429	6,801,720	8,634,138	<b>10,643,680</b>
Noncash Income	571,569	648,057	699,154	706,699	<b>800,691</b>
Value of Inventory Adjustment	545,403	131,547	(135,472)	(260,896)	<b>(203,808)</b>
Total Production Expenses	5,473,308	5,775,167	5,939,715	6,850,739	<b>1/</b>
Purchased Inputs	3,149,828	3,276,285	3,425,886	4,275,441	<b>1/</b>
Interest	382,735	429,433	458,885	494,013	<b>1/</b>
Contract and Hired Labor Expenses	324,652	288,771	309,057	331,330	<b>1/</b>
Net Rent to Nonoperator Landlords	563,023	661,968	554,656	509,257	<b>1/</b>
Capital Consumption	793,070	848,710	891,231	920,698	<b>1/</b>
Property Taxes	260,000	270,000	300,000	320,000	<b>1/</b>
<b>NET FARM INCOME</b>	<b>2,549,889</b>	<b>1,556,125</b>	<b>1,422,418</b>	<b>1,852,674</b>	<b>3,172,421</b>
Gross Receipts of Farms	7,405,792	6,665,810	6,673,202	8,386,528	<b>10,480,377</b>
Farm Production Expenditures	5,128,724	5,439,543	5,606,703	6,872,130	<b>7,664,565</b>
<b>RETURNS TO OPERATORS</b>	<b>2,277,068</b>	<b>1,226,267</b>	<b>1,066,499</b>	<b>1,514,398</b>	<b>2,815,812</b>
Gross Cash Income	6,850,986	6,525,429	6,801,720	8,634,138	<b>10,643,680</b>
Cash Expenses	4,598,998	4,852,218	4,986,059	5,862,590	<b>1/</b>
<b>NET CASH INCOME</b>	<b>2,297,719</b>	<b>1,693,206</b>	<b>1,817,752</b>	<b>2,404,342</b>	<b>3,686,761</b>

1/ Data not available.  
Source: Economic Research Service

## U.S. GOVERNMENT PAYMENTS BY PROGRAM, INDIANA, 2004-2008 1/

Program	2004	2005	2006	2007	2008
	Thousand Dollars				
Production Flexibility Contracts	(142)	(60)	(2)	(1)	---
Direct Payments 2/	232,556	233,833	228,189	228,025	<b>228,443</b>
Counter-cyclical Program Payments	23,742	192,992	185,161	67	<b>21</b>
Loan Deficiency Payments	208,988	333,963	44,099	252	<b>295</b>
Marketing Loan Gains	5,748	17,745	7,617	---	---
Commodity Certificate Exchange Gains	2,426	8,444	61	5	---
Milk Income Loss Payments 3/	3,025	277	6,538	1,200	<b>4</b>
Tobacco Transition Payments 4/	---	20,739	10,980	8,272	<b>7,296</b>
Conservation 5/	54,015	67,999	58,253	63,006	<b>64,422</b>
Supplemental Funding 6/	1,756	39,014	460	1,722	<b>21,478</b>
Miscellaneous 7/	(90)	(44)	(71)	(44)	<b>(56)</b>
<b>Total</b>	<b>532,024</b>	<b>917,903</b>	<b>541,285</b>	<b>302,505</b>	<b>321,903</b>

1/ Amounts include only cash payments made directly to farmers.

2/ Direct Payments are authorized by the Farm Security and Rural Investment Act of 2002 for 2002 through 2007 crops. Direct Payments for the 2002 crops are reduced by the amount of fiscal year 2002 payment received under Production Flexibility Contracts. The Act also increases the number of crops authorized to receive Direct Payments.

3/ Program authorized by the Farm Security and Rural Investment Act of 2002.

4/ Payment includes both the CCC payments to quota holders and producers and the third party payments to quota holders and producers who opted for the lump sum payment option.

5/ Includes amount paid under Conservation Reserve, Agriculture Conservation, Emergency Conservation, and Great Plains Program.

6/ Ad Hoc and emergency programs provided by the Agricultural Risk Protection Act of 2000, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act 2001 and Agricultural Economic Assistance Act 2001. Some of these programs include; Crop Disaster Program, Dairy Disaster Assistance Program, Livestock Emergency Assistance program, Quality Losses Program, and Tobacco Disaster Assistance Program

7/ Miscellaneous Programs include; Forestry Incentive Annual, Dairy Indemnity, Interest Payments, Disaster Program Payments, Payment Limitation Refund, Noninsured Assistance, Disaster Reserve, and Environment Quality Incentives.

Source: Economic Research Service

# INDIANA AGRICULTURAL STATISTICS



2009-2010

# FARM INCOME

## FARM INCOME INDICATORS, INDIANA, 2005-2009

Item	2005	2006	2007	2008	2009
			<u>Thousand Dollars</u>		
Gross Farm Income	7,288,300	7,292,900	9,101,200	11,422,400	<b>10,844,500</b>
Gross Cash Income	6,508,000	6,789,300	8,648,900	10,290,300	<b>9,704,200</b>
Noncash Income	648,800	639,100	713,200	733,200	<b>738,500</b>
Value of Inventory Adjustment	131,500	(135,500)	(260,900)	398,900	<b>401,800</b>
Total Production Expenses	5,753,900	5,947,900	7,348,500	8,219,300	<b>8,304,500</b>
Purchased Inputs	3,259,000	3,415,800	4,694,300	5,383,500	<b>5,518,400</b>
Interest	409,400	470,700	498,000	507,000	<b>500,000</b>
Contract and Hired Labor Expenses	288,800	309,100	385,700	360,200	<b>357,600</b>
Net Rent to Nonoperator Landlords	663,300	548,400	498,200	611,000	<b>544,600</b>
Capital Consumption	846,100	890,100	911,800	973,100	<b>1,024,300</b>
Property Taxes	270,000	300,000	360,000	380,000	<b>350,000</b>
NET FARM INCOME	1,534,400	1,345,000	1,752,700	3,203,000	<b>2,540,000</b>
Gross Receipts of Farms	6,649,100	6,661,600	8,401,800	10,730,200	<b>10,135,700</b>
Farm Production Expenditures	5,451,200	5,620,300	6,995,900	7,814,900	<b>7,911,300</b>
RETURNS TO OPERATORS	1,197,800	1,041,400	1,405,900	2,915,300	<b>2,224,400</b>
Gross Cash Income	6,508,000	6,789,300	8,648,900	10,290,300	<b>9,704,200</b>
Cash Expenses	4,843,900	4,997,500	6,359,300	7,111,400	<b>7,182,600</b>
NET CASH INCOME	1,664,100	1,791,800	2,289,600	3,179,000	<b>2,521,600</b>

Source: Economic Research Service

## U.S. GOVERNMENT PAYMENTS BY PROGRAM, INDIANA, 2005-2009 <sup>1/</sup>

Program	2005	2006	2007	2008	2009
			<u>Thousand Dollars</u>		
Production Flexibility Contracts	(60)	(2)	(1)	---	---
Direct Payments <sup>2/</sup>	233,833	228,189	228,025	228,443	<b>213,253</b>
Counter-cyclical Program Payments	192,992	185,161	67	21	<b>5</b>
Loan Deficiency Payments	336,963	44,099	252	295	<b>11</b>
Marketing Loan Gains	17,745	7,617	---	---	---
Commodity Certificate Exchange Gains	8,444	61	5	---	---
Milk Income Loss Payments <sup>3/</sup>	277	6,538	1,200	4	<b>13,784</b>
Tobacco Transition Payments <sup>4/</sup>	20,739	10,980	8,272	7,296	<b>7,523</b>
Conservation <sup>5/</sup>	67,999	58,253	63,006	64,422	<b>61,745</b>
Supplemental Funding <sup>6/</sup>	39,014	460	1,722	21,478	<b>9,091</b>
Miscellaneous <sup>7/</sup>	(44)	(71)	(44)	(56)	<b>(38)</b>
Total	917,903	541,285	302,505	321,903	<b>305,371</b>

<sup>1/</sup> Amounts include only cash payments made directly to farmers.

<sup>2/</sup> Direct Payments are authorized by the Farm Security and Rural Investment Act of 2002 for 2002 through 2007 crops. Direct Payments for the 2002 crops are reduced by the amount of fiscal year 2002 payment received under Production Flexibility Contracts. The Act also increases the number of crops authorized to receive Direct Payments.

<sup>3/</sup> Program authorized by the Farm Security and Rural Investment Act of 2002.

<sup>4/</sup> Payment includes both the CCC payments to quota holders and producers and the third party payments to quota holders and producers who opted for the lump sum payment option.

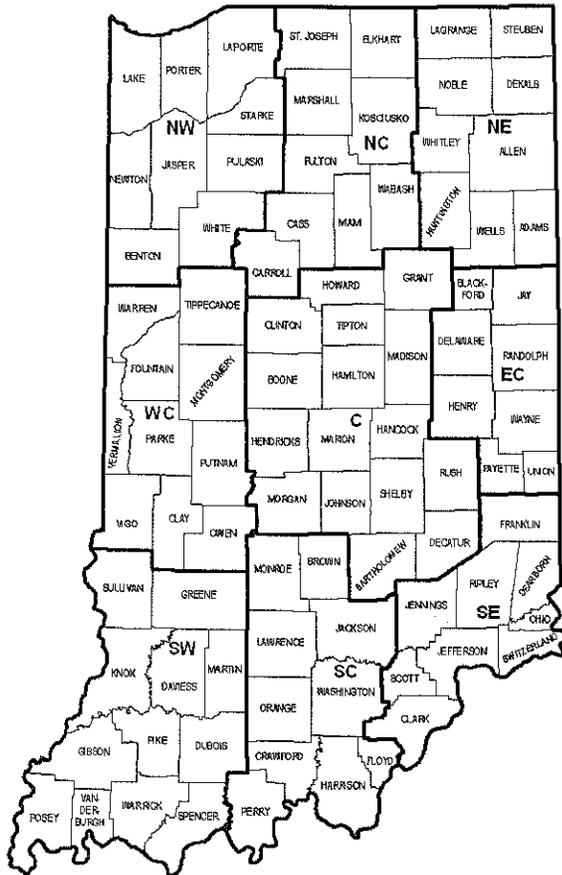
<sup>5/</sup> Includes amount paid under Conservation Reserve, Agriculture Conservation, Emergency Conservation, and Great Plains Program.

<sup>6/</sup> Ad Hoc and emergency programs provided by the Agricultural Risk Protection Act of 2000, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act 2001 and Agricultural Economic Assistance Act 2001. Some of these programs include; Crop Disaster Program, Dairy Disaster Assistance Program, Livestock Emergency Assistance program, Quality Losses Program, and Tobacco Disaster Assistance Program

<sup>7/</sup> Miscellaneous Programs include; Forestry Incentive Annual, Dairy Indemnity, Interest Payments, Disaster Program Payments, Payment Limitation Refund, Noninsured Assistance, Disaster Reserve, and Environment Quality Incentives.

Source: Economic Research Service

# COUNTY HIGHLIGHTS



## COUNTY HIGHLIGHTS

The following pages of county statistics represent the results of a survey of over 11,000 farm operators following the 2009 harvest season. In addition to these data are selected items of interest from the U.S. Population Census, 2007 Census of Agriculture, and 2008 Cash Receipts information from the Bureau of Economics Analysis. The County Highlights section summarizes the importance of agriculture to each and every Indiana county while comparing the magnitude of importance across counties.

Planted acreage for hay is represented by three dashes because this category is not estimated, planted acreage and yield for popcorn are represented by three dashes because these categories are not surveyed; in all other places the three dashes represent zero for that county. An asterisk signifies that the county has data for this item, but it cannot be disclosed for confidentiality purposes. The 2007 Chicken data from Census includes only layers twenty weeks old and older.

Below is a list of comparable items at the state level.

### STATE DATA

2007 Census Population	6,335,862	2008 Cash Receipts	\$10,909,018,000
2007 Total Land Area (acres)	22,924,685	Crop Receipts	\$7,118,964,000
2007 Number of Farms	60,938	Livestock Receipts	\$3,790,054,000
2007 Land in Farms (acres)	14,773,184		
2007 Average Size of Farm (acres)	242	2008 Other Income	\$682,858,000
		Government Payments	\$321,903,000
2007 Value of Land & Bldgs (avg/acre)	\$3,583	Imputed Income/Rent Received	\$360,955,000
2007 Cropland (acres)	12,716,037		
2007 Harvested Cropland (acres)	12,108,940	2008 Total Income	\$11,591,876,000
2007 Pastureland, all types (acres)	986,522	Less: Production Expenses	\$8,554,575,000
2007 Woodland (acres)	1,020,287	Realized Net Income	\$3,037,301,000

<u>2009 CROPS</u>	<u>PLTD</u>	<u>HARV</u>	<u>YLD</u>	<u>UNIT</u>	<u>PROD</u>	<u>LIVESTOCK</u>	<u>NUMBER HEAD</u>
Corn	5,600,000	5,460,000	171	Bu	933,660,000	Jan 2010 All Cattle	870,000
Soybeans	5,450,000	5,440,000	49	Bu	266,560,000	Beef Cows	221,000
Wheat	470,000	450,000	67	Bu	30,150,000	Milk Cows	169,000
Alfalfa Hay	---	300,000	3.60	Ton	1,080,000	2007 All Hogs	3,669,057
Other Hay	---	320,000	2.00	Ton	640,000	2007 All Sheep	49,021
2007 Popcorn	---	55,768	---	Lbs	220,971,578	2007 Chickens	24,238,513
						2007 Turkeys	5,971,548

AN OVERVIEW OF HOW THE CALENDAR IS USED IN CALCULATING THE AG LAND BASE RATE

<u>SPRING, 2008</u>	<u>SUMMER, 2008</u>	<u>FALL, 2008</u>	<u>WINTER, 2008</u>	<u>SPRING, 2009</u>	<u>SUMMER, 2009</u>
Planting 2008 crops	Care for 2008 crops	Harvest 2008 crops	Prep equipment for storage	Planting 2009 crops	Care for 2009 crops
Sell a portion of his 2007 crops	Sell remainder of his 2007 crops	Sell a portion of his 2008 crops	Sell a portion of his 2008 crops	Sell a portion of his 2008 crops	Sell remainder of his 2008 crops
Paying 3/1/07 Property Taxes		Paying 3/1/07 Property Taxes		Paying 3/1/08 Property Taxes	
Collect portion of 2008 Cash Rent		Collect remainder of 2008 Cash Rent		Collect portion of 2009 Cash Rent	

CASH RENT INCOME - CALENDAR YEAR

OPER. INCOME -  
1/3 NOVEMBER  
GRAIN PRICES

OPERATING INCOME - 1/3 MARKET YEAR AVERAGE OF GRAIN PRICES

OPERATING INCOME - 1/3 CALENDAR YEAR AVERAGE OF GRAIN PRICES