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**REFERENCE
MATERIALS
FOR VALUING
AGRICULTURAL
LAND FOR
MARCH 1, 2011**

BASE RATE - \$1,500

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**General Notes for the Agricultural Land Market
Value in Use for March 1, 2011 Rate of \$1,500**

December, 2010

History:

The Real Property Assessment Guidelines contain 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. Pursuant to 50 IAC 21-6-1(a), the department issued the annual rate for 3/1/05 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.

Table 2-18 – Years:

For March 1, 2011, the six years used were: 2003, 2004, 2005, 2006, 2007 and 2008.

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 2003 & 2004 rents, go to Table 2 of Page 3 of the August of 2004 report. For the 2005 & 2006 rents, go to

Table 2 of Page 3 of the August of 2006 report. For the 2007 & 2008 rents, go to Table 2 of Page 3 of the August of 2008 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 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. For the calculation for 3/1/05, we began with 1999.

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 \$1,290 base rate for March 1, 2010 to the data compiled to calculate the \$1,500 base rate for March 1, 2011, the study of two separate sets of data are worth noting.

The first comparison of the data covers the removal of the 2002 data and the addition of the 2008 data in the six year average. Net Cash Rents increased from \$105 in 2002 to \$140 on 2008. Yields for corn changed from 121 bushels in 2002 to 160 bushels in 2008 and yields for soybeans increased from 41.5 bushels in 2002 to 45 bushels in 2008. Prices for corn increased considerably from \$1.98 in 2002 to \$4.39 in 2008 (market year average) and prices for soybeans also increased considerably from \$4.42 in 2002 to \$10.20 in 2008 (market year average). Variable costs (seed, fertilizer, chemicals, etc.) also increased as costs to produce corn increased from \$147 in 2002 to \$380 in 2008 and from \$97 in 2002 to \$182 in 2008 for soybeans. Interest rates dropped slightly from 7.02% in 2002 to 6.56% in 2008 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		Average
	Cash Rent	Operating		Cash Rent	Operating	
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 in Use =		\$1,050

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 2011

This memorandum hereby serves to notify assessing officials of the agricultural base rate to be used for the March 1, 2011 assessment date: **\$1,500 per acre.**

Land used for agricultural purposes shall be adjusted consistent with the guideline methodology developed for the 2002 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-year rolling average instead of the four-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 27

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 27

The 2011 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.

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

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.

The Department utilized a six-year rolling average (2003 to 2008) 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.

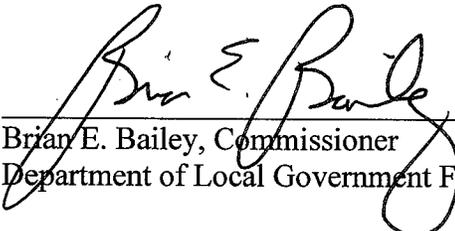
Table 2-18. Agricultural Land market value in use

Source: Real Property Assessment Guidelines for 2002-Version A, Book 1, Chapter 2, pg. 100

Year	<u>NET INCOMES</u>			<u>MARKET VALUE IN USE</u>		
	Cash Rent	Operating	Cap. Rate	Cash Rent	Operating	Average
2003	106	71	6.29%	1,685	1,129	1,407
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 ¹	7.94%	1,537	2,317	1,927
2008	140	189	6.56%	2,134	2,881	2,508
Average Market Value in Use						\$1,500

The statewide agricultural land base rate value for the 2011 assessment year will be \$1,500 per acre.

Dated this 29th day of December, 2010.


 Brian E. Bailey, Commissioner
 Department of Local Government Finance

Attest:


 Micah G. Vincent, General Counsel

¹ The Operating Income for 2007 was changed slightly from last year's calculation. This was the result of the Indiana Agricultural Statistics Service updating the published data. The change was made to the 2007 yields for both corn and soybeans. The yield for corn was decreased from 155 bushels to 154 bushels and the yield for soybeans was increased from 45 bushels to 46 bushels. This slight change would have had no impact on the March 1, 2010 base rate of \$1,290, which the Department certified in March 2010.

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.

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^{1/4} 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.

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.

^{1/4}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 ^{1/}	123	38	122	43.5	132	42	134.1	42.9
Price (November) ^{1/}	<u>\$2.69</u>	<u>\$6.90</u>	<u>\$2.60</u>	<u>\$6.88</u>	<u>\$2.06</u>	<u>\$5.49</u>	<u>\$2.04</u>	<u>\$5.40</u>
Sales	\$331	\$262	\$317	\$299	\$282	\$231	\$274	\$232
Less variable costs ^{2/}	<u>134</u>	<u>94</u>	<u>137</u>	<u>96</u>	<u>148</u>	<u>85</u>	<u>145</u>	<u>86</u>
Crops contribution margin	\$197	\$168	\$180	\$203	\$134	\$146	\$129	\$146
Plus government payment ^{3/}	<u>\$23</u>		<u>\$45</u>		<u>\$53</u>		<u>\$34</u>	
Total contribution margin	\$194		\$214		\$167		\$154	
Less overhead:								
Annual machinery ^{2/}	48		50		49		49	
Drying/handling	6		6		7		7	
Family/hired labor ^{2/}	37		37		37		37	
Real estate tax ^{3/}	<u>10</u>		<u>10</u>		<u>10</u>		<u>10</u>	
Equals:								
Income	\$93		\$111		\$64		\$51	

4-year average income = \$80
1999 St Paul interest rate^{4/} = .0821
Estimated land value = \$971

^{1/} State average yield, state average November price as reported by Indiana Agricultural Statistics Service.

^{2/} Costs are taken from annual Purdue Crop Guide, ID-166.

^{3/} Government payments and real estate tax are estimated by the author.

^{4/} 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 ^{1/}	151.3	46.8	49.9	53.6	169	51	165	52.8
Price (November) ^{1/}	<u>\$2.69</u>	<u>\$6.90</u>	<u>\$2.60</u>	<u>\$6.88</u>	<u>\$2.06</u>	<u>\$5.49</u>	<u>\$2.04</u>	<u>\$5.40</u>
Sales	\$407	\$323	\$390	\$369	\$348	\$280	\$337	\$285
Less variable costs ^{2/}	<u>153</u>	<u>103</u>	<u>157</u>	<u>106</u>	<u>170</u>	<u>91</u>	<u>167</u>	<u>92</u>
Crops contribution margin	\$254	\$220	\$233	\$263	\$178	\$189	\$170	\$193
Plus government payment ^{3/}	<u>\$29</u>		<u>\$56</u>		<u>\$64</u>		<u>\$42</u>	
Total contribution margin	\$252		\$276		\$216		\$202	
Less overhead:								
Annual machinery ^{2/}	53		55		54		54	
Drying/handling	7		7		8		8	
Family/hired labor ^{2/}	37		37		37		37	
Real estate tax ^{3/}	<u>14</u>		<u>14</u>		<u>14</u>		<u>14</u>	
Equals:								
Income	\$141		\$163		\$103		\$89	

4-year average income = \$124
1999 St Paul interest rate^{4/} = .0821
Estimated land value = \$1510

^{1/} State average yield, state average November price as reported by Indiana Agricultural Statistics Service.

^{2/} Costs are taken from annual Purdue Crop Guide, ID-166.

^{3/} Government payments and real estate tax are estimated by the author.

^{4/} Average annual effective interest rate on new loans under the Farm Credit Bank System, St Paul district.

Table 2-18 - Updated for March 1, 2011
 Source: Real Property Assessment Guidelines, Book 1, Chapter 2, Page 100

Year	Column A Cash Rent	Column B Owner-Operated	Column C Cap. Rate	Column D Cash Rent	Column E Owner-Operated	Column F Average Market Value
2003	106	71	6.29%	1,685	1,129	1,407 (1)
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	140	189	6.56%	2,134	2,881	2,508 (1)

Base Rate 1,500 (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 (1)

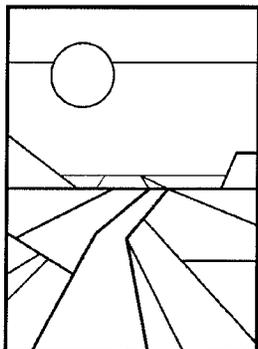
Source: Purdue Ag. Econ. Reports (PAER) Indiana Ag. Statistics Service and Purdue Crop Guide Federal Reserve Bank of Chicago The base rate is the average of the 5 lowest averages above rounded to the nearest \$10. [IC 6-1.1-4-4.5 (e) (2)] (2)

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, 2011
Calculation for Net Income-Cash Rent Column**

<u>Year</u>	<u>Gross</u> Cash <u>Rent</u>	<u>Less</u> Property <u>Taxes</u>	<u>Net</u> Cash <u>Rent</u>	<u>Cap.</u> <u>Rate</u>	<u>Cash</u> Rent <u>Value</u>
2003	120	-14	106	6.29%	1,685
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



PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2004

Indiana Farmland Values & Cash Rents Continue to Climb

Craig L. Dobbins and Kim Cook

The June 2004 Purdue Land Values Survey found that on a state-wide basis bare Indiana cropland ranged in value from \$2,131 per acre for poor land, to \$3,278 per acre for top land (Table 1). Average bare Indiana cropland had an estimated value of \$2,693 per acre. For the 12-month period ending in June 2004, this was an increase of 8.4%, 7.3% and 8.0%, respectively for poor, average, and top land. Increases this large have not been experienced since 1996-1997 when the Purdue Land Values Survey reported a state wide increase of 12% to 15%.

Part 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 105, 135, and 165 bushels per acre, respectively for poor, average, and top land. The value per bushel for different land qualities was very similar, ranging from \$19.88 to \$20.34 per bushel.

The average value of transitional land, land moving out of agriculture, increased 9.0% this year. The average value of transitional land in June 2004 was \$7,561 per acre. Due to the

** The median value is the value of the data item which divides data arranged in ascending or descending numerical order in half.*

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 2004 was \$6,000 per acre.

Statewide Rents

Cash rents increased statewide \$2 to \$3 per acre (Table 2), continuing the steady increase of the past several years.

The estimated cash rent was \$150 per acre on top land, \$122 per acre on average land, and \$96 per acre on poor land. This was an increase in rental rates of 3.2% for poor land, 1.7% for average land, and 2.0% for top land. State wide, rent per bushel of estimated corn yield ranged from \$0.90 to \$0.92 per bushel.

Cash rent as a percentage of value continued to decline. For top farmland, cash rent as a percentage of farmland value was 4.6%. For poor and average farmland, cash rent as a percentage of farmland was 4.5%. These values are the lowest reported in the 28 year history of the Purdue Land Value Survey.

Area Land Values

Survey responses were organized into six geographic areas of Indiana (Figure 1). While all regions of the state reported increases in farmland

values for the year, these increases varied across the state (Table 1). The North and Northeast regions exhibited the strongest increases, ranging from 10.7% to 12.9%. The West Central region also reported strong price increases, ranging from 8.8% to 9.8%. Increases in the Central region ranged from 6.4% to 6.9%. With the exception of the poor land in the Southwest region, the increases in the Southwest, and Southeast regions were more modest.

The highest valued land continues to be the top-quality land in the Central region, \$3,551 per acre. This region was followed by North (\$3,382), West Central (\$3,351), Northeast (\$3,192), Southwest (\$2,909), and Southeast (\$2,874).

Land value per bushel of estimated long-term corn yield (land value divided by bushels) is the



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Farmland Supply & Demand

The supply of land on the market and the number of interested buyers and their expectations are important influences in the farmland market. To assess the supply of land on the market, respondents were asked to provide their opinion about the amount of farmland on the market now compared to a year earlier. The respondents were asked to indicate if the amount of land on the market now compared to a year earlier was more, the same or less. At 17%, the 2004 results had a few more respondents indicating more land on the market than last year (Figure 2). However, 83% of the respondents indicated that the amount of land on the market at the current time was the same or less than a year ago. These results continue to indicate the quantity of land for sale remains limited.

Respondents were also asked to provide their perceptions of changes in who was interested in buying farmland. Compared to a year earlier, respondents were asked to indicate if interest by farmers, rural residents, or nonfarm investors in making a farmland purchase had increased, decreased, or remained the same. Interest from farmers showed the largest change. This year, just over 61% of the respondents indicated that when compared to the previous year there was increased interest from farmers (Figure 3). This continues an upward trend in the number of respondents indicating increased farmer interest in farmland purchases.

The demand for rural residents continues to be strong, 73% of the respondents indicated an increase in demand for rural residences. Twenty-four percent indicated that demand for rural residences remained the same. Three percent of the respondents indicated a decline in the demand for rural residences. These responses are similar to those of past years and indicate that demand for rural residences remains strong.

The stock market has shown some recovery from its steep decline, but interest rates continue to be low. Interest from nonfarm investors in acquiring farmland for their

Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2003 and 2004, Purdue Land Value Survey, June 2004

Area	Land Class	Corn bu/A	Rent/Acre		Change 03-04 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2003 \$/A	2004 \$/A		2003 \$/bu.	2004 \$/bu.	2003 %	2004 %
North	Top	167	143	149	4.2%	0.88	0.89	4.7	4.4
	Average	137	115	122	6.1%	0.88	0.89	4.8	4.5
	Poor	106	91	93	2.2%	0.91	0.88	4.9	4.5
Northeast	Top	164	138	138	0.0%	0.86	0.84	4.8	4.3
	Average	131	106	107	0.9%	0.83	0.81	4.5	4.1
	Poor	100	82	85	3.7%	0.84	0.85	4.5	4.1
W. Central	Top	165	158	162	2.5%	0.95	0.98	5.2	4.8
	Average	139	134	137	2.2%	0.97	0.99	5.2	4.9
	Poor	107	106	109	2.8%	0.98	1.02	5.2	4.9
Central	Top	170	158	162	2.5%	0.95	0.95	4.7	4.6
	Average	141	129	133	3.1%	0.93	0.94	4.6	4.4
	Poor	111	102	108	5.9%	0.94	0.97	4.3	4.3
Southwest	Top	162	147	146	-0.7%	0.88	0.90	5.2	5.0
	Average	130	115	116	0.9%	0.87	0.89	5.5	5.2
	Poor	100	79	89	12.7%	0.82	0.89	6.0	5.6
Southeast	Top	154	114	118	3.5%	0.75	0.77	4.2	4.1
	Average	124	93	94	1.1%	0.75	0.76	4.0	3.9
	Poor	97	71	72	1.4%	0.74	0.74	3.7	3.7
Indiana	Top	165	147	150	2.0%	0.90	0.91	4.8	4.6
	Average	135	120	122	1.7%	0.90	0.90	4.8	4.5
	Poor	105	93	96	3.2%	0.90	0.92	4.7	4.5

portfolios appears to be strong with 51% of the respondents indicating increased interest compared to last year (Figure 4). While still strong, it is not as strong as reported last year. Only 9% of the respondents indicated a decline in the number of interested nonfarm investors.

Future grain prices, interest rates, inflation, changes in farmland values

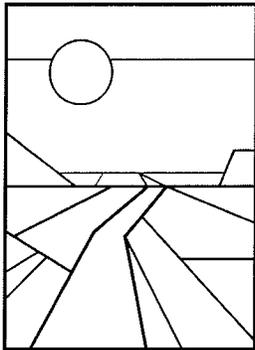
Making a farmland purchase is a long term commitment. An important component of the current price is the expected future earnings. As a result, expectations regarding crop prices

over the next few years have a strong influence on farmland values. In order to gain insight into price expectations, respondents were asked to estimate the annual average on-farm price of corn and soybeans for the period 2004 to 2008.

This year saw a significant increase in the expected five-year average price of corn and soybeans (Table 4). Average corn price expectations for the next five years increased \$0.27 per bushel to \$2.54. The average price for soybeans increased nearly a dollar to \$6.40. It has been six years since respondents have been this optimistic about corn

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			
	2001 \$/A	2002 \$/A	2003 \$/A	2004 \$/A	2001 \$/A	2002 \$/A	2003 \$/A	2004 \$/A
North	5,250	6,000	6,000	6,000	5,000	5,000	5,000	5,000
Northeast	5,000	5,000	6,000	6,000	4,500	4,500	5,000	5,000
West Central	5,000	5,800	6,000	6,000	5,000	5,000	5,000	5,000
Central	6,250	7,000	8,500	8,000	5,000	5,750	7,500	7,900
Southwest	6,000	5,000	5,000	5,000	6,000	5,000	5,000	5,000
Southeast	5,000	5,500	6,000	6,000	4,000	5,000	4,750	5,000



PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2006

Indiana Farmland Values Continue to Increase

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

Statewide Land Values

After several years of increasing values, some people wonder if farmland values may have reached their top. They point to several factors – sharp increases in energy and fertilizer prices used in crop production, continued low crop prices, the high value to cash rent multiple, and more recently, increasing long-term interest rates. Yet, the June 2006 Purdue Land Value Survey found that in most cases farmland values across the state continued to march higher. On a state-wide basis, bare Indiana cropland ranged in value from \$2,509 per acre for poor land to \$3,770 per acre for top land (Table 1). Average bare Indiana cropland had an estimated value of \$3,162 per acre. For the 12-month period ending in June 2006, this was an increase of 6%, 7.4%, and 6%, respectively for poor, average, and top land.

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 170 bushels per acre,

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

respectively for poor, average, and top land. The value per bushel for different land qualities was very similar, ranging from \$22.14 to \$23.27 per bushel. On a per bushel basis, the most expensive land is the poor land with a value of \$23.27 per bushel. Top quality land was the least expensive at \$22.14 per bushel.

The average value of transitional land, land moving out of agriculture, increased 11% this year. The average value of transitional land in June 2006 was \$9,113 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 2006 was \$7,750 per acre. In 2005, the median value for transition land was \$7,000.

This year for the first time we asked survey respondents to indicate the value of rural recreational land. Rural recreational land is used for hunting and other recreational uses. On a state wide basis, the average value of rural recreational land was \$3,059, almost equal to the value of average quality farmland. But as with transitional land, there is a wide range of values for rural recreational land and its value is very sensitive to

the location of the tract. The median value for rural recreational land in June was \$2,775 per acre.

Statewide Rents

On a state wide basis, cash rents increased \$1 per acre (Table 2). The estimated cash rent was \$155 per acre on top land, \$127 per acre on average land, and \$100 per acre on poor land. This was an increase in rental rates of 1% for poor land, 0.8% for average land, and 0.6% for top quality land. The increase from 2005 to 2006 continued the upward trend in cash rent values but it is the smallest percentage increase reported for the past six years. Statewide, rent per bushel of estimated corn yield ranged from \$0.91 to \$0.93 per bushel.

Cash rent as a percentage of value continued to decline. For top quality farmland, cash rent as a percentage of farmland value was 4.1%. For average and poor quality farmland, cash rent as a percentage of farmland value was 4.0%. Over the 32-year history of the survey, rent as a percentage of farmland value has

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Bare farmland values have consistently been the highest in the Central region. This year, values in West Central and Central Indiana are very similar. 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 larger in West Central Indiana than in 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 region, ranging from \$23.41 to \$25.03 per bushel. This was followed by the North and Northeast with values ranging from \$21.12 to \$22.69. The Southwest and Southeast had land values per bushel ranging from \$18.78 to \$22.29 per bushel.

Area Cash Rents

All areas of the state except Central Indiana reported an increase in cash rent for at least some land qualities (Table 2). In Central Indiana, cash rents were reported to have declined by 1.4% to 1.8%. Across the three land qualities the strongest percentage increase was in the North region. Increases in this region were 2.4% to 4.1%.

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 \$0.98 to \$1.05. In the Central region, these values ranged from \$0.95 to \$0.99 per bushel. The per bushel rents in these two regions are the highest in the state. The next highest per bushel rent was in the North and Southwest, ranging from \$0.87 to \$0.94. Per bushel rents in the Northeast ranged from \$0.84 to \$0.86. The lowest per bushel cash rents were \$0.73 to \$0.75, reported for the Southeast.

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

Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2005 and 2006, Purdue Land Value Survey, June 2006

Area	Land Class	Corn bu/A	Rent/Acre		Change '05-'06 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2005 \$/A	2006 \$/A		2005 \$/bu.	2006 \$/bu.	2005 %	2006 %
North	Top	174	153	158	3.3%	0.88	0.91	4.1	4.2
	Average	140	125	128	2.4%	0.89	0.91	4.2	4.2
	Poor	107	97	101	4.1%	0.90	0.94	4.1	4.2
Northeast	Top	164	141	141	0.0%	0.86	0.86	4.1	4.1
	Average	135	111	114	2.7%	0.83	0.84	3.9	3.9
	Poor	105	87	89	2.3%	0.84	0.85	3.7	3.7
W. Central	Top	172	166	169	1.8%	0.99	0.98	4.5	4.2
	Average	142	140	143	2.1%	1.00	1.01	4.5	4.1
	Poor	112	112	118	5.4%	1.03	1.05	4.6	4.2
Central	Top	172	167	164	-1.8%	0.97	0.95	4.2	4.0
	Average	142	138	136	-1.4%	0.97	0.96	4.1	4.0
	Poor	112	112	110	-1.8%	0.99	0.99	4.0	3.9
Southwest	Top	173	155	158	1.9%	0.91	0.91	5.0	4.3
	Average	140	123	126	2.4%	0.89	0.90	4.9	4.3
	Poor	106	93	92	-1.1%	0.88	0.87	5.0	4.6
Southeast	Top	164	123	124	0.8%	0.77	0.75	4.2	3.9
	Average	133	99	97	-2.0%	0.74	0.73	4.0	3.6
	Poor	100	77	75	-2.6%	0.74	0.75	3.8	3.4
Indiana	Top	170	154	155	0.6%	0.91	0.91	4.3	4.1
	Average	139	126	127	0.8%	0.91	0.91	4.3	4.0
	Poor	108	99	100	1.0%	0.92	0.93	4.2	4.0

ranged from \$5,000 to \$10,000 per acre (Table 3). Estimated per acre median values of the larger tracts (10 acres) ranged from \$6,000 to \$10,000 per acre.

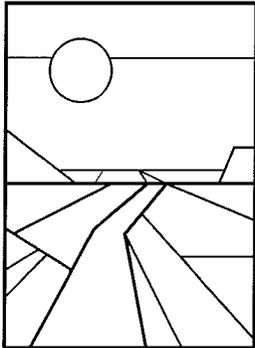
Farmland Supply & Demand

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 18.6% of the 2006 respondents indicated more land was on the market now compared to year-ago levels (Figure 2). The remaining 81.4% of the respondents indicated the amount of land on the market at the current time was the same or less than a year ago. Compared to 2004 and 2005, more respondents indicated that there was more or the same 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			
	2003 \$/A	2004 \$/A	2005 \$/A	2006 \$/A	2003 \$/A	2004 \$/A	2005 \$/A	2006 \$/A
North	6,000	6,000	7,250	7,000	5,000	5,000	6,000	7,000
Northeast	6,000	6,000	6,500	7,000	5,000	5,000	5,000	6,000
West Central	6,000	6,000	6,000	7,500	5,000	5,000	6,000	7,500
Central	8,500	8,000	10,000	10,000	7,500	7,900	8,500	10,000
Southwest	5,000	5,000	5,000	5,000	5,000	5,000	5,250	7,000
Southeast	6,000	6,000	7,000	7,000	4,750	5,000	6,000	6,250



PURDUE AGRICULTURAL ECONOMICS REPORT

AUGUST 2008

Indiana Farmland Value & Cash Rent Continue Sharp Upward Climb

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

State-wide Farmland Values

With the sharp increase in grain prices, it probably is no surprise that the 2008 Purdue Farmland Value and Cash Rent Survey found farmland value and cash rent moving higher. On a state-wide basis, the average value of bare Indiana cropland ranged from \$3,408 per acre for poor quality land to \$5,003 per acre for top quality land (Table 1). Average quality Indiana cropland had an estimated average value of \$4,240 per acre. For the 12-month period ending in June 2008, this was an increase of 13.9%, 15.0%, and 13.5%, respectively for poor, average, and top quality land. These double-digit increases are less than those reported last year, but still signal a strong farmland market. Since June 2006, Indiana farmland values have increased by about one-third (32.7%, 34.1% & 35.8% for poor, average, and top quality farmland).

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

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 were asked to provide an estimate of the long-term corn yield for poor, average, and top quality land. These estimates are averaged to provide a measure of the productivity for each land type. For the state, the average of the reported yields was 115, 148, and 179 bushels per acre, respectively for poor, average, and top quality land. State-wide, the value per bushel of corn for different land qualities ranged from \$28.00 to \$29.58 per bushel. On a per bushel basis, the most expensive land is the poor quality land with a value of \$29.58 per bushel. Top quality land was the least expensive at \$28.00 per bushel.

The average value of transitional land, farmland moving out of agriculture, declined slightly this year. The average value of transitional land in June 2008 was \$9,415 per acre. This was a decline of 1.1% when compared to the average value in 2007. Given all the news about slow growth in the general economy and difficulties in the

housing industry, some softening of this market would be expected. However, the value of transitional land is strongly influenced by what the land is transitioning into and its location. In June 2008, transitional land values ranged from \$2,500 to \$55,000 per acre. Because of the wide variation in values of transitional land, the median value* may give a more meaningful picture than the arithmetic average. The median value of transitional land increased from \$7,500 per acre in June 2007 to \$8,000 in June 2008.

The state-wide average value of rural recreational land, land used for hunting and other recreational uses, is \$3,952 per acre. As with

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For top quality farmland, cash rent as a percentage of farmland value was 3.9%. For average and poor quality farmland, cash rent as a percentage of farmland value was 3.7% and 3.6%, respectively. These percentage values were either the same or only slightly less than those reported in 2007, indicating a possible pause in the downward trend in this percentage. Over the 34-year history of the survey, rent as a percentage of farmland value has averaged about 6.0%.

Area Land Values

Survey responses were organized into six geographic regions (Figure 1). As in the past years, there are geographic differences in land value changes. This year, the North region reported the strongest percentage increase in farmland values. Bare farmland in this area was estimated to have increased 13.5% to 20.3% (Table 1). The increase in value for the West Central, Central, and Southwest region was also strong with increases ranging from 11.9% to 16.6%. The increases in value for the Northeast and Southeast were more modest, ranging from 10% to 13.5%.

The highest value per acre for top, average, and poor quality farmland is in Central Indiana. However, the dollar value of top, average and poor quality farmland is very similar in the Central, West Central and North regions. The lowest farmland values 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 North, Central and West Central regions, ranging from \$28.19 to \$31.40 per bushel. This is followed by the Northeast and Southwest, ranging from \$25.14 to \$30.16 per bushel. The Southeast had the lowest land values per bushel, ranging from \$23.01 to \$26.89 per bushel. The

most expensive farmland per bushel of corn yield in all regions except the Southwest was poor quality land.

Area Cash Rents

There were strong increases in cash rents in all areas of the state. The strongest percentage increases were in the North, Northeast and Southeast, with increases between 13.2% and 17.2% (Table 2). There were only three percentage increases in cash rent that were not in double digits. These were for poor quality land in central Indiana at 9.0%, and average and poor quality land in Southwest Indiana at 9.0% and 5.0%, respectively.

For the first time, cash rents for top quality land in the North, West Central, and Central regions have all broken the \$200 per acre mark. Another first is the highest cash rent has shifted from the West Central region to the North region. The highest cash rents are found

in the North, West Central, and Central regions of the state. This is followed by cash rents in the Northeast and the Southwest. Cash rents are the lowest in the Southeast.

Differences in productivity have a strong influence on per acre rents. To adjust for productivity differences, cash rent per acre was divided by the estimated corn yield. Rent per bushel of corn yield for the North, West Central, and Central regions are similar, ranging from \$1.10 to \$1.17 per bushel. In the Northeast and Southwest regions, cash rent per bushel ranged from \$0.97 to \$1.08. Per bushel cash rent in the Southeast ranged from \$0.86 to \$0.90 per bushel.

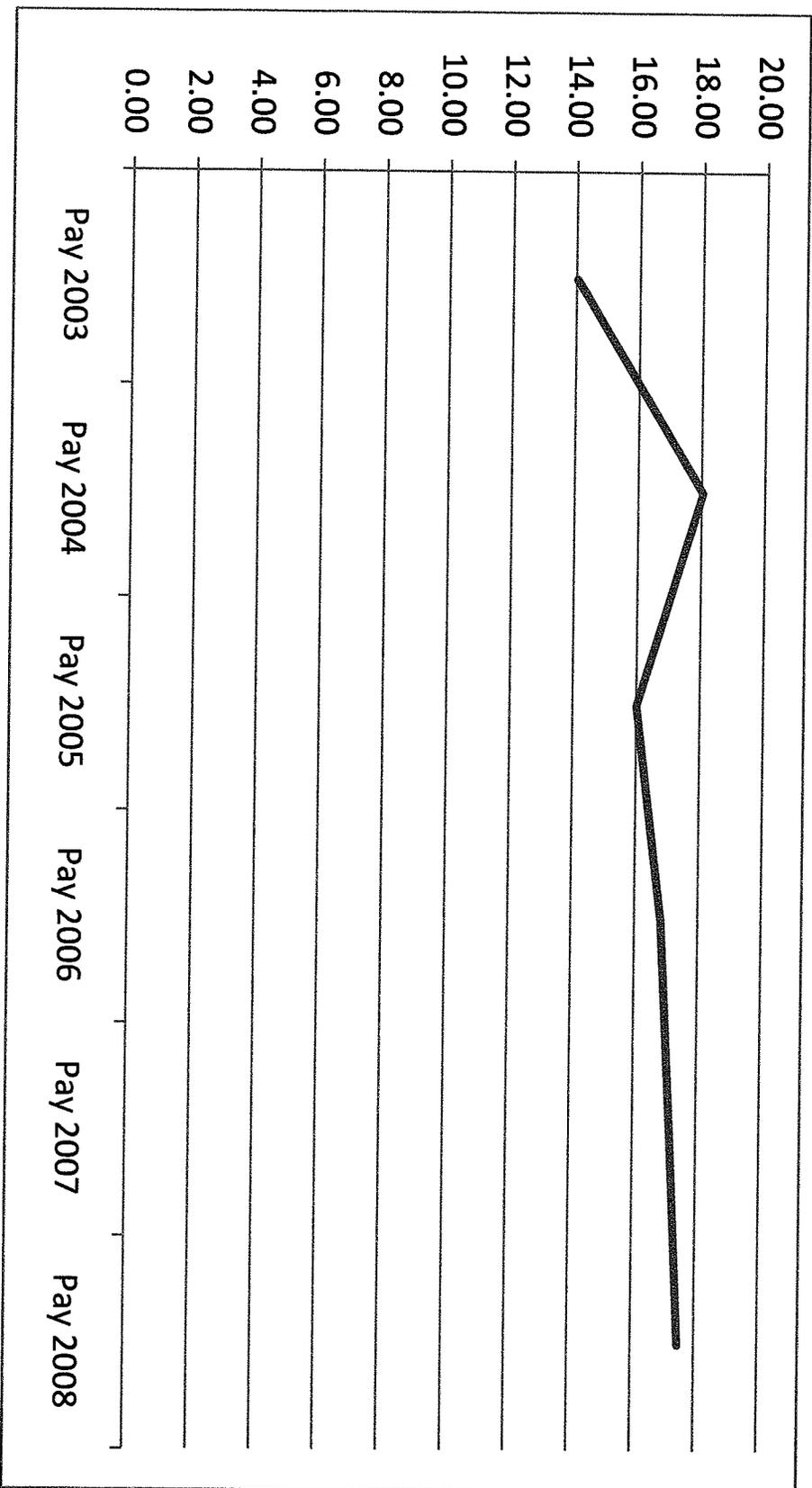
Dispersion of Responses

The data contained in Tables 1 and 2 provides information about the average of the responses received in the survey. Another important aspect of these responses is the dispersion

Table 2. Average estimated Indiana cash rent per acre, (tillable, bare land) 2007 and 2008, Purdue Land Value Survey, June 2008

Area	Land Class	Corn bu/A	Rent/Acre		Change '07-'08 %	Rent/bu. of Corn		Rent as % of June Land Value	
			2007 \$/A	2008 \$/A		2007 \$/bu.	2008 \$/bu.	2007 %	2008 %
North	Top	189	180	211	17.2%	1.00	1.12	4.1	4.0
	Average	151	145	167	15.2%	1.00	1.10	4.0	3.8
	Poor	116	114	129	13.2%	1.02	1.12	3.8	3.8
Northeast	Top	174	162	188	16.0%	0.93	1.08	3.7	3.9
	Average	144	128	148	15.6%	0.89	1.03	3.5	3.6
	Poor	113	100	114	14.0%	0.91	1.01	3.2	3.4
W. Central	Top	181	187	207	10.7%	1.06	1.14	4.0	4.0
	Average	153	157	173	10.2%	1.07	1.13	3.9	3.8
	Poor	121	127	142	11.8%	1.12	1.17	4.0	3.8
Central	Top	180	181	201	11.0%	1.02	1.12	3.8	3.7
	Average	151	149	165	10.7%	1.01	1.10	3.8	3.6
	Poor	120	122	133	9.0%	1.04	1.11	3.8	3.5
Southwest	Top	181	168	189	12.5%	0.95	1.04	4.0	3.9
	Average	145	134	146	9.0%	0.93	1.01	4.1	3.8
	Poor	108	100	105	5.0%	0.90	0.97	4.1	3.9
Southeast	Top	163	128	147	14.8%	0.79	0.90	3.8	3.9
	Average	136	102	117	14.7%	0.77	0.87	3.5	3.5
	Poor	105	78	90	15.4%	0.78	0.86	3.1	3.2
Indiana	Top	179	171	194	13.5%	0.98	1.09	3.9	3.9
	Average	148	139	157	12.9%	0.97	1.06	3.8	3.7
	Poor	115	110	123	11.8%	0.99	1.07	3.7	3.6

Average Net Tax Bill/Acre of Farmland



Average Net Tax Bill/Acre of Farmland

Pay 2003	14.03
Pay 2004	18.05
Pay 2005	16.01
Pay 2006	16.83
Pay 2007	17.17
Pay 2008	17.48

Indiana		<u>Real</u> <u>Estate Loans</u>	<u>Operating</u> <u>Loans</u>	<u>Avg.</u>
2003	Jan.	6.36	6.61	
	April	6.04	6.43	
	July	6.12	6.41	
	Oct.	6.05	6.26	
	Average	6.14	6.43	6.29
2004	Jan.	5.87	6.22	
	April	6.23	6.39	
	July	6.28	6.57	
	Oct.	6.39	6.81	
	Average	6.19	6.50	6.35
2005	Jan.	6.63	7.07	
	April	6.74	7.33	
	July	7.02	7.68	
	Oct.	7.25	8.02	
	Average	6.91	7.53	7.22
2006	Jan.	7.48	8.30	
	April	7.85	8.76	
	July	7.82	8.73	
	Oct.	7.74	8.71	
	Average	7.72	8.63	8.18
2007	Jan.	7.67	8.61	
	April	7.70	8.65	
	July	7.53	8.42	
	Oct.	7.09	7.82	
	Average	7.50	8.38	7.94
2008	Jan.	6.41	6.74	
	April	6.51	7.06	
	July	6.56	6.74	
	Oct.	6.23	6.21	
	Average	6.43	6.69	6.56

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

Ag Letter

FARMLAND VALUES AND CREDIT CONDITIONS

Summary

Capping the strongest two years of growth since the 1970s, the annual increase in farmland values was 10 percent in 2005, based on surveys completed by 258 agricultural bankers in the Seventh Federal Reserve District. The quarterly gain in the value of "good" agricultural land for the District was 2 percent in the fourth quarter of 2005. Just under 30 percent of the respondents expected farmland values to increase in the first quarter of 2006 and almost 70 percent expected them to remain stable.

District agricultural credit conditions slipped from the beginning of 2005, recovering a bit in the fourth quarter, while agricultural interest rates continued their climb, as of January 1, 2006. Indexes of loan demand, loan repayment rates, and funds availability were above the levels of the third quarter of 2005, although loan repayment rates were below the level of a year ago. Loan renewals and extensions in the fourth quarter were below the level of the previous quarter, but were higher than a year earlier. Required collateral was higher for October to December 2005 than for the same period in 2004. Loan-to-deposit ratios were down to 75.8 percent from the third quarter, which is about 4 percentage points below the ratio preferred by District bankers.

Farmland values

Following a 12 percent rise in 2004, the value of "good" agricultural land in the District posted a 10 percent increase in 2005. With consecutive years of double-digit gains, a similar spurt in District farmland values (23 percent from 2003 to 2005) last occurred in the 1970s. Indeed, when adjusted for inflation, farmland values have not increased at the pace of the last two years in nearly three decades (see chart on next page). Wisconsin continued to exhibit the largest annual increase at 13 percent (see table and map below). Illinois and Iowa farmland values rose 10 percent for the year. Indiana and Michigan were below the District average at 9 percent and 6 percent, respectively.

Responding bankers cited the same factors as in previous surveys for the increase in land values, although the factors may have varied by location. These factors included strong demand for farmland by investors, particularly for recreational purposes, tax-deferred exchanges, and, at least in some areas, a limited number of farms for sale.

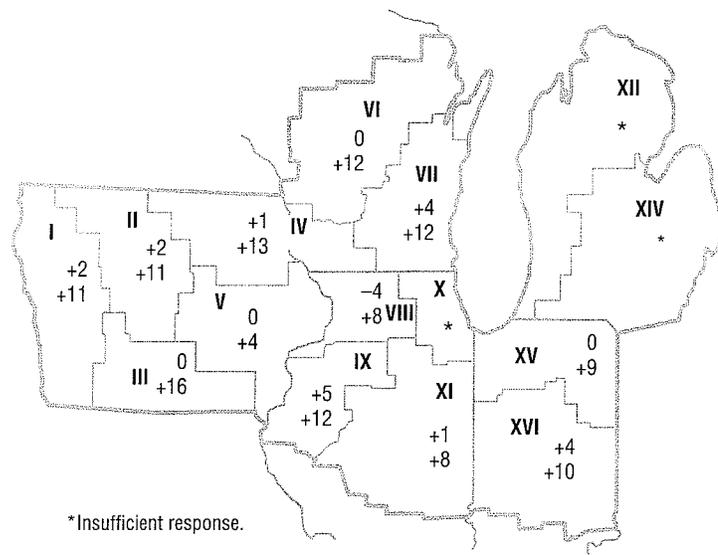
Moreover, the second-highest U.S. net cash farm income on record, according to the U.S. Department of Agriculture (USDA) forecast, helped extend the upswing in farmland values. Crop receipts in 2005 dropped \$12 billion, as the corn and soybean crops were the second largest after the record-setting harvest of 2004. In conjunction,

Percent change in dollar value of "good" farmland

Top: October 1, 2005 to January 1, 2006

Bottom: January 1, 2005 to January 1, 2006

	October 1, 2005 to January 1, 2006	January 1, 2005 to January 1, 2006
Illinois	+2	+10
Indiana	+3	+9
Iowa	+1	+10
Michigan	+4	+6
Wisconsin	+2	+13
Seventh District	+2	+10



Credit conditions at Seventh District agricultural banks

	Loan demand	Funds availability	Loan repayment rates	Average loan-to-deposit ratio	Interest rates on farm loans		
					Operating loans ¹	Feeder cattle ¹	Real estate ¹
	(index) ²	(index) ²	(index) ²	(percent)	(percent)	(percent)	(percent)
2003							
Jan-Mar	109	130	79	72.4	6.61	6.75	6.36
Apr-June	99	138	84	72.7	6.43	6.52	6.04
July-Sept	95	129	86	72.9	6.41	6.47	6.12
Oct-Dec	97	127	104	71.8	6.26	6.35	6.05
2004							
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
2005							
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

¹At end of period.

²Bankers 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.

conditions. While Indiana also had higher levels, Iowa, Michigan, and Wisconsin bankers reported lower levels of loan renewals and extensions in 2005.

Demand for non-real-estate loans rose as well during October, November, and December from a year ago, with the index of loan demand increasing to 120. More than twice as many bankers reported an increase in the demand for non-real-estate loans as reported a decrease (36 percent versus 16 percent). Illinois, Indiana, and Iowa experienced elevated non-real-estate loan demand, whereas Michigan and Wisconsin had lower demand for non-real-estate loans last quarter.

Some banks expressed concerns about their ability to garner deposits, but funds availability increased across the District relative to 2004's fourth quarter. With 22 percent of the respondents reporting higher funds availability and 13 percent lower, the index of funds availability was 110. This reversed the decline of last quarter and added a fifth year to the trend for increased funds availability.

Looking forward

Credit conditions may deteriorate in 2006 based on USDA's forecast of net cash farm income falling 22 percent from 2005. The 2006 forecast has the value of agricultural production dropping 2 percent and direct government payments shrinking 20 percent, with manufactured input costs growing 7 percent and interest payments rising 11 percent. Given the fact that drought has lowered the subsoil moisture available in much of the District, timely

rains this growing season will be essential to avoid a more serious decline in credit conditions in 2006.

For January, February, and March of 2006, almost 40 percent of the respondents expected higher levels of non-real-estate loan volume (versus 10 percent lower), particularly for operating loans and those guaranteed by the Farm Service Agency. Only 18 percent of the bankers reported projections of higher real-estate loan volume in the first quarter of 2006, compared to 13 percent projecting lower volume. Moreover, the surveyed bankers expected capital expenditures by farmers to fall in the year ahead, restricting loan demand for 2006.

David B. Oppedahl, *Business economist*

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AgLetter

FARMLAND VALUES AND CREDIT CONDITIONS

Summary

Farmland values declined in the fourth quarter of 2008 for the Seventh Federal Reserve District—the first quarterly decrease in a decade. There was still an annual increase of 5 percent in the value of “good” agricultural land for 2008, based on 209 surveys completed by District agricultural bankers. Few respondents expected farmland values to rise in the first quarter of 2009, but 35 percent expected them to fall in their respective areas.

Agricultural credit conditions in the District continued to strengthen in the fourth quarter of 2008, though not as strongly as a year ago. Non-real-estate loan demand grew in the final quarter of 2008 relative to that of 2007. Also, the index of funds availability was higher in the fourth quarter of 2008 than in the third quarter of 2008. Farm loan repayment rates improved, while loan renewals and extensions edged down from a year ago. Agricultural interest rates were at the lowest levels in almost five years. Loan-to-deposit ratios averaged 76.4 percent for the fourth quarter of 2008, with nearly half of the banks below their desired ratio.

Farmland values

The District’s 5 percent annual increase for 2008 in the value of “good” agricultural land was the lowest since 2001

(see chart 1 on next page). Indiana had a 1 percent annual decrease in farmland values (see table and map below). In contrast, Wisconsin had a 13 percent annual increase in farmland values, catching up with the District after lagging at the end of 2007. Having values between these two extremes in the District, the annual gains for Illinois, Iowa, and Michigan were substantially smaller than a year ago.

For the first time in a decade and only the second time since 1986, overall District land values experienced a quarterly decline. Only Wisconsin did not experience a quarterly drop in land values for the fourth quarter of 2008.

An annual index of nominal farmland values doubled by the end of 2008 from its 1981 peak (see chart 2 on next page). Adjusted for inflation, annual farmland values increased only 1 percent in 2008, much less than the nominal increase. Moreover, an index of inflation-adjusted farmland values remained well under its peak in 1979. The slower growth in real farmland values during 2008 kept the District from nearing this peak.

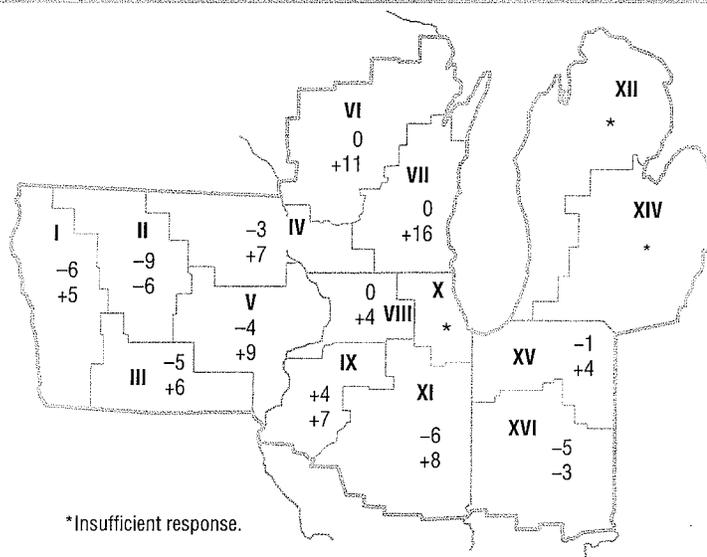
Even though net farm income in 2008 set a record, net farm income at the end of the year had not risen as much as many had anticipated, and it looked ready to decline in 2009. These factors played a key role in slowing the growth of farmland values. Elevated net farm income spurred farmland values upward faster in the first three quarters of

Percent change in dollar value of “good” farmland

Top: October 1, 2008 to January 1, 2009

Bottom: January 1, 2008 to January 1, 2009

	October 1, 2008 to January 1, 2009	January 1, 2008 to January 1, 2009
Illinois	-3	+6
Indiana	-4	-1
Iowa	-6	+4
Michigan	-4	+2
Wisconsin	0	+13
Seventh District	-4	+5



Credit conditions at Seventh District agricultural banks

	Loan demand (index) ^b	Funds availability (index) ^b	Loan repayment rates (index) ^b	Average loan-to-deposit ratio (percent)	Interest rates on farm loans		
					Operating loans ^a (percent)	Feeder cattle ^a (percent)	Real estate ^a (percent)
2006							
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
2007							
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	126	149	77.2	7.82	7.89	7.09
2008							
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

^aAt end of period.

^bBankers 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.

Note: Historical data on Seventh District agricultural credit conditions are available for download from the *AgLetter* webpage, www.chicagofed.org/economic_research_and_data/ag_letter.cfm.

rates. In Wisconsin, lower rates of repayment prevailed. Less than 3 percent of the volume of the banks' agricultural loan portfolios were classified as having major or severe repayment problems, about the same as in 2007.

Agricultural interest rates moved down to the lowest levels in five years. The rate on operating loans dipped under the 2004 low of the previous cycle. As of January 1, 2009, the District averages for interest rates were 6.21 percent on new operating loans and 6.23 percent on farm real estate loans. It has been 30 years since the operating loan rate was lower than the mortgage rate. Interest rates on operating loans were lowest in Indiana (5.68 percent) and highest in Wisconsin (6.63 percent). Interest rates on agricultural real estate loans were lowest in Illinois (6.13 percent) and highest in Indiana (6.54 percent).

Looking forward

For the first quarter of 2009, additional growth in non-real-estate loan volumes was anticipated by the respondents, with 43 percent expecting higher volumes and 16 percent expecting lower volumes. Increases in loan volumes were forecasted for operating loans, farm machinery loans, and loans guaranteed by the Farm Service Agency. Decreases in volumes were anticipated for feeder cattle, dairy, and grain storage construction loans. The volume of mortgages on agricultural real estate was predicted to shrink, with 15 percent of the bankers expecting higher real estate loan volumes during January, February, and March of 2009 and 19 percent expecting lower volumes.

In a reversal from a year ago, 2009 capital expenditures by farmers were predicted to fall from the levels of 2008, according to respondents. Fifteen percent expected

higher spending in 2009 on land purchases or improvements, while 44 percent expected lower spending. For buildings and facilities, 13 percent forecasted higher spending and 51 percent forecasted lower spending.

The prospects for purchases of machinery and equipment were somewhat better, especially in Illinois, with 25 percent of respondents anticipating higher purchases and 39 percent anticipating lower purchases. Expenditures on trucks and autos were predicted to drop relatively more, as 13 percent of the bankers expected higher spending by farmers and 41 percent expected lower spending. Thus, these investments in the agricultural sector of the District were projected to be less in 2009 than in 2008.

David B. Oppedahl, business economist

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

Line #	Column	2003		2004		2005		2006		2007		2008		Source or Formula:
		A	B	C	D	E	F	G	H	I	J	K	L	
1	Yield	Corn 146	Beans 38	Corn 168	Beans 51.5	Corn 154	Beans 49	Corn 157	Beans 50	Corn 154	Beans 46	Corn 160	Beans 45	IASS - Crop Summary
2	Price - November	2.25	7.25	1.81	5.22	1.71	5.58	3.03	6.13	3.68	9.65	4.04	9.47	IASS - Crop Prices
3	Price - Annual Avg.	2.36	6.26	2.49	7.63	1.97	6.02	2.39	5.82	3.52	8.01	4.98	11.78	DLGF Calculation
4	Price - Market Avg.	2.41	5.55	2.53	7.67	1.99	5.66	2.00	5.78	3.17	6.53	4.39	10.20	IASS - Crop Prices
5	GI - November	328.50	275.50	304.08	268.83	263.34	273.42	475.71	306.50	566.72	443.90	646.40	426.15	Line 1 times Line 2
6	GI - Annual Avg.	344.56	237.88	418.32	392.95	303.38	294.98	375.23	291.00	542.08	368.46	796.80	530.10	Line 1 times Line 3
7	GI - Market Avg.	351.86	210.90	425.04	395.01	306.46	277.34	314.00	289.00	488.18	300.38	702.40	459.00	Line 1 times Line 4
8	AA v Nov	16.06	-37.62	114.24	124.12	40.04	21.56	-100.48	-15.50	-24.64	-75.44	150.40	103.95	Line 6 minus Line 5
9	MA v Nov	23.36	-64.60	120.96	126.18	43.12	3.92	-161.71	-17.50	-78.54	-143.52	56.00	32.85	Line 7 minus Line 5
10	NRTL - November	82		54		41		123		238		132		DLGF Calculation
11	NRTL - Annual Avg	71		173		72		65		188		259		Line 10 + or - Avg. Line 8
12	NRTL - Market Avg	61		178		65		33		127		176		Line 10 + or - Avg. Line 9
13	NRTL Average	71		135		59		74		184		189		Average Lines 10, 11, & 12
14	FRBC RE Rate	0.0614		0.0619		0.0691		0.0772		0.0750		0.0643		Fed. Res. Bank of Chicago
15	FRBC OP Rate	0.0643		0.0650		0.0753		0.0863		0.0838		0.0669		Fed. Res. Bank of Chicago
16	Avg. FRBC Rate	0.0629		0.0635		0.0722		0.0818		0.0794		0.0656		Average Lines 14 & 15
17	Operating Market Value In Use	1,129		2,126		817		905		2,321		2,884		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-September, 2010		2003		2003		2004		2004		2005		2005		2006		2006		2007		2007		2008		2008		Information
Line #		Corn	Beans																							
1	Yield	146	38	168	51.5	154	49	157	50	154	46	160	45	160	45	160	45	160	45	160	45	160	45	160	45	IN Ag. Stats. Service
2	Price - Nov.	2.25	7.25	1.81	5.22	1.71	5.58	3.03	6.13	3.68	9.65	4.04	9.47	4.04	9.47	4.04	9.47	4.04	9.47	4.04	9.47	4.04	9.47	4.04	9.47	IN Ag. Stats. Service
3	Sales	329	276	304	269	263	273	476	307	567	444	646	426	646	426	646	426	646	426	646	426	646	426	646	426	Line 1 X Line 2
4	Less Variable Costs	154	99	171	106	184	114	222	125	239	120	380	182	380	182	380	182	380	182	380	182	380	182	380	182	Purdue Crop Guide
5	Contribution Margin	175	177	133	163	79	159	254	182	328	324	266	244	266	244	266	244	266	244	266	244	266	244	266	244	Line 3 - Line 4
6	Plus Gov't Pymt.	33	177	41	163	71	159	41	182	23	324	25	244	23	324	25	244	23	324	25	244	23	324	25	244	IN Ag. Stats. Service
7	Total Contribution Margin	192	192	168	168	155	155	238	238	337	337	268	268	337	337	268	268	337	337	268	268	337	337	268	268	Lines 5 + 6 / 2
Less Overhead:																										
8	Annual Machinery	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	Purdue Crop Guide
9	Drying/Handling	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	Purdue Crop Guide
10	Family/Hired Labor	37	37	37	37	39	39	39	39	39	39	30	30	39	39	30	30	39	39	30	30	39	39	30	30	Purdue Crop Guide
11	Real Estate Tax	14	14	18	18	16	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	DLGF Study
12	Net Return To Land - Nov.	82	82	54	54	41	41	123	123	238	238	132	132	238	238	132	132	238	238	132	132	238	238	132	132	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:

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
2004	168
2005	154
2006	157
2007	154
2008	160

Indiana Soybean Yields:

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	51.5
2005	49
2006	50
2007	46
2008	45

2009 IASS has not published yet.

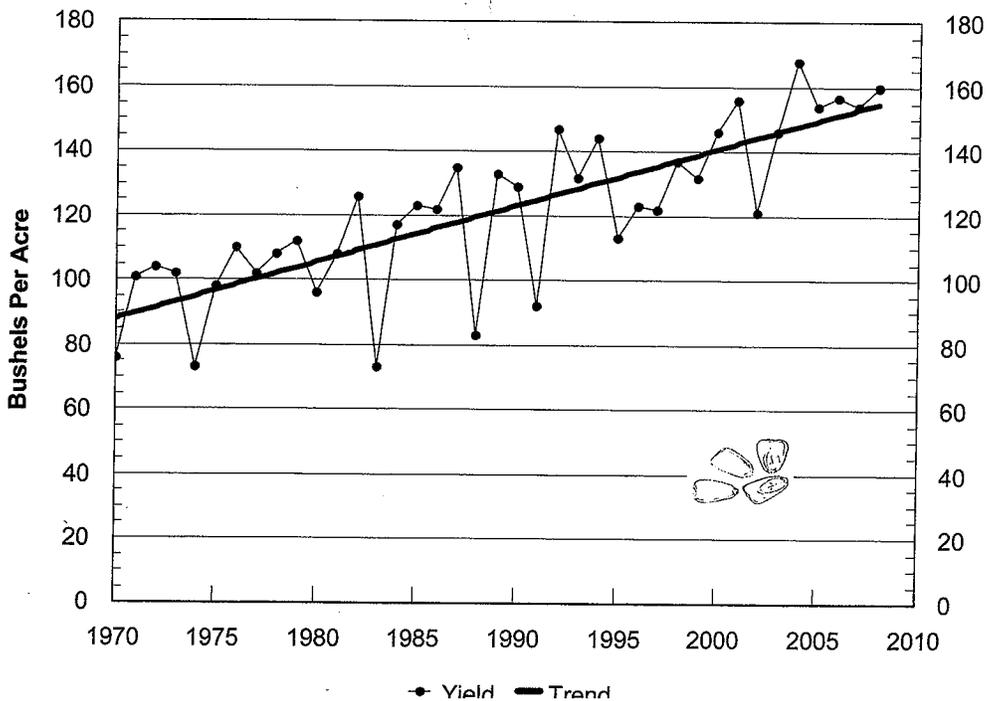
Source: Indiana Agricultural Statistics Service

CROP SUMMARY

CORN FORECAST AND FINAL YIELD INDIANA, 1985-2008

Year	August Forecast	September Forecast	October Forecast	November Forecast	Final Yield Per Acre
	Yield (Bu)	Yield (Bu)	Yield (Bu)	Yield (Bu)	(Bushels)
1985	115	123	124	124	123
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

**Corn Yield Trend
Indiana, 1970 - 2008**

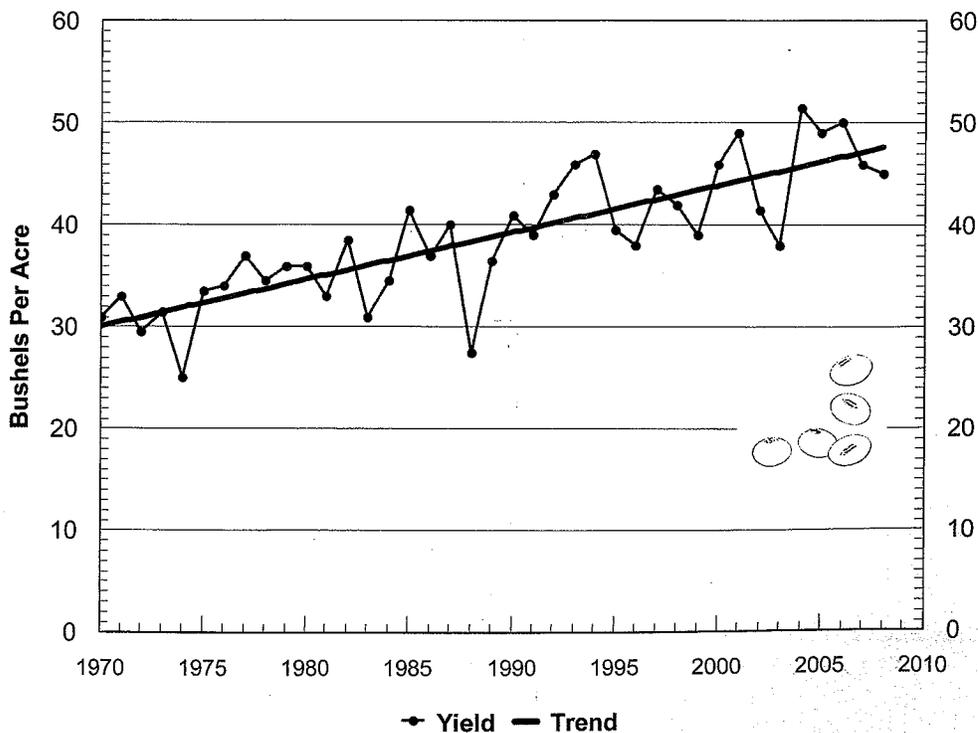


CROP SUMMARY

SOYBEAN FORECAST AND FINAL YIELD INDIANA, 1985-2008

Year	August Forecast	September Forecast	October Forecast	November Forecast	Final Yield Per Acre
	Yield (Bu)	Yield (Bu)	Yield (Bu)	Yield (Bu)	(Bushels)
1985	35.0	38.0	40.0	41.0	41.5
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	52.0	52.0	51.5	51.5	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

**Soybean Yield Trend
Indiana, 1970 - 2008**



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	4.75	4.13	4.04	4.15	4.98	4.39
2009	4.48	4.06	3.93	4.09	4.12	4.14								

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

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average	Marketing 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	8.51	8.82	9.65	10.30	8.01	6.53
2008	10.30	12.30	11.70	12.30	12.80	14.50	14.50	13.5	10.50	9.76	9.47	9.71	11.78	10.20
2009														

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, 2002-2009 1/

Year	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Marketing Year Avg.
Corn (Dollars per Bushel)													
2002-03	2.55	2.38	2.41	2.43	2.42	2.44	2.44	2.47	2.49	2.44	2.28	2.25	2.41
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	4.75	4.13	4.04	4.15	4.48	4.06	3.93	4.09	4.12	4.14	<u>2/</u>	<u>2/</u>	3.75
Soybeans (Dollars per Bushel)													
2002-03	5.53	5.24	5.53	5.61	5.62	5.69	5.70	5.92	6.28	6.15	5.87	5.84	5.55
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	10.50	9.76	9.47	9.71	10.30	9.88	9.49	10.10	11.10	12.00	<u>2/</u>	<u>2/</u>	9.30
Wheat (Dollars per Bushel)													
Year	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Marketing Year Avg.
2002-03	2.90	3.06	3.44	3.69	3.89	4.03	3.76	3.32	3.04	3.03	3.03	3.08	3.18
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

1/ Weighted monthly average for market year. 2008 and 2009 are preliminary.

2/ Data not available.

Purdue Crop Cost & Return Guide January 2003
Table 1. Estimated Per Acre Crop Budgets

	Miami (Low Yield)						Crosby (Average Yield)						Brookston (High Yield)					
	Cont. Corn	Rot. Corn	Beans	Second- Year Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Beans	Second- Year Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Beans	Second- Year Beans	Wheat	DC Beans
Expected yield per acre ²	105.4	113.4	37.9	34.1	62.3	21.5	130.5	140.3	47.0	42.3	70.2	26.7	160.6	172.7	57.9	52.1	77.7	32.8
Harvest price ³	\$2.16	\$2.16	\$4.83	\$4.83	\$2.71	\$4.83	\$2.16	\$2.16	\$4.83	\$2.71	\$4.83	\$4.83	\$2.16	\$2.16	\$4.83	\$4.83	\$2.71	\$4.83
Market Revenue	\$228	\$245	\$183	\$165	\$169	\$104	\$282	\$303	\$227	\$204	\$190	\$129	\$347	\$373	\$280	\$252	\$271	\$158
Loan Deficiency Payment (LDP) ⁴	0	0	12	11	0	7	0	0	15	13	0	8	0	0	18	16	0	10
Total revenue	\$228	\$245	\$195	\$176	\$169	\$111	\$282	\$303	\$242	\$217	\$190	\$137	\$347	\$373	\$298	\$268	\$271	\$168
Less variable costs ⁵																		
Fertilizer ⁶	\$42	\$38	\$16	\$15	\$31	\$10	\$52	\$49	\$20	\$18	\$36	\$12	\$64	\$63	\$24	\$21	\$41	\$14
Seed ⁷	26	26	30	30	16	35	30	30	30	16	35	35	30	30	30	30	16	35
Chemicals ⁸	31	16	15	15	N/A	13	34	18	15	N/A	13	13	39	23	15	15	N/A	13
Dryer Fuel & Handling	14	12	1	1	N/A	2	17	15	1	N/A	3	3	22	18	1	1	N/A	3
Machinery Fuel	8	8	8	8	5	4	10	10	9	5	4	4	11	11	11	11	5	4
Machinery Repairs ⁹	8	8	8	8	4	4	9	9	3	4	2	2	10	10	10	10	5	4
Hauling	6	7	2	2	4	1	8	8	3	4	2	2	10	10	3	3	3	2
Interest ¹⁰	4	4	3	3	7	4	5	4	3	3	3	3	6	5	3	3	3	3
Insurance/misc.	11	11	8	8	7	4	11	11	8	8	8	4	11	11	8	8	8	4
Total variable cost ¹¹ (Revenue - Contribution margin)	\$150	\$130	\$91	\$90	\$69	\$76	\$176	\$154	\$99	\$87	\$76	\$80	\$203	\$181	\$105	\$102	\$83	\$82
Contribution margin ¹¹ (Revenue - Variable costs) per acre	\$78	\$115	\$104	\$86	\$100	\$35	\$106	\$149	\$143	\$114	\$57	\$144	\$192	\$193	\$165	\$128	\$85	\$86

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.

² Average yield based on timely plant/harvest date, except soybean double crop yield which is based on July 1 plant date. Continuous corn, soybean & wheat yields are a percent of rotation corn yield - continuous corn 93%, drill soybeans 33.5%, second year drill beans or for 30-inch beans in central Indiana 30.2%, 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")

³ Harvest corn price is closing December 2003 CBOT futures price on December 27, 2002, less \$0.25 basis. Harvest soybean price is closing November 2003 CBOT price on December 27, 2002, less \$0.30 basis. Harvest wheat price is closing July 2003 CBOT price on December 27, 2002, less \$0.30 basis.

⁴ 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 \$2.05 for corn, \$5.14 for soybeans, and \$2.52 for wheat.

⁵ Seed, fertilizer, and chemical prices are early January 2003 quotes.

⁶ Fertilizer based on in-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2567, 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-P₂O₅-K₂O-lime by crop and soil: Continuous corn, 117-39-48-352, 152-48-55-454, 192-59-63-577; rotation corn, 98-42-51-294, 135-52-58-407, 179-64-67-536; rotation beans, 0-30-73-0, 0-37-86-0, 0-46-101-0; wheat, 62-39-43-185, 75-44-46-227, 89-49-49-265; double crop beans, 0-17-50-0, 0-21-57-0, 0-26-66-0. Fertilizer prices per lb.: NH₃ @ \$ 19; urea @ \$25; P₂O₅ @ \$22; K₂O @ \$13; lime @ \$14/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.

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

⁸ Corn insecticide @ \$16 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

⁹ 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.

¹⁰ Interest is based on 5.5% 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.

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

Purdue Crop Cost & Return Guide January 2003
Table 2. Estimated Per Farm Crop Budgets For 2003 - 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 Fieldwork¹

Farm Acres	(Miami) Low Yield Soils				(Crosby) Average Yield Soils				(Brookston) High Yield Soils			
	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
Rotation												
Crop contribution margin ²	\$70,200	\$109,500	\$130,600	\$137,600	\$95,400	\$146,000	\$169,400	\$180,800	\$129,600	\$192,500	\$216,000	\$235,200
Government payment ³	24,372	22,855	32,508	32,508	28,773	27,085	37,958	37,958	35,532	33,450	45,612	45,612
Total contribution margin	\$94,572	\$132,355	\$163,108	\$170,108	\$124,173	\$173,085	\$207,358	\$218,758	\$165,132	\$225,950	\$263,612	\$280,812
Annual overhead costs:												
Machinery replacement ⁴	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 ⁵	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 ⁶	\$90,900	\$101,000	\$121,200	\$121,200	\$112,500	\$125,000	\$150,000	\$150,000	\$138,600	\$154,000	\$184,800	\$184,800
Earnings or (losses)	\$ (84,628)	\$ (60,445)	\$ (49,892)	\$ (43,392)	\$ (81,127)	\$ (48,215)	\$ (38,942)	\$ (28,042)	\$ (72,568)	\$ (30,650)	\$ (23,788)	\$ (7,088)

¹Rotations 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).

²Crops contribution margin is per acre contribution margin from Table 1 times number of acres.

³Government 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 \$0.54 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 \$2.60 for corn, \$5.80 for soybeans, and \$3.86 for wheat. The average marketing year price assumed was \$2.27 for corn, \$5.07 for soybeans, and \$2.90 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.

⁴The 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, ten 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.

⁵Labor expenses include a family living withdrawal of \$24,723 (\$48,097 of family living expenses less \$23,374 in net nonfarm income reported by Illinois Farm Business Farm Management Association records in 2001) and \$12,000 for hired labor.

⁶Based on cash rent at \$101 per acre on low yield soil, \$125 per acre on average yield soil, and \$154 on high yield soil.

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

ID-166W (Rev)

	Crop Budgets for Three Yield Levels ¹														
	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 ²	106.6	114.6	37.1	33.4	131.9	141.9	46.0	41.4	162.4	174.6	56.6	50.9	76.0	33.1	
Harvest price ³	\$2.29	\$2.29	\$6.14	\$6.14	\$2.29	\$2.29	\$6.14	\$6.14	\$2.29	\$2.29	\$6.14	\$6.14	\$3.56	\$6.14	
Market Revenue	\$244	\$262	\$228	\$205	\$302	\$325	\$282	\$254	\$372	\$400	\$348	\$313	\$271	\$203	
Loan Deficiency Payment (LDP) ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total revenue	\$244	\$262	\$228	\$205	\$302	\$325	\$282	\$254	\$372	\$400	\$348	\$313	\$271	\$203	
Less variable costs ⁵															
Fertilizer ⁶	\$50	\$46	\$18	\$17	\$62	\$60	\$22	\$20	\$78	\$76	\$27	\$24	\$50	\$17	
Seed ⁷	28	28	33	33	33	33	33	33	33	33	33	33	38	38	
Chemicals ⁸	32	16	16	16	34	19	16	16	39	23	16	16	N/A	13	
Dryer Fuel & Handling	14	12	1	1	18	15	1	1	22	18	1	1	N/A	3	
Machinery Fuel @ \$1.20	8	8	8	8	10	10	10	10	11	11	11	11	5	4	
Machinery Repairs ⁹	8	8	8	8	9	9	9	9	10	10	10	10	5	4	
Hauling	5	5	4	4	6	5	4	4	7	6	4	4	3	2	
Interest ¹⁰	11	11	8	8	11	11	8	8	11	11	8	8	8	4	
Insurance/misc.															
Total variable cost	\$162	\$140	\$97	\$96	\$191	\$171	\$106	\$102	\$221	\$198	\$113	\$110	\$96	\$88	
Contribution margin ¹¹ (Revenue - Variable costs) per acre	\$82	\$122	\$131	\$109	\$111	\$154	\$176	\$152	\$151	\$202	\$235	\$203	\$175	\$115	

¹Estimated 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.

²Average 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 33.5% (second year drill beans or for 30-inch beans in central Indiana 30.2%), 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").

³Harvest 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.

⁴Loan 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.

⁵Seed, fertilizer, chemical, and fuel prices are early January 2004 quotes.

⁶Fertilizer based on tri-state fertilizer recommendations (Source: Michigan Extension Bulletin E-2867, 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-P₂O₅-K₂O-lime by crop and soil: continuous corn, 119-39-49-357; 153-49-56-460; 195-60-64-585; rotation corn, 100-42-51-300; 137-52-58-411; 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; 0-22-58-0; 0-26-66-0. Fertilizer prices per lb.: NH₃ @ \$0.24; urea @ \$0.32; P₂O₅ @ \$0.28; K₂O @ \$0.14; 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.

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

⁸Corn insecticide @ \$16 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

⁹Repairs 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.

¹⁰Interest 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.

¹¹Contribution 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 Fieldwork¹

Farm Acres Rotation	(Miami) Low Yield Soils				(Crosby) Average Yield Soils				(Brookston) High Yield Soils			
	900 c-c	1000 c-b	1200 c-b	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 ²	\$73,800	\$126,500	\$153,000	\$163,400	\$99,900	\$165,000	\$194,000	\$210,200	\$135,900	\$218,500	\$250,200	\$273,200
Government payment ³	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 ⁴	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 ⁵	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 ⁶	\$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)	\$(29,904)	\$(84,430)	\$(39,230)	\$(29,678)	\$(13,978)	\$(75,241)	\$(16,280)	\$(9,006)	13,494

¹Rotations 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).

²Crops contribution margin is per acre contribution margin from Table 1 times number of acres.

³Government 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. 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 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.

⁴The 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.

⁵Labor 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.

⁶Based 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

	Low Productivity Soil										Average Productivity Soil										High Productivity Soil																																	
	Cont.		Rot.		Rot.		Second-		Wheat		DC		Cont.		Rot.		Rot.		Second-		Wheat		DC		Cont.		Rot.		Rot.		Second-		Wheat		DC																			
	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year																					
Expected yield per acre ²	104.0	115.5	37.1	33.4	61.5	21.0	128.7	143.0	46.0	41.4	68.6	25.7	158.3	175.9	56.6	50.9	75.8	31.7	104.0	115.5	37.1	33.4	61.5	21.0	128.7	143.0	46.0	41.4	68.6	25.7	158.3	175.9	56.6	50.9	75.8	31.7	104.0	115.5	37.1	33.4	61.5	21.0	128.7	143.0	46.0	41.4	68.6	25.7	158.3	175.9	56.6	50.9	75.8	31.7
Harvest price ³	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23	\$2.12	\$2.12	\$5.23	\$5.23	\$2.88	\$5.23			
Market Revenue	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166
Loan Deficiency Payment (LDP) ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total revenue	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166	\$220	\$245	\$194	\$175	\$177	\$110	\$273	\$303	\$241	\$217	\$198	\$134	\$336	\$373	\$296	\$266	\$218	\$166
Less variable costs ⁵																																																						
Fertilizer ⁶	\$53	\$51	\$22	\$20	\$44	\$14	\$67	\$66	\$26	\$24	\$50	\$16	\$83	\$84	\$31	\$29	\$57	\$19	\$53	\$51	\$22	\$20	\$44	\$14	\$67	\$66	\$26	\$24	\$50	\$16	\$83	\$84	\$31	\$29	\$57	\$19	\$53	\$51	\$22	\$20	\$44	\$14	\$67	\$66	\$26	\$24	\$50	\$16	\$83	\$84	\$31	\$29	\$57	\$19
Seed ⁷	29	29	36	36	21	42	36	34	36	36	21	42	34	34	36	36	21	42	29	29	36	36	21	42	36	34	36	36	21	42	34	34	36	36	21	42	29	29	36	36	21	42	36	34	36	36	21	42	34	34	36	36	21	42
Chemicals ⁸	34	16	14	14	N/A	11	36	19	14	14	N/A	11	41	23	14	14	N/A	11	34	16	14	14	N/A	11	36	19	14	14	N/A	11	41	23	14	14	N/A	11	34	16	14	14	N/A	11	36	19	14	14	N/A	11	41	23	14	14	N/A	11
Dryer Fuel & Handling	16	14	11	11	6	5	12	12	12	12	6	5	14	14	14	14	14	6	16	14	11	11	6	5	12	12	12	12	6	5	14	14	14	14	14	6	16	14	11	11	6	5	12	12	12	12	6	5	14	14	14	14	14	6
Machinery Fuel @ \$1.55	11	11	9	9	4	4	10	10	10	10	5	4	11	11	11	11	11	5	11	11	9	9	4	4	10	10	10	10	5	4	11	11	11	11	11	5	11	11	9	9	4	4	10	10	10	10	5	4	11	11	11	11	11	5
Machinery Repairs ⁹	6	7	2	2	4	4	8	9	3	3	2	2	4	4	2	2	4	2	6	7	2	2	4	4	8	9	3	3	2	2	4	4	2	2	4	2	6	7	2	2	4	4	8	9	3	3	2	2	4	4	2	2	4	2
Hauling ¹⁰	6	5	4	4	3	4	7	6	4	4	4	4	8	7	7	7	7	4	6	5	4	4	3	4	7	6	4	4	4	4	8	7	7	7	7	4	6	5	4	4	3	4	7	6	4	4	4	4	8	7	7	7	7	4
Insurance/misc.	11	11	8	8	7	4	11	11	8	8	8	4	11	11	8	8	8	4	11	11	8	8	7	4	11	11	8	8	8	4	11	11	8	8	8	4	11	11	8	8	7	4	11	11	8	8	8	4	11	11	8	8	8	4
Total variable cost ¹¹	\$175	\$153	\$107	\$105	\$89	\$88	\$205	\$184	\$114	\$111	\$98	\$91	\$236	\$216	\$123	\$120	\$106	\$94	\$175	\$153	\$107	\$105	\$89	\$88	\$205	\$184	\$114	\$111	\$98	\$91	\$236	\$216	\$123	\$120	\$106	\$94	\$175	\$153	\$107	\$105	\$89	\$88	\$205	\$184	\$114	\$111	\$98	\$91	\$236	\$216	\$123	\$120	\$106	\$94
Contribution margin ¹¹	\$45	\$92	\$87	\$70	\$88	\$22	\$68	\$119	\$127	\$106	\$100	\$43	\$100	\$157	\$173	\$146	\$112	\$72	\$45	\$92	\$87	\$70	\$88	\$22	\$68	\$119	\$127	\$106	\$100	\$43	\$100	\$157	\$173	\$146	\$112	\$72	\$45	\$92	\$87	\$70	\$88	\$22	\$68	\$119	\$127	\$106	\$100	\$43	\$100	\$157	\$173	\$146	\$112	\$72

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 ± 10% for management, and ± 10% for plant/harvest date. These yields assume average weather conditions.

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").

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.

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. Seed, fertilizer, chemical, and fuel prices are early January 2005 quotes.

Fertilizer 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 corn sources other than ammonium sulfate. Pounds of N-P₂O₅-K₂O-lime by crop and soil: continuous corn, 115-39-48-346, 149-48-55-447, 188-59-63-568; rotation corn, 101-43-51-303, 139-53-59-415, 183-65-88-550; rotation beans, 0-30-72-0, 0-46-101-0, wheat, 60-39-43-180, 73-43-45-218, 85-48-48-256; double crop beans, 0-17-49-0, 0-21-57-0, 0-26-65-0. Fertilizer prices per lb.: NH₃ @ \$0.26; urea @ \$0.38; P2O₅ @ \$0.30; K2O @ \$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.

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

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

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.

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.

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			
	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 ²	\$40,500	\$89,500	\$107,600	\$112,000	\$61,200	\$123,000	\$142,200	\$150,800	\$90,000	\$165,000	\$185,800	\$200,200
Government payment ³	30,168	22,690	32,450	32,450	35,919	26,875	38,016	38,016	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
Annual overhead costs:												
Machinery replacement ⁴	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 ⁵	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 ⁶	\$94,500	\$105,000	\$126,000	\$126,000	\$116,100	\$129,000	\$154,800	\$154,800	\$113,400	\$160,000	\$192,000	\$192,000
Earnings or (losses)	-\$114,132	-\$86,610	-\$79,750	-\$75,850	-\$113,781	-\$77,425	-\$72,884	-\$64,784	-\$80,175	-\$66,410	-\$64,948	-\$51,048

¹Rotations 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).

²Crops contribution margin is per acre contribution margin from Table 1 times number of acres.

³Government 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.

⁴The 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.

⁵Annual 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 \$12,000 for part-time hired labor.

⁶Based 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

	Crop Budgets for Three Yield Levels ¹														
	Low Productivity Soil					Average Productivity Soil					High Productivity Soil				
	Cont. Corn	Rot. Corn	Rot. Beans	Year Beans	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Year Beans	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Year Beans	DC Beans
Expected yield per acre ²	107.0	118.9	37.3	33.5	59.0	132.4	147.1	46.2	41.6	65.8	162.8	180.9	56.8	51.2	72.7
Harvest price ³	\$2.31	\$2.31	\$5.84	\$5.84	\$3.48	\$2.31	\$2.31	\$5.84	\$5.84	\$3.48	\$2.31	\$2.31	\$5.84	\$5.84	\$3.48
Market Revenue	\$247	\$275	\$218	\$196	\$205	\$306	\$340	\$270	\$243	\$229	\$376	\$418	\$332	\$299	\$253
Loan Deficiency Payment (LDP) ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total revenue	\$247	\$275	\$218	\$196	\$205	\$306	\$340	\$270	\$243	\$229	\$376	\$418	\$332	\$299	\$253
Less variable costs ⁵															
Fertilizer ⁶	\$69	\$66	\$27	\$24	\$47	\$87	\$86	\$32	\$29	\$55	\$20	\$108	\$109	\$38	\$35
Seed ⁷	30	30	37	37	25	35	35	37	37	25	43	35	37	37	25
Chemicals ⁸	36	17	12	12	N/A	39	20	12	12	N/A	44	25	12	12	N/A
Dryer Fuel & Handling	24	20	1	1	N/A	30	25	1	1	N/A	36	31	1	1	N/A
Machinery Fuel @ \$2.15	15	15	15	15	9	17	17	10	10	6	19	19	19	19	9
Machinery Repairs ⁹	9	9	9	9	4	10	10	3	3	4	11	11	11	11	4
Hauling ¹⁰	6	7	2	2	4	8	9	3	3	4	10	11	3	3	4
Interest ¹⁰	9	7	5	5	5	10	9	5	5	5	12	11	6	6	5
Insurance/misc.	11	11	8	8	7	11	11	8	8	8	11	11	8	8	5
Total variable cost	\$209	\$182	\$116	\$113	\$101	\$247	\$222	\$125	\$122	\$112	\$98	\$286	\$263	\$135	\$119
Contribution margin ¹¹	\$38	\$93	\$102	\$83	\$104	\$59	\$118	\$145	\$121	\$117	\$52	\$90	\$155	\$197	\$134
(Revenue - variable costs)	\$38	\$93	\$102	\$83	\$104	\$59	\$118	\$145	\$121	\$117	\$52	\$90	\$155	\$197	\$134

¹ 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 ± 10% for management and ± 10% for plant/harvest date. These yields assume average weather conditions.

² 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 45% on high yield soils; and double crop soybeans (South-central Indiana) 18% (Source: ID-152 "Estimating Potential Yield for Corn, Soybeans, and Wheat").

³ 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.

⁴ 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.

⁵ Seed, fertilizer, chemical, and fuel prices are early February 2006 quotes.

⁶ Fertilizer 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. Pounds of N-P₂O₅-K₂O-lime by crop and soil: continuous corn, 120-39-49-359; 154-49-56-462; 195-60-64-584; rotation corn, 105-44-52-317; 144-54-60-432; 189-67-69-567; rotation beans, 0-30-72-0, 0-37-85-0, 0-46-100-0; wheat, 56-37-42-167; 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.: NH₃ @ \$0.34; urea @ \$0.42; P205 @ \$0.36; K2O @ \$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 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.

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

⁸ Corn rootworm insecticide @ \$18.90 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

⁹ 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.

¹⁰ 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.

¹¹ 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 ²	\$34,200	\$97,500	\$177,400	\$123,600	\$53,100	\$131,500	\$152,200	\$162,600	\$81,000	\$176,000	\$198,600	\$215,400
Government payment ³	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	\$199,996	\$146,196	\$76,770	\$151,570	\$178,422	\$188,822	\$110,259	\$200,820	\$230,394	\$247,194
Annual overhead costs:												
Machinery replacement ⁴	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 ⁵	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 ⁶	\$97,200	\$108,000	\$129,600	\$129,600	\$120,600	\$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	-\$138,630	-\$80,730	-\$80,678	-\$70,778	-\$139,341	-\$66,780	-\$72,206	-\$95,906

¹Rotations 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-c-w, dc = 400 acres corn - 400 acres soybeans plus 200 acres corn - 200 acres wheat, double crop beans (dc).

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

³Government 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 \$2.53 for corn, \$5.80 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.

⁴The 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.

⁵Labor 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 the balance is used for part-time hired labor.

⁶Based 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

	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 ²	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 ³	\$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	\$283	\$221	\$671	\$714	\$461	\$348	\$272
Less variable costs ⁴															
Fertilizer ⁵	\$68	\$63	\$28	\$44	\$18	\$85	\$79	\$34	\$58	\$21	\$106	\$98	\$40	\$75	\$25
Seed ⁶	39	39	39	26	45	43	43	39	26	45	45	45	39	26	45
Chemicals ⁷	49	30	12	N/A	10	49	30	12	N/A	10	49	30	12	N/A	10
Dryer 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 ⁸	10	10	6	10	9	10	10	6	10	9	10	10	6	10	9
Hauling ⁹	10	11	3	5	2	12	13	4	6	2	15	16	5	7	3
Interest ¹⁰	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 ¹¹	\$240	\$211	\$113	\$103	\$103	\$269	\$239	\$120	\$119	\$107	\$305	\$270	\$127	\$138	\$113
Contribution margin ¹¹															
(Revenue - Variable costs)	\$201	\$258	\$190	\$125	\$76	\$277	\$342	\$255	\$164	\$114	\$366	\$444	\$334	\$210	\$159

¹Estimated 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.

²These 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% 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.

³Harvest 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.

⁴Seed, fertilizer, chemical, and fuel prices are based on January 2007 quotes.

⁵Fertilizer 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. Pounds of N-P₂O₅-K₂O-lime by crop and soil: continuous corn, 130-44-52-391, 169-54-60-506, 215-67-69-644; rotation corn, 111-47-54-332, 143-58-62-430, 180-71-72-540; rotation beans, 0-32-75-0, 0-39-89-0, 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.: NH₃ @ \$0.28; urea @ \$0.40; P₂O₅ @ \$0.38; K₂O @ \$0.21; 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.

⁶Corn 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.

⁷Corn rootworm insecticide @ \$18.90 per acre is included for continuous corn and should be added to rotation corn in northern Indiana.

⁸Repairs 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.

⁹Hauling charge represents moving grain from field to storage. Based on Machinery Cost Estimates: Harvesting, University of Illinois, Farm Business Management Handbook, FBM 0203, July 2006.

¹⁰Interest 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.

¹¹Contribution 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 ¹	Low Productivity Soil		Average Productivity Soil		High Productivity Soil	
	2700 c-c	3000 c-b	2700 c-c	3000 c-b	2700 c-c	3000 c-b
Crop contribution margin ²	\$201	\$224	\$277	\$299	\$366	\$389
Government payment ³	\$17	\$17	\$20	\$20	\$25	\$25
Total contribution margin	\$218	\$241	\$297	\$319	\$391	\$414
Annual overhead costs:						
Machinery replacement ⁴	\$43	\$43	\$43	\$43	\$43	\$43
Drying/handling	\$14	\$9	\$14	\$9	\$14	\$9
Family and hired labor ⁵	\$34	\$30	\$34	\$30	\$34	\$30
Land ⁶	\$115	\$115	\$142	\$142	\$175	\$175
Earnings or (losses)	\$13	\$44	\$65	\$95	\$126	\$157

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

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

³Government 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.

⁴The 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.

⁵Labor 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.

⁶Based 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 ²	118	125	39	62	23	147	157	49	70	29	177	188	59	84	35
Harvest price ³	\$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 ⁴															
Fertilizer ⁵	\$142	\$130	\$50	\$61	\$33	\$152	\$141	\$61	\$95	\$39	\$162	\$151	\$71	\$119	\$45
Seed ⁶	67	67	48	36	54	79	79	48	36	54	79	79	48	36	54
Pesticides ⁷	39	39	19	7	17	39	39	19	7	17	39	39	19	7	17
Dryer fuel ⁸	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 ⁹	11	11	8	8	8	11	11	8	8	8	11	11	8	8	8
Hauling ¹⁰	10	11	3	5	2	12	13	4	6	2	15	16	5	7	3
Interest ¹¹	17	16	8	8	7	19	18	9	9	8	11	8	10	11	8
Insurance/misc. ¹²	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 ¹³															
(Revenue - variable costs)	\$226	\$278	\$315	\$352	\$147	\$337	\$405	\$426	\$402	\$215	\$474	\$550	\$537	\$491	\$281

¹Estimated 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.

²These 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.

³Harvest 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.

⁴Seed, fertilizer, chemical, and fuel prices are based on projections for 2008.

Table 1 (Continued)

⁵ 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 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-P₂O₅-K₂O-lime by crop and soil: continuous corn, 190-44-52-570, 190-54-60-570, 190-65-68-570; rotation corn, 160-46-54-480, 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.: NH₃ @ \$0.46; urea @ \$0.63; P₂O₅ @ \$0.62; K₂O @ \$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.

⁶ 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.

⁷ 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.

⁸ 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.

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

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

¹¹ 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.

¹² 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.

¹³ 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	Low Productivity Soil						Average Productivity Soil						High Productivity Soil											
	900		1000		2700		3000		900		1000		2700		3000		900		1000		2700		3000	
Rotation ¹	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	c-c	c-b	c-c	c-b
Crop contribution margin ²	\$226	\$297	\$226	\$297	\$226	\$297	\$226	\$297	\$337	\$416	\$337	\$416	\$337	\$416	\$474	\$544	\$474	\$544	\$474	\$544	\$474	\$544	\$474	\$544
Government payment ³	\$17	\$17	\$17	\$17	\$17	\$17	\$17	\$17	\$20	\$20	\$20	\$20	\$20	\$20	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25
Total contribution margin	\$243	\$314	\$243	\$314	\$243	\$314	\$243	\$314	\$357	\$436	\$357	\$436	\$357	\$436	\$499	\$569	\$499	\$569	\$499	\$569	\$499	\$569	\$499	\$569
Annual overhead costs:																								
Machinery replacement ⁴	\$64	\$58	\$48	\$43	\$64	\$58	\$48	\$43	\$64	\$58	\$51	\$46	\$70	\$63	\$52	\$47	\$64	\$58	\$48	\$43	\$64	\$58	\$48	\$43
Drying/handling	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9	\$14	\$9
Family and hired labor ⁵	\$60	\$52	\$33	\$29	\$60	\$52	\$33	\$29	\$60	\$52	\$33	\$29	\$60	\$52	\$60	\$52	\$60	\$52	\$60	\$52	\$60	\$52	\$60	\$52
Land ⁶	\$124	\$124	\$124	\$124	\$124	\$124	\$124	\$124	\$155	\$155	\$155	\$155	\$155	\$186	\$186	\$186	\$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	\$169	\$258	\$214	\$297	\$169	\$258	\$214	\$297

¹Rotations 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.

²Crop's contribution margin is per acre contribution margin from Table 1.

³Government 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 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.

⁴The 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.

⁵For the larger acreages, labor expense includes a family living withdrawal of \$40,323 (\$59,686 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.

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

Prepared by: W. Alan Miller and Craig L. Dobbins, Department of Agricultural Economics, Bob Nielsen and Tony J. Vyn, Department of Agronomy, Bill Johnson, Department of Botany and Plant Pathology, Purdue University, and Shawn P. Conley, Department of Agronomy, University of Wisconsin.

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Date: 2/08

Calculation of Average Government Payments per Acre

	2003	2004	2005	2006	2007	2008
Total Government Payment	(1) 446,286,000	(2) 532,024,000	(2) 917,903,000	(2) 541,285,000	(2) 302,505,000	(2) 321,903,000
Less Milk Income Loss Pymt	(1) -16,138,000	(2) -3,025,000	(2) -277,000	(2) -6,538,000	(2) -1,200,000	(2) -4,000
Net Government Payment	430,148,000	528,999,000	917,626,000	534,747,000	301,305,000	321,899,000
Cropland Acres	(3) 12,909,002	(3) 12,909,002	(3) 12,909,002	(3) 12,909,002	(3) 12,909,002	(4) 12,716,037
Pymt Per Acre	33.32	40.98	71.08	41.42	23.34	25.31

Source:

Indiana Agricultural Statistics Service

IASS - Page 8 (1)

Ag. Stats. 07-08

IASS - Page 12 (2)

Ag. Stats. 08-09

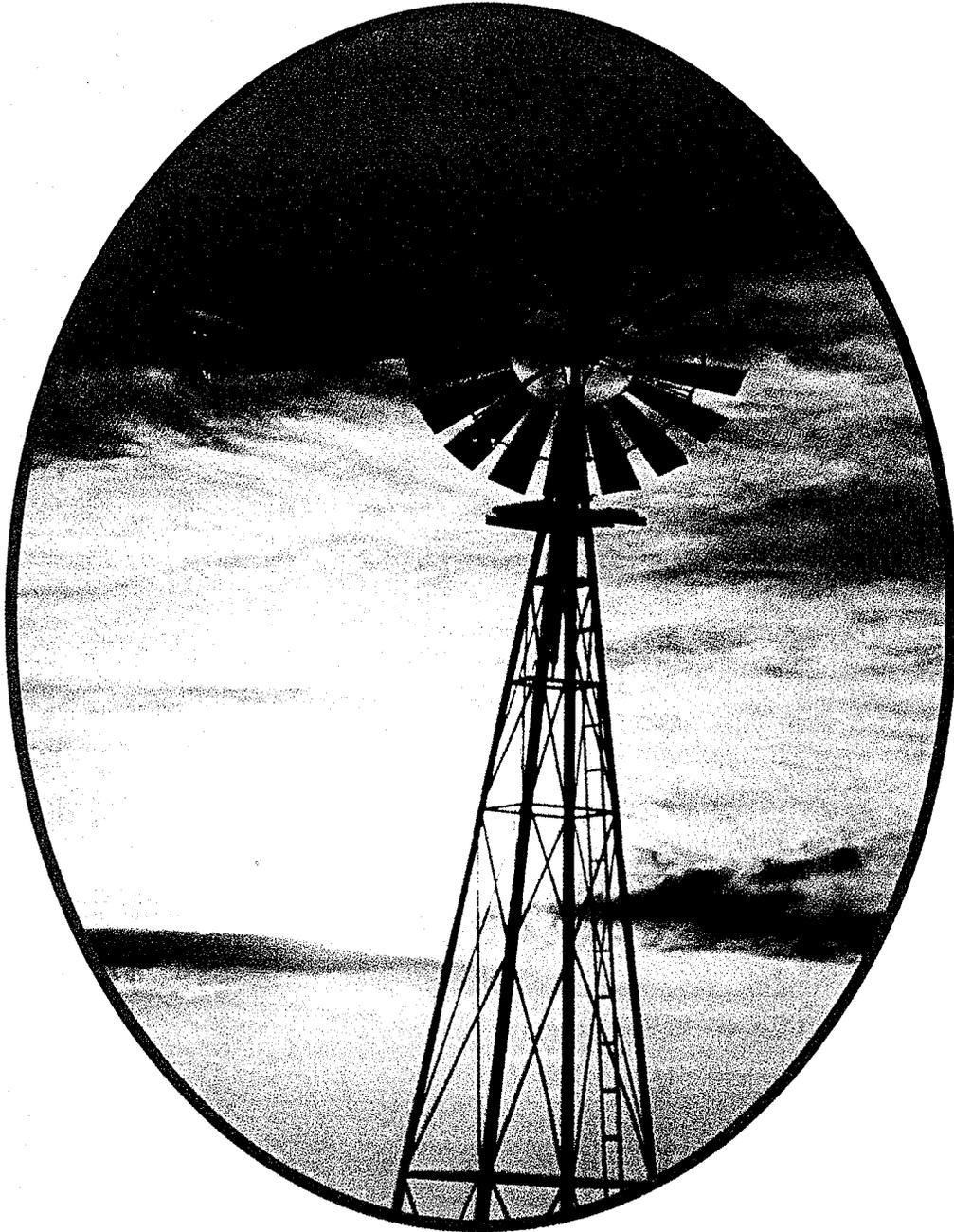
IASS - Page 101 (3)

Ag. Stats. 07-08

IASS - Page 121 (4)

Ag. Stats. 08-09

INDIANA



AGRICULTURAL STATISTICS 2007-2008

FARM INCOME

FARM INCOME INDICATORS, INDIANA, 2003-2007

Item	2003	2004	2005	2006	2007
	Thousand Dollars				
Gross Farm Income	6,424,225	8,006,210	7,376,297	7,421,383	9,165,326
Gross Cash Income	5,742,173	6,888,855	6,596,476	6,845,379	8,360,284
Noncash Income	524,336	576,271	652,139	706,756	806,041
Value of Inventory Adjustment	157,715	541,084	127,682	(130,752)	(1,000)
Total Production Expenses	5,095,617	5,473,308	5,775,167	5,939,715	6,850,739
Purchased Inputs	2,926,380	3,149,828	3,276,285	3,425,886	4,275,441
Interest	383,120	382,735	429,433	458,885	494,013
Contract and Hired Labor Expenses	290,000	324,652	288,771	309,057	331,330
Net Rent to Nonoperator Landlords	520,869	563,023	661,968	554,656	509,257
Capital Consumption	745,248	793,070	848,710	891,231	920,698
Property Taxes	230,000	260,000	270,000	300,000	320,000
NET FARM INCOME	1,328,608	2,532,902	1,601,130	1,481,668	2,314,587
Gross Receipts of Farms	5,921,710	7,444,044	6,737,073	6,726,603	8,375,639
Farm Production Expenditures	4,843,994	5,180,577	5,463,242	5,614,440	6,502,156
RETURNS TO OPERATORS	1,077,716	2,263,467	1,273,831	1,112,163	1,873,483
Gross Cash Income	5,742,173	6,888,855	6,596,476	6,845,379	8,360,284
Cash Expenses	4,286,522	4,598,998	4,852,218	4,986,059	5,862,590
NET CASH INCOME	1,455,651	2,289,857	1,744,258	1,859,320	2,497,694

Source: Economic Research Service

U.S. GOVERNMENT PAYMENTS, BY PROGRAM INDIANA, 2003-2007 ^{1/}

Program	2003	2004	2005	2006	2007
	Thousand Dollars				
Production Flexibility Contracts	(9,979)	(143)	(60)	(2)	(1)
Direct Payments ^{2/}	317,368	232,556	233,838	228,189	228,027
Counter-cyclical Program Payments	27,053	23,742	192,993	185,161	67
Loan Deficiency Payments	2,631	208,965	333,384	44,099	252
Marketing Loan Gains	746	5,633	17,450	7,617	---
Commodity Certificate Exchange Gains	1	2,426	8,444	61	5
Milk Income Loss Payments ^{3/}	16,138	3,025	277	6,538	1,199
Tobacco Transition Payments ^{4/}	---	---	20,675	10,980	8,272
Conservation ^{5/}	50,209	54,185	67,995	58,255	63,189
Supplemental Funding ^{6/}	42,159	1,756	39,014	456	1,722
Miscellaneous ^{7/}	(39)	(90)	(44)	(71)	(44)
Total	446,286	532,055	914,166	541,283	302,688

^{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.

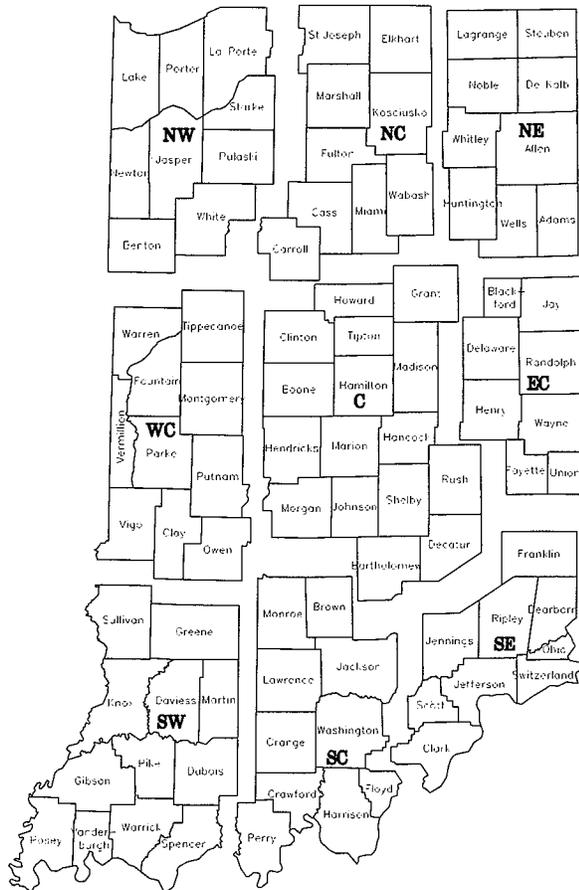
^{5/} Includes amount paid under Conservation Reserve, Agriculture Conservation, Emergency Conservation, and Great Plains Program.

^{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

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

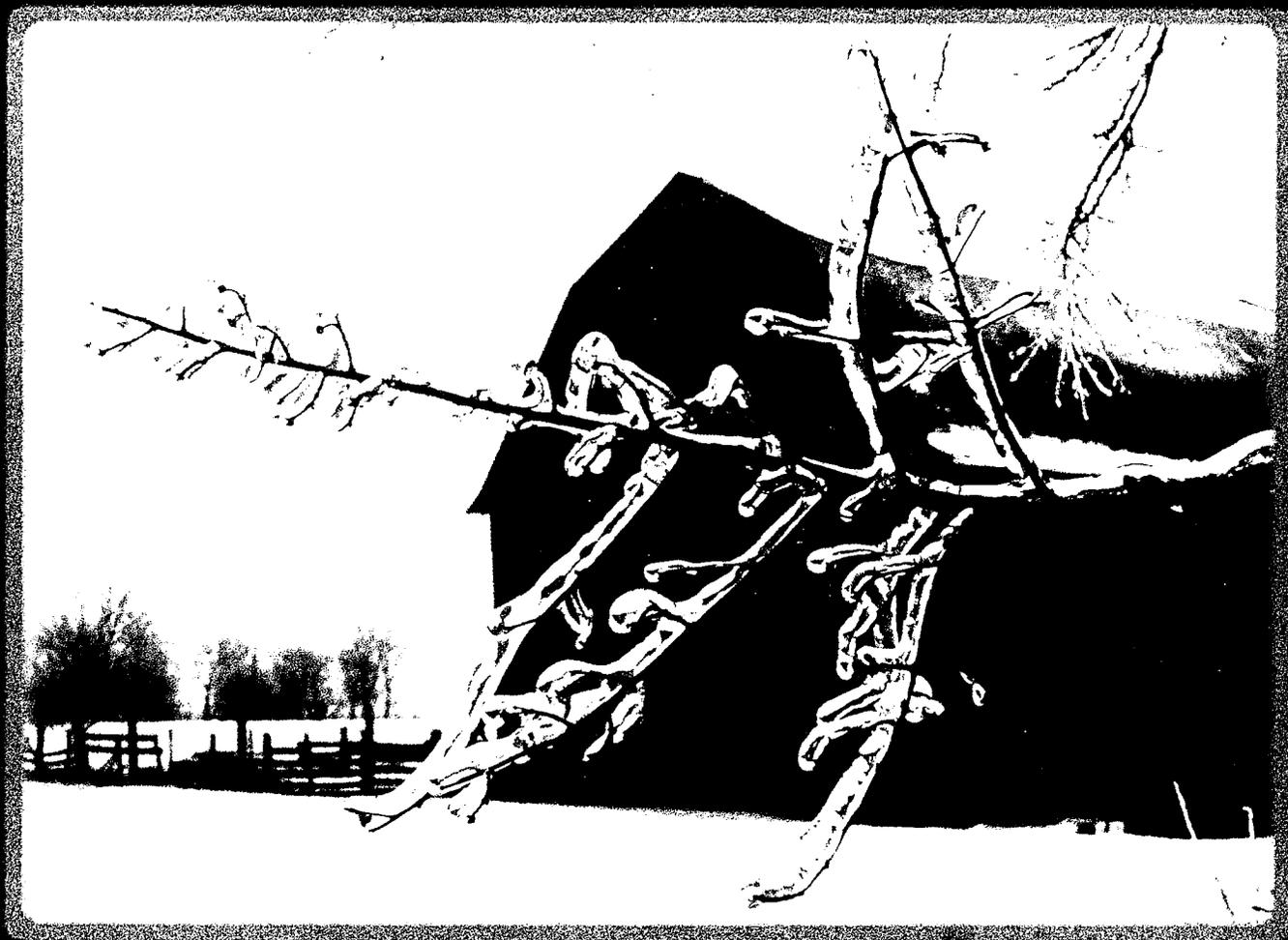
2000 Census Population	6,080,485
2002 Total Land Area (acres)	22,945,817
2002 Number of Farms	60,296
2002 Land in Farms (acres)	15,058,670
2002 Average Size of Farm (acres)	250
2002 Value of Land & Bldgs (avg/acre)	\$2,567
2002 Cropland (acres)	12,909,002
2002 Harvested Cropland (acres)	11,937,370
2002 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	11,240,562
Gross Cash Income	6,850,986	6,525,429	6,801,720	8,634,138	10,643,680
Noncash Income	571,569	648,057	699,154	706,699	800,691
Value of Inventory Adjustment	545,403	131,547	(135,472)	(260,896)	(203,808)
Total Production Expenses	5,473,308	5,775,167	5,939,715	6,850,739	1/
Purchased Inputs	3,149,828	3,276,285	3,425,886	4,275,441	1/
Interest	382,735	429,433	458,885	494,013	1/
Contract and Hired Labor Expenses	324,652	288,771	309,057	331,330	1/
Net Rent to Nonoperator Landlords	563,023	661,968	554,656	509,257	1/
Capital Consumption	793,070	848,710	891,231	920,698	1/
Property Taxes	260,000	270,000	300,000	320,000	1/
NET FARM INCOME	2,549,889	1,556,125	1,422,418	1,852,674	3,172,421
Gross Receipts of Farms	7,405,792	6,665,810	6,673,202	8,386,528	10,480,377
Farm Production Expenditures	5,128,724	5,439,543	5,606,703	6,872,130	7,664,565
RETURNS TO OPERATORS	2,277,068	1,226,267	1,066,499	1,514,398	2,815,812
Gross Cash Income	6,850,986	6,525,429	6,801,720	8,634,138	10,643,680
Cash Expenses	4,598,998	4,852,218	4,986,059	5,862,590	1/
NET CASH INCOME	2,297,719	1,693,206	1,817,752	2,404,342	3,686,761

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	228,443
Counter-cyclical Program Payments	23,742	192,992	185,161	67	21
Loan Deficiency Payments	208,988	333,963	44,099	252	295
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	4
Tobacco Transition Payments 4/	---	20,739	10,980	8,272	7,296
Conservation 5/	54,015	67,999	58,253	63,006	64,422
Supplemental Funding 6/	1,756	39,014	460	1,722	21,478
Miscellaneous 7/	(90)	(44)	(71)	(44)	(56)
Total	532,024	917,903	541,285	302,505	321,903

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.

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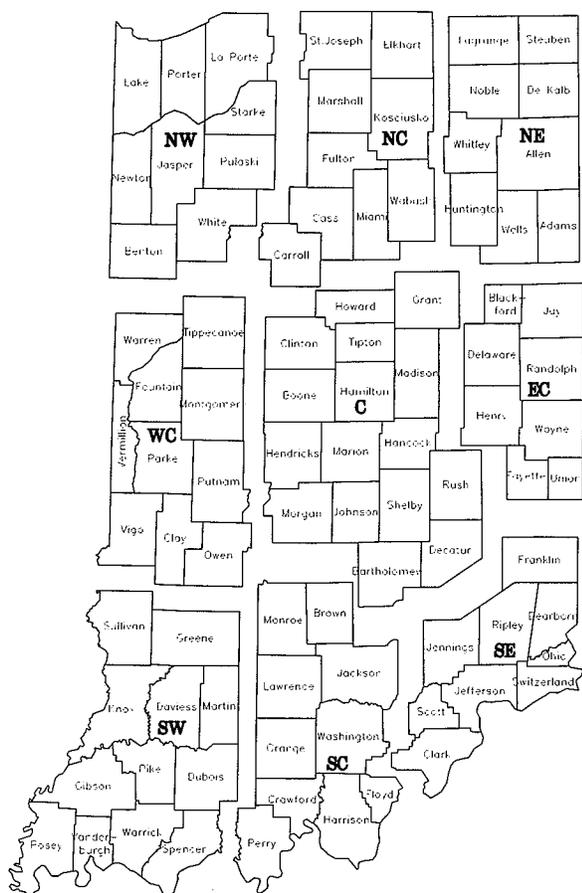
5/ Includes amount paid under Conservation Reserve, Agriculture Conservation, Emergency Conservation, and Great Plains Program.

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

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Source: Economic Research Service

COUNTY HIGHLIGHTS



COUNTY HIGHLIGHTS

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

STATE DATA

2007 Census Population	6,335,862
2007 Total Land Area (acres)	22,924,685
2007 Number of Farms	60,938
2007 Land in Farms (acres)	14,773,184
2007 Average Size of Farm (acres)	242
2007 Value of Land & Bldgs (avg/acre)	\$3,583
2007 Cropland (acres)	12,716,037
2007 Harvested Cropland (acres)	12,108,940
2007 Pastureland, all types (acres)	986,522
2007 Woodland (acres)	1,020,287

2007 Cash Receipts	\$8,075,225,000
Crop Receipts	\$5,302,773,000
Livestock Receipts	\$2,772,452,000
2007 Other Income	\$584,454,000
Government Payments	\$302,465,000
Imputed Income/Rent Received	\$281,989,000
2007 Total Income	\$8,659,679,000
Less: Production Expenses	\$7,108,762,000
Realized Net Income	\$1,550,997,000

<u>2008 CROPS</u>	<u>PLTD</u>	<u>HARV</u>	<u>YLD</u>	<u>UNIT</u>	<u>PROD</u>
Corn	5,700,000	5,460,000	160	Bu	873,600,000
Soybeans	5,450,000	5,430,000	45	Bu	244,350,000
Wheat	580,000	560,000	69	Bu	38,640,000
Hay	---	590,000	3.16	Ton	1,867,000
2007 Popcorn	---	55,768	---	Lbs	220,971,578

<u>LIVESTOCK</u>	<u>NUMBER HEAD</u>
Jan 2009 All Cattle	860,000
Beef Cows	206,900
Milk Cows	158,000
2007 All Hogs	3,669,057
2007 All Sheep	49,021
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, 2007</u>	<u>SUMMER, 2007</u>	<u>FALL, 2007</u>	<u>WINTER, 2007</u>	<u>SPRING, 2008</u>	<u>SUMMER, 2008</u>
Planting 2007 crops	Care for 2007 crops	Harvest 2007 crops	Prep equipment for storage	Planting 2008 crops	Care for 2008 crops
Sell a portion of his 2006 crops	Sell remainder of his 2006 crops	Sell a portion of his 2007 crops	Sell a portion of his 2007 crops	Sell a portion of his 2007 crops	Sell remainder of his 2007 crops
Paying 3/1/06 Property Taxes		Paying 3/1/06 Property Taxes		Paying 3/1/07 Property Taxes	
Collect portion of 2007 Cash Rent		Collect remainder of 2007 Cash Rent		Collect portion of 2008 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