



February 28, 2014
Final Values - 2014

2014 CURRENT AGRICULTURAL USE VALUE OF LAND TABLES

EXPLANATION OF THE CALCULATION OF VALUES
FOR VARIOUS SOIL MAPPING UNITS FOR TAX YEAR 2014

The annual current agricultural use values of land are calculated by the capitalization of net income from agricultural products assuming typical management, cropping and land use patterns, and yields for given types of soils. The necessary information is available for approximately 3,500 map units, which are the soils with slopes of 25 percent or less. The information used for a capitalized net income approach is as follows:

- YIELD INFORMATION
CROPPING PATTERN
CROP PRICES
NON-LAND PRODUCTION COSTS
CAPITALIZATION RATE

Each of these factors is explained below.

A. YIELD INFORMATION

For each of the soil mapping units, data regarding typical yields of each of the major field crops (corn, soybeans and wheat) were last published in 1984. In order to reflect more accurate yields, those yields of record have been updated annually since 2006. The yields are updated by a factor based on ten years of statewide yield information published by the Ohio Department of Agriculture. For 2014, yield data from calendar years 2003-2012 were averaged and divided by the 1984 yield for each crop (Exhibit A, page 5). This factor is applied to the 1984 crop yield of record for each soil. The table below shows the average yields used to develop the factor for each of the crops.

Table with 6 columns: Crop, 1984 Base, TY 2011 (2000-2009), TY 2012 (2001-2010), TY 2013 (2002-2011), TY 2014 (2003-2012). Rows include Corn, Soybeans, and Wheat with their respective yields in bushels.

## B. CROPPING PATTERNS

The cropping pattern for each map unit is assigned a rotation based on the most recent five-year average of crop acres harvested in Ohio: 38.6% corn, 52.0% beans, and 9.4% wheat. This rotation is based on data from 2008-2012 and closely reflects current agricultural production in Ohio. The acres harvested in each year are shown in Exhibit B (page 6).

There are two exceptions as follows:

- 1.) Soil map units with a productivity index of 55 or less are assumed to be most profitably used as pasture; in 2014, a minimum value of \$350 is used for these soils. In 2012 and 2013 a minimum value of \$350 is used for these soils; in 2011, the minimum value is \$300 and in 2010, the minimum value is \$200.
- 2.) A pattern of 50% corn and 50% soybeans is used for organic soils.

## C. CROP PRICES

The crop prices used for the field crops are five-year weighted average prices. Crop price data is collected for seven years with the highest and lowest prices eliminated, and the average calculated using the remaining five years' data. The prices are weighted based on the statewide production for each year. For this calculation, the seven-year period is 2006 through 2012. The annual production and price per unit for each of these crops for the 2006 through 2012 period are shown in Exhibit C (page 7).

The table shows average weighted prices for this period as well as prices for the three previous years. Each weighted price is reduced by 5% to allow for management.

		<b>TY 2011</b>	<b>TY 2012</b>	<b>TY 2013</b>	<b>TY 2014</b>
<b>Crop</b>	<b>Unit</b>	<b>2003-2009</b>	<b>2004-2010</b>	<b>2005-2011</b>	<b>2006-2012</b>
Corn	Bushel	\$2.89	\$3.19	\$3.91	\$4.48
Soybeans	Bushel	\$7.22	\$7.74	\$8.98	\$10.13
Wheat	Bushel	\$3.64	\$3.98	\$4.54	\$5.16

## D. NON-LAND PRODUCTION COSTS

Data on crop production costs are used to estimate average non-land production costs. The data are taken from the Ohio Crop Enterprise Budgets prepared by The Ohio State University Department of Agricultural, Environmental, and Development Economics for 2007-2013, inclusive. Again, data are collected for the seven-year period and the highest and lowest costs for each category are eliminated from the array. Five-year average costs per unit of specific non-land production cost items are computed from the remaining data as shown in Exhibit D (pages 8-9).

The budgets are computed for each crop at a base yield equal to the lowest yield reported and for each additional unit above the base yield based on information from the Ohio Crop Budgets (Exhibits D-1 through Exhibit D-3, pages 10-12). The five year average non-land production costs for tax year 2014 are summarized below and compared with the costs used for tax years 2011 and 2013:

<b>NON-LAND PRODUCTION COSTS</b>				
<b>Crop Base Cost</b>	<b>Yield/2013</b>	<b>TY 2011</b>	<b>TY 2013</b>	<b>TY 2014</b>
Corn	120 bu	\$300.98	\$391.90	\$437.85
Soybeans	36 bu	\$204.60	\$248.69	\$275.21
Wheat	52 bu	\$192.94	\$230.62	\$255.48
<b>Additional Cost per Unit</b>				
Corn	1 bu	\$ 0.84	\$ 1.04	\$ 1.18
Soybeans	1 bu	\$ 0.77	\$ 1.12	\$ 1.27
Wheat	1 bu	\$ 1.19	\$ 1.61	\$ 1.80

**E. CAPITALIZATION RATE**

Five-year averaging is used to derive the Farm Credit Service interest rate of 5.89% assuming a 60% loan for a 15-year term, payable annually, and an interest rate of 5.25% for the 40 percent equity portion (Exhibit E, page 13). A five percent appreciation over a period of 5 years is included to address the increase in farmland values due to the demand for additional land in an increasingly efficient operation.

The capitalization rate for typical Ohio farmland is computed by the Akerson mortgage-equity method as follows:

60% loan x annual debt service of 0.102224	=	0.0613
40% equity x equity yield rate of .0525	=	0.0210
Subtotal		0.0823
<u>Less equity buildup for 5 years</u>		
% loan x % mortgage paid off x sinking fund factor at equity rate for 5 years		
(0.60) [1- (7.3986/9.7824)] (0.180073)	=	(0.0263)
<u>Less 5% appreciation times sinking fund factor</u>		
@ equity yield rate of .0525		
.05 x 0.180073	=	(0.0090)
<b>Capitalization Rate before Taxes</b>	<b>=</b>	<b>0.0470 or 4.7%</b>

For tax year 2012 the statewide average effective tax rate after application of the reduction factors, (Section 319.301 Ohio Revised Code), levied on agricultural property was 47.11 mills. The ten percent rollback authorized by Section 319.302 of the code reduced this rate further to 42.40 mills. As a percent of market value the effective tax rate to be used in this year's capitalization formula is 1.5%, (.35 x 42.40)/1000.

Capitalization rate including R.E. taxes 6.2%  
The 6.2% capitalization rate is the base rate for typical Ohio farmland.

## F. CROPLAND VALUES

The current agricultural use cropland value equals the rotational net return per acre of the soil map unit divided by the capitalization rate. However, the minimum value for cropland is \$350 per acre for soils with 25 percent slope or less regardless of this calculated amount. In 2012 and 2013, the minimum value is \$350 for these soils; in 2011, the minimum value is \$300 and in 2010, the minimum value is \$200.

## G. WOODLAND VALUE

1. The woodland value, with slopes of 25% or less, equals the cropland value less the costs to convert the woodland to cropland. The conversion costs used in the formula are as follows:

a. Clearing - \$500 per acre for all soils

b. Drainage

a.) Excessively drained, well drained, moderately well drained, (E, W, MW) - No Conversion Cost

b.) Somewhat poorly drained, poorly drained, very poorly drained, saturated (SWP, P, VP) - \$500 for Tile Drainage

c.) For the following soil series, a \$250 adjustment for surface drainage was used: Allis, Atkins, Blanchester, Bono, Canadice, Clermont, Condit, Conneaut, Darien, Delmar, Frenchtown, Fries, Ginat, Ilion, Latty, Lorain, McGuffey, Mill, Miner, Montgomery, Muskego, Pauling, Peoga, Piopolis, Purdy, Roselms, Sheffield, Swanton, Toledo, Trumbull, Valley, Wabash, Wabasha, Warners, Wayland, Willette, and Zipp.

2. The minimum value for woodland with slopes of 25% or less is \$230.

## H. PASTURELAND VALUE

Where soil map units listed in these tables or comparable soils are used for permanent pasture, the land should be valued as cropland.

## I. MINIMUM VALUES

Slopes of 25% or less:

Cropland & pasture	\$350
Woodland	\$230

Slopes greater than 25%:

Woodland & pasture	\$230
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## Exhibit A - Average Crop Yields by Year in Ohio

Ohio Department of Agriculture Annual Report and Statistics

Table 5 - Annual Summary: Crop Production and Value

<u>Year</u>	<u>Corn</u>	<u>Soybeans</u>	<u>Wheat</u>
1984	118	36.5	44
1985	127	41.5	62
1986	128	40.5	46
1987	120	37	58
1988	85	27	50
1989	118	31.5	51
1990	121	39	59
1991	96	36	49
1992	143	40	53
1993	110	38	52
1994	139	44	58
1995	121	38	61
1996	111	35	39
1997	134	44	63
1998	141	44	64
1999	126	36	70
2000	147	42	72
2001	138	41	67
2002	89	32	62
2003	156	38.5	68
2004	158	47	62
2005	143	45	71
2006	159	47	68
2007	150	47	63
2008	135	36	68
2009	174	49	72
2010	163	48	61
2011	158	47.5	58
2012	123	45	69
<b>Average 2003-2012</b>	151.9	45.0	66.0
<b>1984 Base</b>	118	36.5	44
<b>Average/1984 Base</b>	1.287288	1.232877	1.500000
<b>% increase</b>	28.73%	23.29%	50.00%

USDA/National Agricultural Statistics Service

**Exhibit B - Acres Harvested, 2008-2012  
TY 2014 Crop Rotation**

<u>Year</u>	<u>Corn</u>	<u>% of Total</u>	<u>Soybeans</u>	<u>% of Total</u>	<u>Wheat</u>	<u>% of Total</u>	<u>Corn, Beans &amp; Wheat Totals</u>
<b>2008</b>	3,260,000	<b>36.9%</b>	4,480,000	<b>50.7%</b>	1,090,000	<b>12.3%</b>	8,830,000
<b>2009</b>	3,310,000	<b>37.5%</b>	4,530,000	<b>51.4%</b>	980,000	<b>11.1%</b>	8,820,000
<b>2010</b>	3,270,000	<b>38.0%</b>	4,590,000	<b>53.3%</b>	750,000	<b>8.7%</b>	8,610,000
<b>2011</b>	3,400,000	<b>38.7%</b>	4,540,000	<b>51.6%</b>	850,000	<b>9.7%</b>	8,790,000
<b>2012</b>	3,650,000	<b>42.1%</b>	4,580,000	<b>52.8%</b>	450,000	<b>5.2%</b>	8,680,000
<b>Five Year Average</b>	3,378,000	<b>38.6%</b>	4,544,000	<b>52.0%</b>	824,000	<b>9.4%</b>	8,746,000

Ohio Dept. of Agriculture Annual Report--Table 5

**Exhibit C, FIVE YEAR AVERAGE CROP PRICES, TAX YEAR 2014**

Source: Ohio Agricultural Statistics Service

	<u>year</u>	<u>production</u>	<u>price</u>	<u>value (1000s)</u>
<b>CORN</b>	2006	470,640	\$ 3.30	1,553,112
	2007	541,500	\$ 3.95	2,138,925
	2008	421,200	\$ 3.95	1,663,740
	2009	546,360	\$ 3.70	2,021,532
	2010	533,010	\$ 5.55	2,958,206
	2011	508,760	\$ 6.40	3,256,064
	2012	448,950	\$ 7.45	3,344,678
	Totals	2,550,830		12,038,467
Weighted Avg. Price			\$ 4.72	
After Management Allowance of 5%			\$ <b>4.48</b>	
<b>SOYBEANS</b>	2006	217,140	\$ 6.25	1,357,125
	2007	194,110	\$ 10.10	1,960,511
	2008	161,280	\$ 9.60	1,548,288
	2009	221,970	\$ 9.60	2,130,912
	2010	220,320	\$ 11.80	2,599,776
	2011	215,650	\$ 11.90	2,566,235
	2012	206,100	\$ 14.50	2,988,450
	Totals	1,013,330		10,805,722
Weighted Avg. Price			\$ 10.66	
After Management Allowance of 5%			\$ <b>10.13</b>	
<b>WHEAT</b>	2006	65,280	\$ 3.30	215,424
	2007	45,990	\$ 5.50	252,945
	2008	74,120	\$ 5.80	429,896
	2009	70,560	\$ 4.35	306,936
	2010	45,750	\$ 5.20	237,900
	2011	49,300	\$ 6.60	325,380
	2012	31,050	\$ 8.40	260,820
	Totals	285,720		1,553,057
Weighted Avg. Price			\$ 5.44	
After Management Allowance of 5%			\$ <b>5.16</b>	

**Exhibit D, Production Costs, Tax Year 2014**  
**Determination of Five Year Average Costs for the Projected Crop Budgets**

<b>ITEM</b>		<b>Units</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>5 yr. Avg.</b>
<b>VARIABLE COSTS</b>										
<b>Seed</b>	<b>CORN</b>	1000k	\$1.16	\$2.05	\$2.50	\$2.81	\$2.88	\$3.13	\$3.28	\$2.67
	<b>SOYBEANS</b>	1000s	\$0.21	\$0.23	\$0.29	\$0.32	\$0.33	\$0.36	\$0.41	\$0.31
	<b>WHEAT</b>	1000s	\$0.04	\$0.02	\$0.02	\$0.02	\$0.02	\$0.03	\$0.03	\$0.02
<b>Fertilizer</b>	<b>N Corn</b>		\$0.29	\$0.49	\$0.55	\$0.27	\$0.50	\$0.53	\$0.56	\$0.47
	<b>N Wheat</b>		\$0.36	\$0.74	\$0.71	\$0.47	\$0.63	\$0.71	\$0.71	\$0.65
	<b>P2O5</b>		\$0.34	\$0.87	\$0.77	\$0.43	\$0.70	\$0.66	\$0.63	\$0.64
	<b>K2O</b>		\$0.20	\$0.48	\$0.72	\$0.35	\$0.50	\$0.53	\$0.48	\$0.47
	<b>LIME</b>		\$22.00	\$23.50	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$24.70
<b>Chemicals</b>	<b>CORN</b>		\$24.42	\$26.86	\$42.00	\$35.00	\$35.00	\$44.28	\$50.98	\$36.63
	<b>SOYBEANS</b>		\$21.40	\$21.10	\$30.00	\$30.00	\$30.00	\$33.55	\$31.40	\$28.50
	<b>WHEAT</b>		\$6.86	\$7.55	\$13.00	\$13.00	\$13.00	\$21.34	\$13.00	\$11.91
<b>Fuel, Oil, Grease</b>	<b>CORN</b>	-122	\$9.64	\$18.87	\$13.48	\$17.08	\$19.77	\$22.59	\$19.33	\$17.71
		-155	\$9.64	\$18.87	\$13.48	\$17.08	\$19.77	\$22.59	\$19.33	\$17.71
		-192	\$9.64	\$18.87	\$13.48	\$17.08	\$19.77	\$22.59	\$19.33	\$17.71
	<b>SOYBEANS</b>	-36	\$6.97	\$13.63	\$9.74	\$9.12	\$12.27	\$14.02	\$12.27	\$11.41
		-48	\$6.97	\$13.63	\$9.74	\$9.12	\$12.27	\$14.02	\$12.27	\$11.41
		-60	\$6.97	\$13.63	\$9.74	\$9.12	\$12.27	\$14.02	\$12.27	\$11.41
	<b>WHEAT</b>	-52	\$7.46	\$14.51	\$10.37	\$10.37	\$10.37	\$16.64	\$16.64	\$12.45
		-67	\$7.46	\$14.51	\$10.37	\$10.37	\$10.37	\$16.64	\$16.64	\$12.45
		-82	\$7.46	\$14.51	\$10.37	\$10.37	\$10.37	\$16.64	\$16.64	\$12.45
<b>Repairs</b>	<b>CORN</b>	-122	\$10.66	\$15.23	\$10.68	\$21.11	\$21.18	\$21.18	\$22.66	\$17.88
		-155	\$10.66	\$15.23	\$10.68	\$21.11	\$21.18	\$21.18	\$22.66	\$17.88
		-192	\$10.66	\$15.23	\$10.68	\$21.11	\$21.18	\$21.18	\$22.66	\$17.88
	<b>SOYBEANS</b>	-36	\$7.80	\$10.59	\$7.59	\$11.70	\$14.47	\$14.47	\$14.47	\$11.81
		-48	\$7.80	\$10.59	\$7.59	\$11.70	\$14.47	\$14.47	\$14.47	\$11.81
		-60	\$7.80	\$10.59	\$7.59	\$11.70	\$14.47	\$14.47	\$14.47	\$11.81
	<b>WHEAT</b>	-52	\$8.71	\$27.47	\$9.15	\$9.15	\$10.85	\$14.39	\$14.39	\$11.59
		-67	\$8.71	\$27.47	\$9.15	\$9.15	\$10.85	\$14.39	\$14.39	\$11.59
		-82	\$8.71	\$27.47	\$9.15	\$9.15	\$10.85	\$14.39	\$14.39	\$11.59
<b>Crop Insurance</b>	<b>CORN</b>	-122	\$6.90	\$11.00	\$21.60	\$19.50	\$19.50	\$25.00	\$29.35	\$19.32
		-155	\$7.07	\$11.00	\$21.60	\$19.00	\$19.00	\$25.00	\$29.35	\$19.12
		-192	\$7.78	\$12.00	\$24.50	\$20.00	\$20.00	\$24.00	\$29.35	\$20.10
	<b>SOYBEANS</b>	-36	\$5.63	\$7.00	\$20.20	\$8.00	\$8.00	\$16.00	\$24.00	\$11.84
		-48	\$5.58	\$7.50	\$20.80	\$8.00	\$8.00	\$19.00	\$24.00	\$12.66
		-60	\$5.83	\$8.00	\$22.30	\$8.00	\$8.00	\$19.00	\$24.00	\$13.06
	<b>WHEAT</b>	-52	\$3.94	\$5.77	\$10.50	\$5.50	\$5.50	\$14.00	\$14.00	\$8.25
		-67	\$4.04	\$5.87	\$10.50	\$6.00	\$5.50	\$14.00	\$14.00	\$8.37
		-82	\$4.26	\$6.20	\$11.00	\$6.00	\$6.00	\$14.00	\$14.00	\$8.64

**Exhibit D, Production Costs, Tax Year 2014**

<b>ITEM</b>		<b>Units</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>5 yr. Avg.</b>	
<b>Miscellaneous</b>	<b>CORN</b>	-122	<del>\$6.00</del>	\$6.00	\$7.00	\$7.00	\$8.00	\$8.00	<del>\$12.00</del>	\$7.20	
		-155	<del>\$7.00</del>	\$7.00	\$8.00	\$8.00	\$9.00	\$9.00	<del>\$12.00</del>	\$8.20	
		-192	<del>\$8.00</del>	\$8.00	\$9.00	\$9.00	\$10.00	\$10.00	<del>\$12.00</del>	\$9.20	
	<b>SOYBEANS</b>	-36	<del>\$7.00</del>	\$7.00	\$8.00	\$8.00	\$9.00	\$9.00	\$10.00	<del>\$10.00</del>	\$8.20
		-48	<del>\$7.00</del>	\$7.00	\$8.00	\$8.00	\$9.00	\$9.00	\$9.00	<del>\$10.00</del>	\$8.20
		-60	<del>\$7.00</del>	\$7.00	\$8.00	\$8.00	\$9.00	\$9.00	\$9.00	<del>\$10.00</del>	\$8.20
	<b>WHEAT</b>	-52	<del>\$6.00</del>	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	<del>\$6.00</del>	\$6.00
		-67	<del>\$6.00</del>	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	<del>\$6.00</del>	\$6.00
		-82	<del>\$6.00</del>	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	<del>\$6.00</del>	\$6.00
<b>Drying:</b>											
<b>Fuel &amp; Electric</b>	<b>CORN</b>		<del>\$0.14</del>	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	<del>\$0.24</del>	\$0.11	
<b>Trucking:</b>											
<b>Fuel Only</b>	<b>CORN</b>		\$0.06	\$0.09	<del>\$0.15</del>	<del>\$0.02</del>	\$0.02	\$0.03	\$0.02	\$0.05	
	<b>SOYBEANS</b>		\$0.06	\$0.09	<del>\$0.15</del>	<del>\$0.02</del>	\$0.02	\$0.03	\$0.02	\$0.05	
	<b>WHEAT</b>		\$0.06	\$0.09	<del>\$0.15</del>	\$0.04	<del>\$0.02</del>	\$0.02	\$0.02	\$0.05	
<b>Interest on variable costs</b>			8.50%	<del>9.00%</del>	9.00%	6.00%	6.00%	6.00%	<del>4.00%</del>	7.10%	
<b>FIXED COSTS</b>											
<b>Labor Charge</b>	<b>CORN</b>		<del>\$36.00</del>	<del>\$48.60</del>	\$43.20	\$40.50	\$40.50	\$40.50	\$45.00	\$41.94	
	<b>SOYBEANS</b>		<del>\$20.00</del>	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	<del>\$30.00</del>	\$27.00	
	<b>WHEAT</b>		<del>\$20.00</del>	<del>\$27.00</del>	\$27.00	\$27.00	\$27.00	\$27.00	\$22.50	\$26.10	
<b>Machinery &amp; Equipment</b>	<b>CORN</b>		<del>\$54.35</del>	\$65.07	\$64.45	\$77.45	\$92.09	\$107.46	<del>\$115.92</del>	\$81.30	
	<b>SOYBEANS</b>		<del>\$46.56</del>	\$53.86	\$52.45	\$53.42	\$71.83	<del>\$85.10</del>	\$85.10	\$63.33	
	<b>WHEAT</b>		<del>\$50.04</del>	\$56.71	\$55.16	\$55.53	\$68.61	<del>\$99.08</del>	\$99.08	\$67.02	

Source: Field Crop Enterprise Budgets 2013, OSU Extension, Dept. of Agricultural, Environmental, and Development Economics.

**2014 CORN BUDGET**  
conservation tillage

ITEM	Inputs - 5 Yr. Average			5 YR. AVG. COST Exhibit D	Costs per Acre		
	UNITS	BASE 120 BUSHEL	@ ADD. BUSHEL		BASE 120 BUSHEL	@ ADD. BUSHEL	
SEED:	KERNELS (1000's)	28	0.12	\$2.67	\$73.69	\$0.33	
FERTILIZER:							
	N*	LB.	128.4	0.65	\$0.47	\$60.35	\$0.31
	P2O5	LB.	44.5	0.37	\$0.64	\$28.48	\$0.24
	K2O	LB.	32.9	0.27	\$0.47	\$15.46	\$0.13
	LIME	TON	0.25	0	\$24.70	\$6.18	\$0.00
CHEMICALS:				\$36.63	\$36.63	\$0.00	
FUEL, OIL, GREASE				\$17.71	\$17.71	\$0.00	
REPAIRS:				\$17.88	\$17.88	\$0.00	
CROP INSURANCE:				\$19.32	\$19.32	(\$0.01)	
MISCELLANEOUS:				\$7.20	\$7.20	\$0.03	
DRYING: FUEL & ELECTRIC ONLY				\$0.11	\$13.20	\$0.11	
TRUCKING: FUEL ONLY				\$0.05	\$6.00	\$0.00	
	<b>SUBTOTAL</b>				\$302.10	\$1.13	
INTEREST: on Subtotal			7.1%/12 X 7 MOS 4.1% int x subtotal		\$12.51	\$0.05	
LABOR CHARGE:				\$41.94	\$41.94	\$0.00	
MACHINERY & EQUIPMENT CHARGE:				\$81.30	\$81.30	\$0.00	
	<b>TOTALS</b>				\$437.85	\$1.18	

8/1/2013

## 2014 SOYBEAN BUDGET

ITEM	Inputs - 5 Yr. Average			5 YR. AVG. COST Exhibit D	Costs per Acre	
	UNITS	BASE 36 <u>BUSHEL</u>	@ ADD. <u>BUSHEL</u>		BASE 36 <u>BUSHEL</u>	@ ADD. <u>BUSHEL</u>
SEED:	seeds (1000s)	180.0	0	\$0.31	\$55.80	\$0.00
FERTILIZER:						
	N LB.	0	0	\$0.00	\$0.00	\$0.00
	P2O5 LB.	29	0.8	\$0.64	\$18.43	\$0.51
	K2O LB.	54	1.4	\$0.47	\$25.61	\$0.66
	LIME TON	0.25	0	\$24.70	\$6.18	\$0.00
CHEMICALS:				\$28.50	\$28.50	\$0.00
FUEL, OIL, GREASE				\$11.41	\$11.41	\$0.00
REPAIRS:				\$11.81	\$11.81	\$0.00
CROP INSURANCE				\$11.84	\$11.84	\$0.06
MISCELLANEOUS:				\$8.20	\$8.20	\$0.00
TRUCKING: FUEL ONLY				\$0.05	\$1.80	\$0.00
	SUBTOTAL				\$179.57	\$1.23
		7.10%/12 X 5 MOS				
INTEREST: ON SUBTOTALLED COST		3.0%	int x subtotal		\$5.31	\$0.04
LABOR CHARGE:				\$27.00	\$27.00	\$0.00
MACHINERY & EQUIPMENT CHARGE:				\$63.33	\$63.33	\$0.00
	TOTALS				\$275.21	\$1.27

8/1/2013

## 2014 WHEAT BUDGET

ITEM	UNITS	Inputs - 5 Yr. Average		5 YR. AVG. COST Exhibit D	Costs per Acre	
		BASE 52 BUSHELS	@ ADD. BUSHEL		BASE 52 BUSHELS	@ ADD. BUSHEL
SEED:	seeds (1000s)	1,400	0	\$0.02	\$28.00	\$0.00
FERTILIZER:						
	N LB.	44	1.75	\$0.65	\$28.60	\$1.14
	P2O5 LB.	33	0.63	\$0.64	\$21.12	\$0.40
	K2O LB.	39	0.37	\$0.47	\$18.33	\$0.17
	LIME TON	0.25	0	\$24.70	\$6.18	\$0.00
CHEMICALS:				\$11.91	\$11.91	\$0.00
FUEL, OIL, GREASE				\$12.45	\$12.45	\$0.00
REPAIRS:				\$11.59	\$11.59	\$0.00
CROP INSURANCE:				\$8.25	\$8.25	\$0.01
MISCELLANEOUS:				\$6.00	\$6.00	\$0.00
TRUCKING: FUEL ONLY				\$0.05	\$2.60	\$0.00
	SUBTOTAL				\$155.03	\$1.72
INTEREST: ON SUBTOTALLED COST		7.1%/12 X 8 MOS 4.7%	int x subtotal		\$7.34	\$0.08
LABOR CHARGE:				\$26.10	\$26.10	\$0.00
MACHINERY & EQUIPMENT CHARGE:				\$67.02	\$67.02	\$0.00
	TOTALS				\$255.48	\$1.80

8/1/2013

1/10/2014

**INTEREST RATES USED IN CAPITALIZATION RATE  
2008-2014**

<b>TAX YEAR</b>	<b>INTEREST RATE</b>	<b>EQUITY RATE</b>
2008	<del>6.95</del>	<del>9.25</del>
2009	6.55	<del>5.25</del>
2010	6.70	5.25
2011	6.05	5.25
2012	4.70	5.25
2013	<del>4.30</del>	5.25
2014	5.45	5.25
	5.89	5.25

\* Interest rate is based on a 15-year fixed multi flex loan offered by Farm Credit Services of Mid-America at [www.e-farmcredit.com/TodaysRates/FarmRates](http://www.e-farmcredit.com/TodaysRates/FarmRates).

\*\* Equity rate is the prime rate plus 2% at [www.bankrate.com](http://www.bankrate.com) from the Wall Street Journal's bank survey.

**ACTUAL CAPITALIZATION RATES USED IN CALCULATION  
2008-2014**

<b>TAX YEAR</b>	<b>CAPITALIZATION RATE</b>
2008	8.3%
2009	7.9%
2010	7.8%
2011	7.6%
2012	7.5%
2013	6.7%
2014	6.2%

## 2014 CAUV SAMPLE CALCULATION

SOIL:	Millgrove, Silt Loam
SLOPE:	0-2
EROSION:	Slight
DRAINAGE:	Very poorly
PROD. INDEX:	100

	<u>CORN</u>	<u>BEANS</u>	<u>WHEAT</u>
PI DAT yield/acre (1984)	144	52	64
% increased yield	1.287288	1.232877	1.5
adjusted yield/acre	185	64	96
X Crop Price/Unit	\$4.48	\$10.13	\$5.16
= GROSS INCOME / ACRE	\$828.80	\$648.32	\$495.36
YIELD / ACRE	185	64	96
BASE YIELD	120	36	52
= YIELD ABOVE BASE	65	28	44
X ADDED UNIT COST	\$1.18	\$1.27	\$1.80
ADDED UNIT COST / ACRE	\$76.70	\$35.56	\$79.20
BASE YIELD COST	\$437.85	\$275.21	\$255.48
= TOTAL NON-LAND PROD. COST	\$514.55	\$310.77	\$334.68
NET RETURN / ACRE	\$314.25	\$337.55	\$160.68
X CROPPING PATTERN	0.386	0.52	0.094
= ROTATIONAL NET RETURN / ACRE	\$121.30	\$175.53	\$15.10
TOTAL ROTATIONAL NET RETURN	\$311.93		
BASE CAP RATE	0.062		
CAUV LAND VALUE	\$5,031.14	SAY	\$5,030

8/15/2013

## 2011 CAUV SAMPLE CALCULATION

**SOIL:** Millgrove, Silt Loam  
**SLOPE:** 0-2  
**EROSION:** Slight  
**DRAINAGE:** Very poorly  
**PROD. INDEX:** 100

	<u>CORN</u>	<u>BEANS</u>	<u>WHEAT</u>
PI DAT yield/acre (1984)	144	52	64
% increased yield	1.227966	1.164384	1.529545
adjusted yield/acre	177	61	98
X Crop Price/Unit	\$2.89	\$7.22	\$3.64
= GROSS INCOME / ACRE	\$511.53	\$440.42	\$356.72
YIELD / ACRE	177	61	98
BASE YIELD	110	35	51
= YIELD ABOVE BASE	67	26	47
X ADDED UNIT COST	\$0.84	\$0.77	\$1.19
ADDED UNIT COST / ACRE	\$56.28	\$20.02	\$55.93
BASE YIELD COST	\$300.98	\$204.60	\$192.94
= TOTAL NON-LAND PROD. COST	\$357.26	\$224.62	\$248.87
NET RETURN / ACRE	\$154.27	\$215.80	\$107.85
X CROPPING PATTERN	0.386	0.509	0.105
= ROTATIONAL NET RETURN / ACRE	\$59.55	\$109.84	\$11.32
TOTAL ROTATIONAL NET RETURN	\$180.71		
BASE CAP RATE	0.076		
CAUV LAND VALUE	\$2,377.82	SAY	\$2,380

## 2014 CAUV SAMPLE CALCULATION

SOIL:	Miami Silt Loam
SLOPE:	2-6
EROSION:	Slight
DRAINAGE:	Well
PROD. INDEX:	76

	<u>CORN</u>	<u>BEANS</u>	<u>WHEAT</u>
PI DAT yield/acre (1984)	108	38	50
% increased yield	1.287288	1.232877	1.5
adjusted yield/acre	139	47	75
X Crop Price/Unit	\$4.48	\$10.13	\$5.16
= GROSS INCOME / ACRE	\$622.72	\$476.11	\$387.00
YIELD / ACRE	139	47	75
BASE YIELD	120	36	52
= YIELD ABOVE BASE	19	11	23
X ADDED UNIT COST	\$1.18	\$1.27	\$1.80
ADDED UNIT COST / ACRE	\$22.42	\$13.97	\$41.40
BASE YIELD COST	\$437.85	\$275.21	\$255.48
= TOTAL NON-LAND PROD. COST	\$460.27	\$289.18	\$296.88
NET RETURN / ACRE	\$162.45	\$186.93	\$90.12
X CROPPING PATTERN	0.386	0.52	0.094
= ROTATIONAL NET RETURN / ACRE	\$62.71	\$97.20	\$8.47
TOTAL ROTATIONAL NET RETURN	\$168.38		
BASE CAP RATE	0.062		
CAUV LAND VALUE	\$2,715.82	SAY	\$2,720

8/15/2013

## 2011 CAUV SAMPLE CALCULATION

**SOIL:** Miami Silt Loam  
**SLOPE:** 2-6  
**EROSION:** Slight  
**DRAINAGE:** Well  
**PROD. INDEX:** 76

	<u>CORN</u>	<u>BEANS</u>	<u>WHEAT</u>
PI DAT yield/acre (1984)	108	38	50
% increased yield	1.227966	1.164384	1.529545
adjusted yield/acre	133	44	76
X Crop Price/Unit	\$2.89	\$7.22	\$3.64
= GROSS INCOME / ACRE	\$384.37	\$317.68	\$276.64
YIELD / ACRE	133	44	76
BASE YIELD	110	35	51
= YIELD ABOVE BASE	23	9	25
X ADDED UNIT COST	\$0.84	\$0.77	\$1.19
ADDED UNIT COST / ACRE	\$19.32	\$6.93	\$29.75
BASE YIELD COST	\$300.98	\$204.60	\$192.94
= TOTAL NON-LAND PROD. COST	\$320.30	\$211.53	\$222.69
NET RETURN / ACRE	\$64.07	\$106.15	\$53.95
X CROPPING PATTERN	0.386	0.509	0.105
= ROTATIONAL NET RETURN / ACRE	\$24.73	\$54.03	\$5.66
TOTAL ROTATIONAL NET RETURN	\$84.43		
BASE CAP RATE	0.076		
CAUV LAND VALUE	\$1,110.87	SAY	\$1,110

8/20/2010

## CAUV Summary Values

1/10/2014  
FY 2014 Final

productivity index	no. of units	net return/acre			cropland value/acre		
		low	high	avg.	low	high	avg.
0-49	601	0	87	1	350	350	350
50-59	749	0	129	46	350	2,080	700
60-69	1,114	0	181	110	350	2,930	1,778
70-79	798	105	241	169	1,690	3,890	2,728
80-89	211	176	283	230	2,840	4,570	3,718
90-99	35	256	312	274	4,130	5,030	4,428
100+	6	312	312	312	5,030	5,030	5,030
<b>all regions</b>	<b>3,514</b>	<b>\$0</b>	<b>\$312</b>	<b>\$100</b>	<b>\$350</b>	<b>\$5,030</b>	<b>\$1,668</b>

### TY 2011 Final

productivity index	no. of units	net return/acre			cropland value/acre		
		low	high	avg.	low	high	avg.
0-49	601	0	27	0	300	300	300
50-59	749	0	59	12	300	780	328
60-69	1,114	0	96	47	300	1,260	632
70-79	798	43	132	85	570	1,740	1,126
80-89	211	88	161	124	1,160	2,110	1,641
90-99	35	140	179	153	1,840	2,360	2,017
100+	6	181	181	181	2,380	2,380	2,380
<b>all regions</b>	<b>3,514</b>	<b>\$0</b>	<b>\$181</b>	<b>\$46</b>	<b>\$300</b>	<b>\$2,380</b>	<b>\$700</b>

## CAUV Summary Values

1/10/2014  
FY 2014 Final

productivity index	no. of units	net return/acre			cropland value/acre		
		low	high	avg.	low	high	avg.
0-49	601	0	87	1	350	350	350
50-59	749	0	129	46	350	2,080	700
60-69	1,114	0	181	110	350	2,930	1,778
70-79	798	105	241	169	1,690	3,890	2,728
80-89	211	176	283	230	2,840	4,570	3,718
90-99	35	256	312	274	4,130	5,030	4,428
100+	6	312	312	312	5,030	5,030	5,030
<b>all regions</b>	<b>3,514</b>	<b>\$0</b>	<b>\$312</b>	<b>\$100</b>	<b>\$350</b>	<b>\$5,030</b>	<b>\$1,668</b>

### TY 2013 Final

productivity index	no. of units	net return/acre			cropland value/acre		
		low	high	avg.	low	high	avg.
0-49	601	0	60	0	350	350	350
50-59	749	0	98	29	350	1,470	516
60-69	1,114	0	143	81	350	2,130	1,218
70-79	798	77	196	131	1,140	2,920	1,958
80-89	211	134	232	183	2,000	3,460	2,743
90-99	35	207	251	221	3,080	3,750	3,310
100+	6	253	253	253	3,780	3,780	3,780
<b>all regions</b>	<b>3,514</b>	<b>\$0</b>	<b>\$253</b>	<b>\$75</b>	<b>\$350</b>	<b>\$3,780</b>	<b>\$1,205</b>

### Average CAUV Value Per Acre 1998-2014

Productivity		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Index																		
0-49		100	100	100	100	100	100	100	100	108	100	100	176	200	300	350	350	350
50-59		111	114	107	104	102	101	114	106	134	100	100	200	214	328	362	516	700
60-69		230	233	200	181	125	113	104	101	125	123	188	435	436	632	610	1218	1778
70-79		448	452	417	394	285	244	157	124	241	283	431	746	845	1126	1147	1958	2728
80-89		694	699	666	640	516	467	342	293	465	521	708	1059	1278	1641	1717	2743	3718
90-99		894	908	869	842	713	663	533	492	675	747	973	1368	1601	2017	2128	3310	4428
100+		1040	1060	1030	1000	870	820	690	650	880	970	1200	1620	1900	2380	2490	3780	5030
<b>Total</b>		258	262	242	231	180	163	135	123	177	181	249	459	505	700	719	1205	1668
<b>No. of</b>																		
<b>Soils</b>		3246	3281	3371	3279	3307	3313	3313	3358	3482	3510	3511	3511	3514	3514	3514	3514	3514

### Average CAUV Value Per Acre by Reappraisal/Update Year

Productivity		1999	2002	2005	2008	2011	2014
Index							
0-49		100	100	100	100	300	350
50-59		114	102	106	100	328	700
60-69		233	125	101	188	632	1778
70-79		452	285	124	431	1126	2728
80-89		699	516	293	708	1641	3718
90-99		908	713	492	973	2017	4428
100+		1060	870	650	1200	2380	5030
<b>Total</b>		262	180	123	249	700	1668
<b># Soils</b>		3281	3307	3358	3511	3514	3514

## Comparison of Inputs, Tax Years 2011-2014

### Crop Prices

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>Difference</u>	
					<u>2011-14</u>	<u>2013-14</u>
Corn	\$2.89	\$3.19	\$3.91	\$4.48	<b>\$1.59</b>	\$0.57
Soybeans	\$7.22	\$7.74	\$8.98	\$10.13	<b>\$2.91</b>	\$1.15
Wheat	\$3.64	\$3.98	\$4.54	\$5.16	<b>\$1.52</b>	\$0.62

### Non-land Production Costs

<u>Base Cost</u>						
Corn	\$300.98	\$350.71	\$391.90	\$437.85	<b>\$136.87</b>	\$45.95
Soybeans	\$204.60	\$227.51	\$248.69	\$275.21	<b>\$70.61</b>	\$26.52
Wheat	\$192.94	\$211.52	\$230.62	\$255.48	<b>\$62.54</b>	\$24.86

### Additional Unit Cost

Corn	\$0.84	\$0.90	\$1.04	\$1.18	<b>\$0.34</b>	\$0.14
Soybeans	\$0.77	\$0.93	\$1.12	\$1.27	<b>\$0.50</b>	\$0.15
Wheat	\$1.19	\$1.41	\$1.61	\$1.80	<b>\$0.61</b>	\$0.19

### Capitalization Rate

Mortgage/Equity Ratio	60/40	60/40	60/40	60/40		
Years	15	15	15	15		
Interest Rate	7.00	6.79	6.19	5.89		
Equity Rate	7.30	6.90	6.05	5.25		
Tax Additur	1.3	1.5	1.5	1.5		
Capitalization Rate	7.6	7.5	6.7	6.2	(1.40)	(0.50)