Ohio | Department of Taxation

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May 28, 2015
FINAL VALUES- 2015

2015 CURRENT AGRICULTURAL USE VALUE OF LAND TABLES

EXPLANATION OF THE CALCULATION OF VALUES FOR VARIOUS SOIL MAPPING UNITS FOR TAX YEAR 2015

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 2015, yield data from calendar years 2005-2014 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.

		TY 2012	TY 2013	TY 2014	TY 2015
Crop	**1984 Base**	**2001-2010**	**2002-2011**	**2003-2012**	**2005-2014**
Corn	118.0 bu	146.5 bu	148.5 bu	151.9 bu	155.2 bu
Soybeans	36.5 bu	43.1 bu	43.7 bu	45.0 bu	46.7 bu
Wheat	44.0 bu	66.2 bu	65.3 bu	66.0 bu	67.1 bu

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: 40.0% corn, 52.6% beans, and 7.4% wheat. This rotation is based on data from 2010-2014 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 2015, a minimum value of $350 is used for these soils. In 2012, the minimum value was increased from $300 to $350 per acre.

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 2008 through 2014. The annual production and price per unit for each of these crops for the 2008 through 2014 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.

		TY 2012	TY 2013	TY 2014	TY 2015
Crop	**Unit**	**2004-2010**	**2005-2011**	**2006-2012**	**2008-2014**
Corn	Bushel	$3.19	$3.91	$4.48	$4.55
Soybeans	Bushel	$7.74	$8.98	$10.13	$11.09
Wheat	Bushel	$3.98	$4.54	$5.16	$5.67

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 2009-2015, 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 2015 are summarized below and compared with the costs used for tax years 2012 and 2014:

NON-LAND PRODUCTION COSTS				
Crop Base Cost	**Base Yld/2015**	**TY 2012**	**TY 2014**	**TY 2015**
Corn	124 bu	$350.71	$437.85	$516.99
Soybeans	36 bu	$227.51	$275.21	$325.42
Wheat	54 bu	$211.52	$255.48	$296.98
Additional Cost per Unit				
Corn	1 bu	$ 0.90	$ 1.18	$ 1.36
Soybeans	1 bu	$ 0.93	$ 1.27	$ 1.24
Wheat	1 bu	$ 1.41	$ 1.80	$ 1.77

E. CAPITALIZATION RATE

Five-year averaging is used to derive the Farm Credit Service interest rate of 6.15% assuming an 80% loan for a 25-year term, payable annually, and an interest rate of 5.25% for the 20 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:

80% loan x annual debt service of 0.079345	=	0.063476
20% equity x equity yield rate of .0525	=	0.010500
Subtotal		0.073976
Less: equity buildup for 5 years % loan x % mortgage paid off x sinking fund factor at equity rate for 5 years (0.80) [1- (11.3315/12.6032)] (0.180073)	=	(0.01454)
Less: 5% appreciation times sinking fund factor @ equity yield rate of .0525 .05 x 0.180073	=	(0.00900)
Capitalization Rate before Taxes	=	0.0504 or 5.0%

For tax year 2014 the statewide average effective tax rate after application of the reduction factors, (Section 319.301 Ohio Revised Code), levied on agricultural property was 49.58 mills. The 9.7 percent non-business credit rollback authorized by section 319.302 of the Revised Code reduced this rate further to 44.77 mills. As a percent of market value the effective tax rate to be used in this year's capitalization formula is 1.6%, (.35 x 44.77)/1000.

The capitalization rate, including R.E. taxes, is 6.6% 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 tax year 2012, the minimum value was increased from $300 to $350 per acre.

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 - $1,000 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) - $770 for Tile Drainage

      c.) For the following soil series, a $380 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

Exhibit A - Average Crop Yields by Year in Ohio

USDA, National Agricultural Statistics Service
Crop Production 2014 Summary, January 2015

Year	Corn	Soybeans	Wheat
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	61
2008	135	36	68
2009	174	49	72
2010	163	48	61
2011	158	47.5	58
2012	120	45	68
2013	174	49.5	70
2014	176	52.5	74
Average 2005-2014	155.2	46.7	67.1
1984 Base	118	36.5	44
Average/1984 Base % increase	1.315254	1.279452	1.525000
	31.53%	27.95%	52.50%

1/15/2015

USDA/National Agricultural Statistics Service
for use in TY 2015 CAUV land values: update the PIDAT on mainframe

Exhibit B - Acres Harvested, 2010-2014
TY 2015 Crop Rotation

Year	Corn	% of Total	Soybeans	% of Total	Wheat	% of Total	Corn, Beans & Wheat Totals
2010	3,270,000	**38.0%**	4,590,000	**53.3%**	750,000	**8.7%**	8,610,000
2011	3,400,000	**38.7%**	4,540,000	**51.6%**	850,000	**9.7%**	8,790,000
2012	3,650,000	**42.0%**	4,590,000	**52.8%**	450,000	**5.2%**	8,690,000
2013	3,730,000	**42.1%**	4,490,000	**50.7%**	640,000	**7.2%**	8,860,000
2014	3,470,000	**39.2%**	4,840,000	**54.7%**	545,000	**6.2%**	8,855,000
Five Year Average	3,504,000	**40.0%**	4,610,000	**52.6%**	647,000	**7.4%**	8,761,000

USDA, National Agricultural Statistics Service
Crop Production, 2014 Summary, January 2015
1/15/2015

2/24/2015

Exhibit C, FIVE YEAR AVERAGE CROP PRICES, TAX YEAR 2015

USDA, National Agricultural Statistics Service

2014 Summary: Crop Values, February 2015; Crop Production, January 2015

	Year	Production (1,000 bu)		Price		Value (1,000 dollars)
CORN	2008	421,200	$	4.21		1,773,252
	2009	546,360	$	~~3.55~~		1,939,578
	2010	533,010	$	5.45		2,904,905
	2011	508,760	$	6.44		3,276,414
	2012	438,000	$	~~7.09~~		3,105,420
	2013	649,020	$	4.41		2,862,178
	2014	610,720	$	3.65		2,229,128
Totals		2,722,710			$	13,045,877
Weighted Avg. Price			$	4.79		
After Management Allowance of 5%			**$**	**4.55**		
SOYBEANS	2008	161,280	$	10.30		1,661,184
	2009	221,970	$	~~9.78~~		2,170,867
	2010	220,320	$	11.50		2,533,680
	2011	217,920	$	13.00		2,832,960
	2012	206,550	$	~~14.60~~		3,015,630
	2013	222,255	$	13.00		2,889,315
	2014	254,100	$	10.40		2,642,640
Totals		1,075,875			$	12,559,779
Weighted Avg. Price			$	11.67		
After Management Allowance of 5%			**$**	**11.09**		
WHEAT	2008	74,120	$	5.82		431,378
	2009	70,560	$	~~4.41~~		311,170
	2010	45,750	$	5.21		238,358
	2011	49,300	$	6.73		331,789
	2012	30,600	$	~~7.94~~		242,964
	2013	44,800	$	6.54		292,992
	2014	40,330	$	5.55		223,832
Totals		254,300			$	1,518,348
Weighted Avg. Price			$	5.97		
After Management Allowance of 5%			**$**	**5.67**		

Exhibit D, Production Costs, Tax Year 2015
Determination of Five Year Average Costs for the Projected Crop Budgets

ITEM		Units	2009	2010	2011	2012	2013	2014	2015	5 yr. Avg.
VARIABLE COSTS										
Seed	CORN	1000k	~~$2.50~~	$2.81	$2.88	$3.13	$3.28	~~$3.44~~	$3.44	$3.11
	SOYBEANS	1000s	~~$0.29~~	$0.32	$0.33	$0.36	$0.41	$0.41	~~$0.43~~	$0.37
	WHEAT	1000s	~~$0.02~~	$0.02	$0.02	$0.03	$0.03	~~$0.03~~	$0.03	$0.03
Fertilizer	N Corn		$0.55	~~$0.27~~	$0.50	$0.53	~~$0.56~~	$0.46	$0.46	$0.50
	N Wheat		~~$0.71~~	~~$0.47~~	$0.63	$0.71	$0.71	$0.64	$0.57	$0.65
	P2O5, Corn/Soybeans		~~$0.77~~	~~$0.43~~	$0.70	$0.66	$0.63	$0.60	$0.57	$0.63
	P2O5 Wheat		~~$0.77~~	~~$0.43~~	$0.70	$0.66	$0.63	$0.43	$0.53	$0.59
	K2O, Corn/Soybeans		~~$0.72~~	~~$0.35~~	$0.50	$0.53	$0.48	$0.38	$0.40	$0.46
	K2O Wheat		~~$0.72~~	$0.35	$0.50	$0.53	$0.48	$0.35	~~$0.34~~	$0.44
	LIME		~~$25.00~~	~~$25.00~~	$25.00	$25.00	$25.00	$25.00	$25.00	$25.00
Chemicals	CORN		$42.00	~~$35.00~~	$35.00	$44.28	$50.98	$55.93	~~$56.08~~	$45.64
	SOYBEANS		~~$30.00~~	$30.00	$30.00	$33.55	$31.40	$32.92	~~$33.84~~	$31.57
	WHEAT		~~$13.00~~	$13.00	$13.00	~~$21.34~~	$13.00	$13.00	$13.00	$13.00
Fuel, Oil, Grease	CORN	-131	~~$13.48~~	$17.08	$19.77	~~$22.59~~	$19.33	$20.14	$13.52	$17.97
		-163	~~$13.48~~	$17.08	$19.77	~~$22.59~~	$19.33	$20.14	$13.52	$17.97
		-196	~~$13.48~~	$17.08	$19.77	~~$22.59~~	$19.33	$20.14	$13.52	$17.97
	SOYBEANS	-38	$9.74	$9.12	$12.27	~~$14.02~~	$12.27	$11.42	~~$7.67~~	$10.96
		-48	$9.74	$9.12	$12.27	~~$14.02~~	$12.27	$11.42	~~$7.67~~	$10.96
		-57	$9.74	$9.12	$12.27	~~$14.02~~	$12.27	$11.42	~~$7.67~~	$10.96
	WHEAT	-58	~~$10.37~~	$10.37	$10.37	~~$16.64~~	$16.64	$15.76	$14.63	$13.55
		-73	~~$10.37~~	$10.37	$10.37	~~$16.64~~	$16.64	$15.76	$14.63	$13.55
		-87	~~$10.37~~	$10.37	$10.37	~~$16.64~~	$16.64	$15.76	$14.63	$13.55
Repairs	CORN	-131	~~$10.68~~	$21.11	$21.18	$21.18	$22.66	~~$26.78~~	$26.78	$22.58
		-163	~~$10.68~~	$21.11	$21.18	$21.18	$22.66	~~$26.78~~	$26.78	$22.58
		-196	~~$10.68~~	$21.11	$21.18	$21.18	$22.66	~~$26.78~~	$26.78	$22.58
	SOYBEANS	-38	~~$7.59~~	$11.70	$14.47	$14.47	$14.47	~~$20.61~~	$20.61	$15.14
		-48	~~$7.59~~	$11.70	$14.47	$14.47	$14.47	~~$20.61~~	$20.61	$15.14
		-57	~~$7.59~~	$11.70	$14.47	$14.47	$14.47	~~$20.61~~	$20.61	$15.14
	WHEAT	-58	~~$9.15~~	$9.15	$10.85	$14.39	$14.39	~~$20.32~~	$20.32	$13.82
		-73	~~$9.15~~	$9.15	$10.85	$14.39	$14.39	~~$20.32~~	$20.32	$13.82
		-87	~~$9.15~~	$9.15	$10.85	$14.39	$14.39	~~$20.32~~	$20.32	$13.82
Crop Insurance	CORN	-131	$21.60	$19.50	$19.50	$25.00	~~$29.35~~	$20.00	~~$16.30~~	$21.12
		-163	$21.60	$19.00	$19.00	$25.00	~~$29.35~~	$21.00	~~$17.00~~	$21.12
		-196	$24.50	$20.00	$20.00	$24.00	~~$29.35~~	$21.00	~~$17.80~~	$21.90
	SOYBEANS	-38	$20.20	~~$8.00~~	$8.00	$16.00	~~$24.00~~	$14.00	$9.50	$13.54
		-48	$20.80	~~$8.00~~	$8.00	$19.00	~~$24.00~~	$15.00	$8.50	$14.26
		-57	$22.30	~~$8.00~~	$8.00	$19.00	~~$24.00~~	$15.00	$10.00	$14.86
	WHEAT	-58	$10.50	$5.50	~~$5.50~~	~~$14.00~~	$14.00	$14.00	$14.00	$11.60
		-73	$10.50	$6.00	~~$5.50~~	~~$14.00~~	$14.00	$14.00	$14.00	$11.70
		-87	$11.00	~~$6.00~~	$6.00	~~$14.00~~	$14.00	$14.00	$14.00	$11.80

Exhibit D, Production Costs, Tax Year 2015

ITEM		Units	2009	2010	2011	2012	2013	2014	2015	5 yr. Avg.
Variable Miscellaneous	CORN	-131	$7.00	$7.00	$8.00	$8.00	~~$12.00~~	$12.00	~~$5.00~~	$8.40
		-163	$8.00	$8.00	$9.00	$9.00	~~$12.00~~	$12.00	~~$5.00~~	$9.20
		-196	~~$9.00~~	$9.00	$10.00	$10.00	~~$12.00~~	$12.00	$12.00	$10.60
	SOYBEANS	-38	~~$8.00~~	$8.00	$9.00	$9.00	~~$10.00~~	$10.00	$9.50	$9.10
		-48	~~$8.00~~	$8.00	$9.00	$9.00	~~$10.00~~	$10.00	$8.50	$8.90
		-57	~~$8.00~~	$8.00	$9.00	$9.00	~~$10.00~~	$10.00	$10.00	$9.20
	WHEAT	-58	~~$6.00~~	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00
		-73	~~$6.00~~	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00
		-87	~~$6.00~~	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00	$6.00
Drying:										
Fuel & Electric	CORN		~~$0.11~~	$0.11	$0.11	$0.11	~~$0.21~~	$0.21	$0.16	$0.14
Trucking:										
Fuel Only	CORN		~~$0.15~~	~~$0.02~~	$0.02	$0.03	$0.02	$0.02	$0.02	$0.02
	SOYBEANS		~~$0.15~~	~~$0.02~~	$0.02	$0.03	$0.02	$0.02	$0.02	$0.02
	WHEAT		~~$0.15~~	$0.04	~~$0.02~~	$0.02	$0.02	$0.02	$0.02	$0.03
Interest on variable costs			~~9.00%~~	6.00%	6.00%	6.00%	~~4.00%~~	4.00%	5.00%	5.40%
FIXED COSTS										
Labor Charge	CORN		$43.20	~~$40.50~~	$40.50	$40.50	~~$45.00~~	$45.00	$45.00	$42.84
	SOYBEANS		~~$27.00~~	$27.00	$27.00	$27.00	~~$30.00~~	$30.00	$30.00	$28.20
	WHEAT		~~$27.00~~	$27.00	$27.00	$27.00	~~$22.50~~	$22.50	$22.50	$25.20
Machinery & Equipment	CORN		~~$64.45~~	$77.45	$92.09	$107.46	$115.92	$123.57	~~$130.45~~	$103.30
	SOYBEANS		~~$52.45~~	$53.42	$71.83	$85.10	$85.10	~~$107.89~~	$107.89	$80.67
	WHEAT		~~$55.16~~	$55.53	$68.61	$99.08	$99.08	~~$125.86~~	$125.86	$89.63
Fixed Miscellaneous*	CORN	-131	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$24.00	$24.00
		-163	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$24.00	$24.00
		-196	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$24.00	$24.00
	SOYBEANS	-38	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16.50	$16.50
		-48	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16.50	$16.50
		-57	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16.50	$16.50

***The Ohio State University revised budgets making a distinction between fixed and variable miscellaneous costs and increasing the total amount of these costs. Without a recent history of fixed costs, there is no Olympic averaging for this line item.**

Source: Field Crop Enterprise Budgets 2015, OSU Extension, Dept. of Agricultural, Environmental, and Development Economics.

5/19/2015

2015 CORN BUDGET
Conservation Tillage

VARIABLE COSTS	Inputs - 5 Yr. Average UNITS		BASE 124 BUSHEL	@ ADD. BUSHEL	5 YR. AVG. COST Exhibit D	Costs per Acre BASE 124 BUSHEL	Costs per Acre @ ADD. BUSHEL
SEED	KERNELS (1000's)		28	0.12	$3.11	$85.84	$0.38
FERTILIZER							
	N*	LB.	128.8	0.78	$0.50	$64.40	$0.39
	P2O5	LB.	45.8	0.37	$0.63	$28.85	$0.23
	K2O	LB.	33.4	0.27	$0.46	$15.36	$0.12
	LIME	TON	0.25	0	$25.00	$6.25	$0.00
CHEMICALS					$45.64	$45.64	$0.00
FUEL, OIL, GREASE					$17.97	$17.97	$0.00
REPAIRS					$22.58	$22.58	$0.00
CROP INSURANCE					$21.12	$21.12	$0.00
VARIABLE MISCELLANEOUS					$8.40	$8.40	$0.03
DRYING: FUEL & ELECTRIC ONLY					$0.14	$17.36	$0.14
TRUCKING: FUEL ONLY					$0.02	$2.48	$0.02
SUBTOTAL						**$336.25**	**$1.32**
INTEREST: on Subtotal		5.4%/12 X 7 MOS 3.2%	int x subtotal			$10.59	$0.04
FIXED COSTS							
LABOR CHARGE					$42.84	$42.84	$0.00
MACHINERY & EQUIPMENT CHARGE					$103.30	$103.30	$0.00
MISCELLANEOUS					$24.00	$24.00	$0.00
TOTAL COSTS						**$516.99**	**$1.36**

Source: The Ohio State University College of Food, Agricultural & Environmental Sciences, Corn Production Budget 2015, 5/10/2015

DTE, 5/19/2015

2015 SOYBEAN BUDGET

VARIABLE COSTS	Inputs - 5 Yr. Average	UNITS	BASE 36 BUSHEL	@ ADD. BUSHEL	5 YR. AVG. COST Exhibit D	Costs per Acre BASE 36 BUSHEL	Costs per Acre @ ADD. BUSHEL
SEED		seeds (1000s)	180.0	0	$0.37	$66.60	$0.00
FERTILIZER							
	N	LB.	0	0	$0.00	$0.00	$0.00
	P2O5	LB.	29	0.78	$0.63	$18.14	$0.49
	K2O	LB.	52	1.37	$0.46	$23.92	$0.63
	LIME	TON	0.25	0	$25.00	$6.25	$0.00
CHEMICALS					$31.57	$31.57	$0.00
FUEL, OIL, GREASE					$10.96	$10.96	$0.00
REPAIRS					$15.14	$15.14	$0.00
CROP INSURANCE					$13.54	$13.54	$0.07
VARIABLE MISCELLANEOUS					$8.80	$8.80	$0.00
TRUCKING: FUEL ONLY					$0.02	$0.72	$0.02
SUBTOTAL						**$195.64**	**$1.21**
INTEREST: ON SUBTOTAL COST		5.4%/12 X 5 MOS 2.3%		int x subtotal		$4.40	$0.03
FIXED COSTS							
LABOR CHARGE					$28.20	$28.20	$0.00
MACHINERY & EQUIPMENT CHARGE					$80.67	$80.67	$0.00
MISCELLANEOUS					$16.50	$16.50	$0.00
TOTAL COSTS						**$325.42**	**$1.24**

Source: The Ohio State University College of Food, Agricultural & Environmental Sciences, Soybean Production Budget 2015, 5/10/2015

DTE, 5/19/2015

2015 WHEAT BUDGET

ITEM		UNITS	Inputs - 5 Yr. Average BASE 54 BUSHELS	@ ADD. BUSHEL	5 YR. AVG. COST Exhibit D	Costs per Acre BASE 54 BUSHELS	@ ADD. BUSHEL
SEED:		seeds (1000s)	1,400	0	$0.03	$42.00	$0.00
FERTILIZER:							
	N	LB.	47	1.75	$0.65	$30.55	$1.14
	P2O5	LB.	34	0.63	$0.59	$20.06	$0.37
	K2O	LB.	40	0.37	$0.44	$17.60	$0.16
	LIME	TON	0.25	0	$25.00	$6.25	$0.00
CHEMICALS:					$13.00	$13.00	$0.00
FUEL, OIL, GREASE					$13.55	$13.55	$0.00
REPAIRS:					$13.82	$13.82	$0.00
CROP INSURANCE:					$11.60	$11.60	$0.01
MISCELLANEOUS:					$6.00	$6.00	$0.00
TRUCKING: FUEL ONLY					$0.03	$1.62	$0.03
	SUBTOTAL					**$176.05**	**$1.71**
INTEREST: ON SUBTOTALED COST			5.2%/12 X 8 MOS 3.5%	int x subtotal		$6.10	$0.06
LABOR CHARGE:					$25.20	$25.20	$0.00
MACHINERY & EQUIPMENT CHARGE:					$89.63	$89.63	$0.00
	TOTAL COSTS					**$296.98**	**$1.77**

3/3/2015

3/10/2015

INTEREST RATES USED IN CAPITALIZATION RATE
2009-2015

TAX YEAR	INTEREST RATE*	EQUITY RATE**
2009	7.10	~~5.25~~
2010	~~7.40~~	~~5.25~~
2011	6.70	5.25
2012	5.15	5.25
2013	~~4.95~~	5.25
2014	6.20	5.25
2015	5.60	5.25
	6.15	5.25

*** Fixed multi-flex rate for a 25-year term on a loan $25,000 and over, Farm Credit Services of Mid-America.**

**** Equity rate is the prime rate plus 2% at www.bankrate.com from the Wall Street Journal's bank survey.**

CAPITALIZATION RATES USED IN CALCULATION
2009-2015

TAX YEAR	CAPITALIZATION RATE
2009	7.9%
2010	7.8%
2011	7.6%
2012	7.5%
2013	6.7%
2014	6.2%
2015	6.6%

2015 CAUV SAMPLE CALCULATION

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

	CORN	BEANS	WHEAT
PI DAT yield/acre (1984)	144	52	64
% increased yield	1.315254	1.279452	1.525
adjusted yield/acre	189	67	98
X Crop Price/Unit	$4.55	$11.09	$5.67
= GROSS INCOME / ACRE	$859.95	$743.03	$555.66
YIELD / ACRE	189	67	98
BASE YIELD	124	36	54
= YIELD ABOVE BASE	65	31	44
X ADDED UNIT COST	$1.36	$1.24	$1.77
ADDED UNIT COST / ACRE	$88.40	$38.44	$77.88
BASE YIELD COST	$516.99	$325.42	$296.98
= TOTAL NON-LAND PROD. COSTS	$605.39	$363.86	$374.86
NET RETURN / ACRE	$254.56	$379.17	$180.80
X CROPPING PATTERN	0.4	0.526	0.074
= ROTATIONAL NET RETURN / ACRE	$101.82	$199.44	$13.38
TOTAL ROTATIONAL NET RETURN	$314.65		
BASE CAP RATE	0.066		
CAUV LAND VALUE	$4,767.37	SAY	**$4,770**

5/19/2015

2012 CAUV SAMPLE CALCULATION

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

	CORN	BEANS	WHEAT
PI DAT yield/acre (1984)	144	52	64
% increased yield	1.241525	1.180822	1.504545
adjusted yield/acre	179	61	96
X Crop Price/Unit	$3.19	$7.74	$3.98
= GROSS INCOME / ACRE	$571.01	$472.14	$382.08
YIELD / ACRE	179	61	96
BASE YIELD	114	36	51
= YIELD ABOVE BASE	65	25	45
X ADDED UNIT COST	$0.90	$0.93	$1.41
ADDED UNIT COST / ACRE	$58.50	$23.25	$63.45
BASE YIELD COST	$350.71	$227.51	$211.52
= TOTAL NON-LAND PROD. COST	$409.21	$250.76	$274.97
NET RETURN / ACRE	$161.80	$221.38	$107.11
X CROPPING PATTERN	0.386	0.511	0.103
= ROTATIONAL NET RETURN / ACRE	$62.45	$113.13	$11.03
TOTAL ROTATIONAL NET RETURN	$186.61		
BASE CAP RATE	0.075		
CAUV LAND VALUE	$2,488.16	SAY	**$2,490**

4/5/2012

2015 CAUV SAMPLE CALCULATION

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

	CORN	BEANS	WHEAT
PI DAT yield/acre (1984)	108	38	50
% increased yield	1.315254	1.279452	1.525
adjusted yield/acre	142	49	76
X Crop Price/Unit	$4.55	$11.09	$5.67
= GROSS INCOME / ACRE	$646.10	$543.41	$430.92
YIELD / ACRE	142	49	76
BASE YIELD	124	36	54
= YIELD ABOVE BASE	18	13	22
X ADDED UNIT COST	$1.36	$1.24	$1.77
ADDED UNIT COST / ACRE	$24.48	$16.12	$38.94
BASE YIELD COST	$516.99	$325.42	$296.98
= TOTAL NON-LAND PROD. COSTS	$541.47	$341.54	$335.92
NET RETURN / ACRE	$104.63	$201.87	$95.00
X CROPPING PATTERN	0.4	0.526	0.074
= ROTATIONAL NET RETURN / ACRE	$41.85	$106.18	$7.03
TOTAL ROTATIONAL NET RETURN	$155.07		
BASE CAP RATE	0.066		
CAUV LAND VALUE	$2,349.48	SAY	**$2,350**

5/19/2015

2012 CAUV SAMPLE CALCULATION

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

	CORN	BEANS	WHEAT
PI DAT yield/acre (1984)	108	38	50
% increased yield	1.241525	1.180822	1.504545
adjusted yield/acre	134	45	75
X Crop Price/Unit	$3.19	$7.74	$3.98
= GROSS INCOME / ACRE	$427.46	$348.30	$298.50
YIELD / ACRE	134	45	75
BASE YIELD	114	36	51
= YIELD ABOVE BASE	20	9	24
X ADDED UNIT COST	$0.90	$0.93	$1.41
ADDED UNIT COST / ACRE	$18.00	$8.37	$33.84
BASE YIELD COST	$350.71	$227.51	$211.52
= TOTAL NON-LAND PROD. COST	$368.71	$235.88	$245.36
NET RETURN / ACRE	$58.75	$112.42	$53.14
X CROPPING PATTERN	0.386	0.511	0.103
= ROTATIONAL NET RETURN / ACRE	$22.68	$57.45	$5.47
TOTAL ROTATIONAL NET RETURN	$85.60		
BASE CAP RATE	0.075		
CAUV LAND VALUE	$1,141.30	SAY	**$1,140**

4/5/2012

CAUV Summary Values

5/28/2015

TY 2015 Final Values

Productivity Index	No. of Units	Net Return/Acre			Cropland Value/Acre		
		Low	High	Average	Low	High	Average
0-49	601	0	54	0	350	350	350
50-59	749	0	106	27	350	1,610	518
60-69	1,114	0	169	90	350	2,560	1,371
70-79	798	81	239	154	1,230	3,620	2,347
80-89	211	157	284	221	2,370	4,300	3,354
90-99	35	247	314	270	3,740	4,760	4,104
100+	6	315	315	315	4,770	4,770	4,770
All Regions	3,514	$0	$315	$86	$350	$4,770	**$1,388**

TY 2012 Final

Productivity Index	No. of Units	Net Return/Acre			Cropland Value/Acre		
		Low	High	Average	Low	High	Average
0-49	601	0	24	0	350	350	350
50-59	749	0	54	9	350	720	362
60-69	1,114	0	95	44	350	1,270	610
70-79	798	38	137	86	510	1,830	1,147
80-89	211	90	169	128	1,210	2,250	1,717
90-99	35	147	185	159	1,960	2,470	2,128
100+	6	187	187	187	2,490	2,490	2,490
All Regions	3,514	$0	$187	$45	$350	$2,490	**$719**

CAUV Summary Values

5/28/2015

TY 2015 Final Values

Productivity Index	No. of Units	Net Return/Acre			Cropland Value/Acre		
		Low	High	Average	Low	High	Average
0-49	601	0	54	0	350	350	350
50-59	749	0	106	27	350	1,610	518
60-69	1,114	0	169	90	350	2,560	1,371
70-79	798	81	239	154	1,230	3,620	2,347
80-89	211	157	284	221	2,370	4,300	3,354
90-99	35	247	314	270	3,740	4,760	4,104
100+	6	315	315	315	4,770	4,770	4,770
All Regions	3,514	$0	$315	$86	$350	$4,770	**$1,388**

TY 2014 Final

Productivity Index	No. of Units	Net Return/Acre			Cropland Value/Acre		
		Low	High	Average	Low	High	Average
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
All Regions	3,514	$0	$312	$100	$350	$5,030	**$1,668**

Average CAUV Value Per Acre 1999-2015

Productivity Index	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
0-49	100	100	100	100	100	100	100	108	100	100	176	200	300	350	350	350	350
50-59	114	107	104	102	101	114	106	134	100	100	200	214	328	362	516	700	518
60-69	233	200	181	125	113	104	101	125	123	188	435	436	632	610	1218	1778	1371
70-79	452	417	394	285	244	157	124	241	283	431	746	845	1126	1147	1958	2728	2347
80-89	699	666	640	516	467	342	293	465	521	708	1059	1278	1641	1717	2743	3718	3354
90-99	908	869	842	713	663	533	492	675	747	973	1368	1601	2017	2128	3310	4428	4104
100+	1060	1030	1000	870	820	690	650	880	970	1200	1620	1900	2380	2490	3780	5030	4770
Total	262	242	231	180	163	135	123	177	181	249	459	505	700	719	1205	1668	1388
No. of Soils	3281	3371	3279	3307	3313	3313	3358	3482	3510	3511	3511	3514	3514	3514	3514	3514	3514

Average CAUV Value Per Acre by Reappraisal/UpdateYear

Productivity Index	2000	2003	2006	2009	2012	2015
0-49	100	100	108	176	350	350
50-59	107	101	134	200	362	518
60-69	200	113	125	435	610	1371
70-79	417	244	241	746	1147	2347
80-89	666	467	465	1059	1717	3354
90-99	869	663	675	1368	2128	4104
100+	1030	820	880	1620	2490	4770
Total	242	163	177	459	719	1388
# Soils	3371	3313	3482	3511	3514	3514

Comparison of Inputs, Tax Years 2012-2015

Crop Prices

	2012	2013	2014	2015	Difference 2012-15	Difference 2014-15
Corn	$3.19	$3.91	$4.48	$4.53	**$1.34**	$0.05
Soybeans	$7.74	$8.98	$10.13	$10.66	**$2.92**	$0.53
Wheat	$3.98	$4.54	$5.16	$5.60	**$1.62**	$0.44

Non-land Production Costs

Base Cost						
Corn	$350.71	$391.90	$437.85	$516.99	**$166.28**	$79.14
Soybeans	$227.51	$248.69	$275.21	$325.42	**$97.91**	$50.21
Wheat	$211.52	$230.62	$255.48	$296.98	**$85.46**	$41.50
Additional Unit Cost						
Corn	$0.90	$1.04	$1.18	$1.36	**$0.46**	$0.18
Soybeans	$0.93	$1.12	$1.27	$1.24	**$0.31**	($0.03)
Wheat	$1.41	$1.61	$1.80	$1.77	**$0.36**	($0.03)

Capitalization Rate

Mortgage/Equity Ratio	60/40	60/40	60/40	80/20		
Years	15	15	15	25		
Interest Rate	6.79	6.19	5.89	6.15		
Equity Rate	6.9	6.05	5.25	5.25		
Tax Additur	1.5	1.5	1.5	1.6		
Capitalization Rate	7.5	6.7	6.2	6.6	(0.90)	0.40