June 26, 2018
FINAL VALUES - 2018

2018 CURRENT AGRICULTURAL USE VALUE OF LAND TABLES
EXPLANATION OF THE CALCULATION OF VALUES FOR TAX YEAR 2018

Changes to Current Agricultural Use Value Program

Formula Changes

Am. Sub. H.B. 49, of the 132nd General Assembly, prescribes the factors that must be considered in computing the Current Agricultural Use Value (CAUV) of land effective for tax year 2018. The lower values are phased-in using a two-step process over each county's next two revaluations, beginning with the counties undergoing reappraisal or update in 2017. The counties scheduled in 2018 will receive the lower values as prescribed by law. The final values are the sum of the new formula values for 2018 and half the positive difference between the new formula values and the values issued for 2017 for each soil type, pursuant to R.C. 5715.01(A)(3).

Conservation Land

Under Am. Sub. H.B. 49 of the 132nd General Assembly, the lowest CAUV value of all soil types is applied to farmland used for conservation practices or enrolled in a federal land retirement or conservation program under an agreement with an agency of the federal government (R.C. 5713.31). The land must be enrolled as of the first day of January of the applicable year as detailed on the initial or renewal application. If the farmland ceases to be used for those purposes sooner than 36 months after the initial certification, the County Auditor must recoup an amount equal to the extra tax savings for the most recent three years that the land was valued at the lowest-valued soil type (R.C. 5713.34).

Under continuing law, farmland in a federal land retirement or conservation program is eligible for CAUV. Additionally, land used for conservation practices is eligible if it comprises 25% or less of the landowner's total CAUV land. As defined by R.C. 5713.30(E), conservation practices are farm management practices used to abate soil erosion as required in the management of the farming operation, including the installation, construction, development, planting, or use of grass waterways, terraces, diversions, filter strips, field borders, windbreaks, riparian buffers, wetlands, ponds, and cover crops for that purposes.

The valuation changes became effective September 29, 2017. The Department of Taxation issued separate instructions to implement the conservation changes for 2017 and subsequent tax years.
Explanation of the Calculation

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 USDA. For 2018, yield data from calendar years 2008-2017 were averaged and divided by the 1984 yield for each crop (Exhibit A, page 6). 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>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>118.0 bu</td>
<td>155.2 bu</td>
<td>156.2 bu</td>
<td>156.2 bu</td>
<td>158.9 bu</td>
</tr>
<tr>
<td>Soybeans</td>
<td>36.5 bu</td>
<td>46.7 bu</td>
<td>47.2 bu</td>
<td>47.9 bu</td>
<td>48.2 bu</td>
</tr>
<tr>
<td>Wheat</td>
<td>44.0 bu</td>
<td>67.1 bu</td>
<td>66.7 bu</td>
<td>67.9 bu</td>
<td>69.2 bu</td>
</tr>
</tbody>
</table>

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: 39% corn, 55% beans, and 6% wheat. This rotation is based on data from 2013-2017 and closely reflects current agricultural production in Ohio. The acres harvested in each year are shown in Exhibit B (page 7).
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 2018, 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 2011 through 2017. The annual production and price per unit for each of these crops for the 2011 through 2017 period are shown in Exhibit C (page 8).

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.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Unit</th>
<th>TY 2015</th>
<th>TY 2016</th>
<th>TY 2017</th>
<th>TY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>Bushel</td>
<td>$4.55</td>
<td>$4.49</td>
<td>$4.51</td>
<td>$4.18</td>
</tr>
<tr>
<td>Soybeans</td>
<td>Bushel</td>
<td>$11.09</td>
<td>$10.91</td>
<td>$10.83</td>
<td>$10.43</td>
</tr>
<tr>
<td>Wheat</td>
<td>Bushel</td>
<td>$5.67</td>
<td>$5.53</td>
<td>$5.53</td>
<td>$5.52</td>
</tr>
</tbody>
</table>

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 Production Budgets prepared by The Ohio State University College of Food, Agricultural and Environmental Sciences for 2012-2018, 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 9-10).

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 11-13). The five-year average non-land production costs for tax year 2018 are summarized in the following table and compared to the costs used for tax years 2015 and 2017:
### NON-LAND PRODUCTION COSTS

<table>
<thead>
<tr>
<th>Crop Base Cost</th>
<th>Base Yld/2015</th>
<th>TY 2015</th>
<th>TY 2017</th>
<th>TY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>129 bu</td>
<td>$516.99</td>
<td>$538.78</td>
<td>$529.28</td>
</tr>
<tr>
<td>Soybeans</td>
<td>38 bu</td>
<td>$325.42</td>
<td>$347.10</td>
<td>$346.26</td>
</tr>
<tr>
<td>Wheat</td>
<td>58 bu</td>
<td>$296.98</td>
<td>$336.21</td>
<td>$330.53</td>
</tr>
</tbody>
</table>

**Additional Cost per Unit**

<table>
<thead>
<tr>
<th>Crop Base Cost</th>
<th>Cost per Unit</th>
<th>TY 2015</th>
<th>TY 2017</th>
<th>TY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>1 bu</td>
<td>$1.36</td>
<td>$1.45</td>
<td>$1.44</td>
</tr>
<tr>
<td>Soybeans</td>
<td>1 bu</td>
<td>$1.24</td>
<td>$1.05</td>
<td>$0.94</td>
</tr>
<tr>
<td>Wheat</td>
<td>1 bu</td>
<td>$1.77</td>
<td>$1.62</td>
<td>$1.49</td>
</tr>
</tbody>
</table>

### E. CAPITALIZATION RATE

Five-year averaging is used to derive the Farm Credit Service interest rate of 5.52% assuming an 80% loan for a 25-year term, payable annually (Exhibit E, page 14). The interest rate of 7.73% for the 20 percent equity portion is based on the 25-year average of the "total rate of return on farm equity" published by USDA (1992-2016, inclusive). (R.C. 5715.01)

The capitalization rate for typical Ohio farmland is computed by the mortgage-equity method. The statewide average effective tax rate after application of the reduction factors levied on agricultural property is 49.89 mills for tax year 2017 (R.C. 319.301). The 9.2 percent non-business credit rollback authorized by R.C. 319.302 reduces this rate further to 45.31 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 45.31)/1000.

\[
\begin{align*}
80\% \text{ loan} \times \text{annual debt service of } 0.074695 & = 0.0598 \\
20\% \text{ equity} \times \text{equity yield rate of } 0.0773 & = 0.0155 \\
\text{Subtotal} & = 0.0752 \\
\text{Less: equity buildup for 25 years} & \\
\% \text{ loan} \times 100\% \text{ mortgage paid off} \times \text{sinking fund factor} & = (0.0114) \\
\text{Subtotal} & = 0.0638 \\
\text{Tax Additur Adjustment} & = 0.0160 \\
\text{Capitalization Rate} & = 0.0798 \text{ or } 8.0\%
\end{align*}
\]

* Mortgage constant assumes 25-year loan, 5.52% interest rate.
** Sinking fund factor assumes 25-year term, 7.73% equity rate.

The capitalization rate, including R.E. taxes, is **8.0%** 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) - **$800 for Tile Drainage**
      c.) For the following soil series, a $400 adjustment for surface drainage was used: Blanchester, Bono, Clermont, Condit, Conneaut, Darien, Fries, Cinat, Ilion, Latty, Lorain, McGuffey, Mill, Miner, Montgomery, Muskego, Paulding, Peoga, Piopolis, Purdy, Roselms, Sheffield, Toledo, Trumbull, Wabash, Wabasha, Warners, and Wayland.

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:

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cropland &amp; pasture</td>
<td>$350</td>
</tr>
<tr>
<td>Woodland</td>
<td>$230</td>
</tr>
</tbody>
</table>

Slopes greater than 25%:

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland &amp; pasture</td>
<td>$230</td>
</tr>
</tbody>
</table>
# Exhibit A - Average Crop Yields by Year in Ohio

**USDA, National Agricultural Statistics Service**  
**Crop Production 2017 Summary, January 2018**

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>118</td>
<td>36.5</td>
<td>44</td>
</tr>
<tr>
<td>1985</td>
<td>127</td>
<td>41.5</td>
<td>62</td>
</tr>
<tr>
<td>1986</td>
<td>128</td>
<td>40.5</td>
<td>46</td>
</tr>
<tr>
<td>1987</td>
<td>120</td>
<td>37</td>
<td>58</td>
</tr>
<tr>
<td>1988</td>
<td>85</td>
<td>27</td>
<td>50</td>
</tr>
<tr>
<td>1989</td>
<td>118</td>
<td>31.5</td>
<td>51</td>
</tr>
<tr>
<td>1990</td>
<td>121</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>1991</td>
<td>96</td>
<td>36</td>
<td>49</td>
</tr>
<tr>
<td>1992</td>
<td>143</td>
<td>40</td>
<td>53</td>
</tr>
<tr>
<td>1993</td>
<td>110</td>
<td>38</td>
<td>52</td>
</tr>
<tr>
<td>1994</td>
<td>139</td>
<td>44</td>
<td>58</td>
</tr>
<tr>
<td>1995</td>
<td>121</td>
<td>38</td>
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<td>1996</td>
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<td>35</td>
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<td>134</td>
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<td>2000</td>
<td>147</td>
<td>42</td>
<td>72</td>
</tr>
<tr>
<td>2001</td>
<td>138</td>
<td>41</td>
<td>67</td>
</tr>
<tr>
<td>2002</td>
<td>89</td>
<td>32</td>
<td>62</td>
</tr>
<tr>
<td>2003</td>
<td>156</td>
<td>38.5</td>
<td>68</td>
</tr>
<tr>
<td>2004</td>
<td>158</td>
<td>47</td>
<td>62</td>
</tr>
<tr>
<td>2005</td>
<td>143</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>2006</td>
<td>159</td>
<td>47</td>
<td>68</td>
</tr>
<tr>
<td>2007</td>
<td>150</td>
<td>47</td>
<td>61</td>
</tr>
<tr>
<td>2008</td>
<td>135</td>
<td>36</td>
<td>68</td>
</tr>
<tr>
<td>2009</td>
<td>174</td>
<td>49</td>
<td>72</td>
</tr>
<tr>
<td>2010</td>
<td>163</td>
<td>48</td>
<td>61</td>
</tr>
<tr>
<td>2011</td>
<td>158</td>
<td>47.5</td>
<td>58</td>
</tr>
<tr>
<td>2012</td>
<td>120</td>
<td>45</td>
<td>68</td>
</tr>
<tr>
<td>2013</td>
<td>174</td>
<td>49.5</td>
<td>70</td>
</tr>
<tr>
<td>2014</td>
<td>176</td>
<td>52.5</td>
<td>74</td>
</tr>
<tr>
<td>2015</td>
<td>153</td>
<td>50</td>
<td>67</td>
</tr>
<tr>
<td>2016</td>
<td>159</td>
<td>54.5</td>
<td>80</td>
</tr>
<tr>
<td>2017</td>
<td>177</td>
<td>49.5</td>
<td>74</td>
</tr>
</tbody>
</table>

| Average 2008-2017 | 158.9 | 48.2 | 69.2 |
| 1984 Base         | 118   | 36.5 | 44   |
| Average/1984 Base | 1.346610 | 1.320548 | 1.572727 |
| % increase        | 34.66% | 32.05% | 57.27% |

1/12/2018
## Exhibit B - Acres Harvested, 2013-2017
### TY 2018 Crop Rotation

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>% of Total</th>
<th>Soybeans</th>
<th>% of Total</th>
<th>Wheat</th>
<th>% of Total</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>3,730,000</td>
<td>42.1%</td>
<td>4,490,000</td>
<td>50.7%</td>
<td>640,000</td>
<td>7.2%</td>
<td>8,860,000</td>
</tr>
<tr>
<td>2014</td>
<td>3,470,000</td>
<td>39.9%</td>
<td>4,690,000</td>
<td>53.9%</td>
<td>545,000</td>
<td>6.3%</td>
<td>8,705,000</td>
</tr>
<tr>
<td>2015</td>
<td>3,260,000</td>
<td>38.4%</td>
<td>4,740,000</td>
<td>55.9%</td>
<td>480,000</td>
<td>5.7%</td>
<td>8,480,000</td>
</tr>
<tr>
<td>2016</td>
<td>3,300,000</td>
<td>37.9%</td>
<td>4,840,000</td>
<td>55.6%</td>
<td>560,000</td>
<td>6.4%</td>
<td>8,700,000</td>
</tr>
<tr>
<td>2017</td>
<td>3,130,000</td>
<td>36.2%</td>
<td>5,090,000</td>
<td>58.8%</td>
<td>435,000</td>
<td>5.0%</td>
<td>8,655,000</td>
</tr>
</tbody>
</table>

**Five Year Average**

| Average | 3,378,000 | 39%      | 4,770,000 | 55%      | 532,000 | 6%     | 8,680,000 |

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USDA, National Agricultural Statistics Service
Crop Production, 2017 Summary, January 2018
1/12/2018
### Exhibit C, FIVE YEAR AVERAGE CROP PRICES, TAX YEAR 2018

**USDA, National Agricultural Statistics Service**
**Crop Values, 2017 Summary, February 2018**
**Crop Production, 2017 Summary, January 2018**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (1,000 bu)</th>
<th>Price</th>
<th>Value (1,000 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CORN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>508,760</td>
<td>$6.44</td>
<td>3,276,414</td>
</tr>
<tr>
<td>2012</td>
<td>438,000</td>
<td>$7.09</td>
<td>3,105,420</td>
</tr>
<tr>
<td>2013</td>
<td>649,020</td>
<td>$4.41</td>
<td>2,882,178</td>
</tr>
<tr>
<td>2014</td>
<td>610,720</td>
<td>$3.78</td>
<td>2,308,522</td>
</tr>
<tr>
<td>2015</td>
<td>498,782</td>
<td>$3.89</td>
<td>1,940,254</td>
</tr>
<tr>
<td>2016</td>
<td>524,700</td>
<td>$3.61</td>
<td>1,894,167</td>
</tr>
<tr>
<td>2017</td>
<td>554,010</td>
<td>$3.56</td>
<td>1,966,736</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>2,791,980</td>
<td></td>
<td>12,281,535</td>
</tr>
<tr>
<td><strong>Weighted Avg. Price</strong></td>
<td></td>
<td>$4.40</td>
<td></td>
</tr>
<tr>
<td><strong>After Management Allowance of 5%</strong></td>
<td></td>
<td>$4.18</td>
<td></td>
</tr>
<tr>
<td><strong>SOYBEANS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>217,920</td>
<td>$13.00</td>
<td>2,832,960</td>
</tr>
<tr>
<td>2012</td>
<td>206,550</td>
<td>$14.60</td>
<td>3,015,630</td>
</tr>
<tr>
<td>2013</td>
<td>222,255</td>
<td>$13.00</td>
<td>2,889,315</td>
</tr>
<tr>
<td>2014</td>
<td>246,225</td>
<td>$10.30</td>
<td>2,536,118</td>
</tr>
<tr>
<td>2015</td>
<td>237,000</td>
<td>$9.46</td>
<td>2,170,920</td>
</tr>
<tr>
<td>2016</td>
<td>263,780</td>
<td>$9.66</td>
<td>2,548,115</td>
</tr>
<tr>
<td>2017</td>
<td>251,955</td>
<td>$9.50</td>
<td>2,393,573</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>1,202,135</td>
<td></td>
<td>13,200,080</td>
</tr>
<tr>
<td><strong>Weighted Avg. Price</strong></td>
<td></td>
<td>$10.98</td>
<td></td>
</tr>
<tr>
<td><strong>After Management Allowance of 5%</strong></td>
<td></td>
<td>$10.43</td>
<td></td>
</tr>
<tr>
<td><strong>WHEAT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>49,300</td>
<td>$6.73</td>
<td>331,789</td>
</tr>
<tr>
<td>2012</td>
<td>30,600</td>
<td>$7.94</td>
<td>242,964</td>
</tr>
<tr>
<td>2013</td>
<td>44,800</td>
<td>$6.54</td>
<td>292,992</td>
</tr>
<tr>
<td>2014</td>
<td>40,330</td>
<td>$5.60</td>
<td>225,848</td>
</tr>
<tr>
<td>2015</td>
<td>32,160</td>
<td>$4.57</td>
<td>146,971</td>
</tr>
<tr>
<td>2016</td>
<td>44,800</td>
<td>$4.26</td>
<td>190,400</td>
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<tr>
<td>2017</td>
<td>32,190</td>
<td>$4.90</td>
<td>157,731</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>198,780</td>
<td></td>
<td>1,155,331</td>
</tr>
<tr>
<td><strong>Weighted Avg. Price</strong></td>
<td></td>
<td>$5.81</td>
<td></td>
</tr>
<tr>
<td><strong>After Management Allowance of 5%</strong></td>
<td></td>
<td>$5.52</td>
<td></td>
</tr>
</tbody>
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### Exhibit D, Production Costs, Tax Year 2018
#### Determination of Five Year Average Costs for the Projected Crop Budgets

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*In 2015, Ohio State University revised budgets to show fixed and variable miscellaneous costs. A straight average is used for this budget item.

Source: Updated with Crop Production Budgets 2018, OSU Extension, College of Food, Agricultural & Environmental Sciences, 5/8/2018
### 2018 CORN BUDGET

Conservation Tillage

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<td>$24.84</td>
</tr>
<tr>
<td><strong>CROP INSURANCE</strong></td>
<td></td>
<td>$18.60</td>
</tr>
<tr>
<td><strong>VARIABLE MISCELLANEOUS</strong></td>
<td></td>
<td>$7.20</td>
</tr>
<tr>
<td><strong>DRYING: FUEL &amp; ELECTRIC ONLY</strong></td>
<td></td>
<td>$0.14</td>
</tr>
<tr>
<td><strong>HAULING/TRUCKING</strong></td>
<td></td>
<td>$0.02</td>
</tr>
<tr>
<td><strong>INTEREST on OPER. CAP.</strong></td>
<td></td>
<td>4.7%/12 X 7 MOS = 2.7%</td>
</tr>
<tr>
<td><strong>TOTAL VARIABLE COSTS</strong></td>
<td></td>
<td>$340.33</td>
</tr>
</tbody>
</table>

#### FIXED COSTS

<table>
<thead>
<tr>
<th></th>
<th>BASE 129</th>
<th>@ ADD.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LABOR CHARGE</strong></td>
<td>$44.10</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>MACHINERY &amp; EQUIPMENT CHARGE</strong></td>
<td>$121.57</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS</strong></td>
<td>$23.28</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>TOTAL FIXED COSTS</strong></td>
<td>$188.95</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>TOTAL COSTS</strong></td>
<td>$529.28</td>
<td>$1.44</td>
</tr>
</tbody>
</table>

*Interest rate of 2.7% on all variable costs except drying, hauling and crop insurance.

Source: The Ohio State University College of Food, Agricultural & Environmental Sciences, Corn Production Budget 2018, 5/01/2018

DTE, 5/09/2018
## 2018 SOYBEAN BUDGET
### No-Tillage Practices

### VARIABLE COSTS

<table>
<thead>
<tr>
<th>Inputs - 5 Yr. Average</th>
<th>BASE</th>
<th>@ ADD.</th>
<th>Costs per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEED</td>
<td>177.0</td>
<td>0</td>
<td>$0.41</td>
</tr>
<tr>
<td>FERTILIZER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>0</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>P2O5</td>
<td>31</td>
<td>0.77</td>
<td>$0.54</td>
</tr>
<tr>
<td>K2O</td>
<td>54</td>
<td>1.35</td>
<td>$0.36</td>
</tr>
<tr>
<td>LIME</td>
<td>0.25</td>
<td>0</td>
<td>$25.00</td>
</tr>
<tr>
<td>CHEMICALS</td>
<td></td>
<td></td>
<td>$34.69</td>
</tr>
<tr>
<td>FUEL, OIL, GREASE</td>
<td></td>
<td></td>
<td>$10.22</td>
</tr>
<tr>
<td>REPAIRS</td>
<td></td>
<td></td>
<td>$18.70</td>
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<tr>
<td>CROP INSURANCE</td>
<td></td>
<td></td>
<td>$12.90</td>
</tr>
<tr>
<td>VARIABLE MISCELLANEOUS</td>
<td></td>
<td></td>
<td>$6.10</td>
</tr>
<tr>
<td>HAULING/TRUCKING</td>
<td></td>
<td></td>
<td>$0.02</td>
</tr>
<tr>
<td>INTEREST on OPER. CAP.*</td>
<td></td>
<td></td>
<td>$4.34</td>
</tr>
<tr>
<td>TOTAL VARIABLE COSTS</td>
<td></td>
<td></td>
<td>$202.71</td>
</tr>
</tbody>
</table>

### FIXED COSTS

| LABOR CHARGE           | $29.40          | $29.40       | $0.00         |
| MACHINERY & EQUIPMENT  | $98.77          | $98.77       | $0.00         |
| MISCELLANEOUS          | $15.38          | $15.38       | $0.00         |
| TOTAL FIXED COSTS      | $143.55         |             | $0.00         |
| TOTAL COSTS            | $346.26         |             | $0.94         |

*Interest rate of 2.4% on all variable costs except hauling and crop insurance.

Source: The Ohio State University College of Food, Agricultural & Environmental Sciences, Soybean Production Budget 2018, Updated 5/01/2018

DTE, 5/09/2018
# 2018 WHEAT BUDGET
## Conservation Till

### VARIABLE COSTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNITS</th>
<th>Inputs - 5 Yr. Average</th>
<th>5 YR. AVG. COST</th>
<th>Costs per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BASE @ADD.</td>
<td>BASE @ADD.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>58 BUSHELS</td>
<td>58 BUSHELS</td>
<td></td>
</tr>
<tr>
<td>SEED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEED (1000s)</td>
<td></td>
<td>1,400 0</td>
<td>$0.03</td>
<td>$42.00</td>
</tr>
<tr>
<td>FERTILIZER</td>
<td></td>
<td></td>
<td>$0.57</td>
<td>$30.78</td>
</tr>
<tr>
<td>N</td>
<td>LB.</td>
<td>54 1.73</td>
<td>$0.51</td>
<td>$18.36</td>
</tr>
<tr>
<td>P2O5</td>
<td>LB.</td>
<td>36 0.62</td>
<td>$0.35</td>
<td>$14.35</td>
</tr>
<tr>
<td>K2O</td>
<td>LB.</td>
<td>41 0.36</td>
<td>$25.00</td>
<td>$6.25</td>
</tr>
<tr>
<td>LIME</td>
<td>TON</td>
<td>0.25 0</td>
<td>$12.35</td>
<td>$0.00</td>
</tr>
<tr>
<td>CHEMICALS</td>
<td></td>
<td>$12.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUEL, OIL, GREASE</td>
<td></td>
<td>$13.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPAIRS</td>
<td></td>
<td>$18.81</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>CROP INSURANCE</td>
<td></td>
<td>$12.40</td>
<td></td>
<td>$0.00</td>
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<tr>
<td>VARIABLE MISCELLANEOUS</td>
<td></td>
<td>$4.84</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>HAULING/TRUCKING</td>
<td></td>
<td>$0.02</td>
<td></td>
<td>$0.02</td>
</tr>
<tr>
<td>INTEREST on OPER. CAP.*</td>
<td></td>
<td>4.7%/12 X 8 MOS = 3.1%</td>
<td></td>
<td>$5.05 $0.04</td>
</tr>
<tr>
<td>TOTAL VARIABLE COSTS</td>
<td></td>
<td>$179.76</td>
<td></td>
<td>$1.49</td>
</tr>
<tr>
<td>FIXED COSTS</td>
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<td>$22.50</td>
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</tr>
<tr>
<td>LABOR CHARGE</td>
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<td>$115.15</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>MACHINERY &amp; EQUIPMENT CHARGE</td>
<td></td>
<td>$13.12</td>
<td></td>
<td>$0.00</td>
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<tr>
<td>MISCELLANEOUS</td>
<td></td>
<td>$13.12</td>
<td></td>
<td>$0.00</td>
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<tr>
<td>TOTAL FIXED COSTS</td>
<td></td>
<td>$150.77</td>
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<td>$0.00</td>
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<tr>
<td>TOTAL COSTS</td>
<td></td>
<td>$330.53</td>
<td></td>
<td>$1.49</td>
</tr>
</tbody>
</table>

*Interest rate of 3.1% on all variable costs except hauling and crop insurance.

Source: The Ohio State University College of Food, Agricultural & Environmental Sciences, Wheat Production Budget 2018, Updated 10/31/2017

DTE, 5/09/2018
Exhibit E: INTEREST RATES - CAPITALIZATION RATE

<table>
<thead>
<tr>
<th>INTEREST RATE*</th>
<th>EQUITY RATE**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Year</td>
</tr>
<tr>
<td>2012 5.15</td>
<td>2016 2.13</td>
</tr>
<tr>
<td>2013 4.95</td>
<td>2015 -0.36</td>
</tr>
<tr>
<td>2014 6.20</td>
<td>2014 8.45</td>
</tr>
<tr>
<td>2015 5.60</td>
<td>2013 8.7</td>
</tr>
<tr>
<td>2016 5.15</td>
<td>2012 17.04</td>
</tr>
<tr>
<td>2017 5.65</td>
<td>2011 11.04</td>
</tr>
<tr>
<td>2018 6.04</td>
<td>2010 12.46</td>
</tr>
<tr>
<td></td>
<td>2009 -0.71</td>
</tr>
<tr>
<td>Average 5.52</td>
<td></td>
</tr>
<tr>
<td>2008 4.3</td>
<td></td>
</tr>
<tr>
<td>2007 4.6</td>
<td></td>
</tr>
<tr>
<td>2006 13.3</td>
<td></td>
</tr>
<tr>
<td>2005 18.18</td>
<td></td>
</tr>
<tr>
<td>2004 17.32</td>
<td></td>
</tr>
<tr>
<td>2003 8.17</td>
<td></td>
</tr>
<tr>
<td>2002 -0.57</td>
<td></td>
</tr>
<tr>
<td>2001 6.13</td>
<td></td>
</tr>
<tr>
<td>2000 8.74</td>
<td></td>
</tr>
<tr>
<td>1999 8.12</td>
<td></td>
</tr>
<tr>
<td>1998 6.12</td>
<td></td>
</tr>
<tr>
<td>1997 7.36</td>
<td></td>
</tr>
<tr>
<td>1996 7.59</td>
<td></td>
</tr>
<tr>
<td>1995 4.73</td>
<td></td>
</tr>
<tr>
<td>1994 6.08</td>
<td></td>
</tr>
<tr>
<td>1993 7.68</td>
<td></td>
</tr>
<tr>
<td>1992 6.55</td>
<td></td>
</tr>
<tr>
<td>Average 7.73</td>
<td></td>
</tr>
</tbody>
</table>

* Fixed multi-flex rate for a 25-year term on a loan $75,000 and over, Farm Credit Services.
**Equity rate is the USDA rate of return on farm equity averaged for most recent 25 years.
For 2017, the equity rate was 7.73%

CAPITALIZATION RATES USED IN CALCULATION
2012-2018

<table>
<thead>
<tr>
<th>TAX YEAR</th>
<th>CAPITALIZATION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>7.5%</td>
</tr>
<tr>
<td>2013</td>
<td>6.7%</td>
</tr>
<tr>
<td>2014</td>
<td>6.2%</td>
</tr>
<tr>
<td>2015</td>
<td>6.6%</td>
</tr>
<tr>
<td>2016</td>
<td>6.3%</td>
</tr>
<tr>
<td>2017</td>
<td>8.0%</td>
</tr>
<tr>
<td>2018</td>
<td>8.0%</td>
</tr>
</tbody>
</table>
### 2015 CAUV Sample Calculation

#### Soil:
- Millgrove, Silt Loam

#### Slope:
- 0-2

#### Erosion:
- Slight

#### Drainage:
- Very poorly

#### Prod. Index:
- 100

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI DAT yield/acre (1984)</td>
<td>144</td>
<td>52</td>
<td>64</td>
</tr>
<tr>
<td>% increased yield</td>
<td>1.315254</td>
<td>1.279452</td>
<td>1.525</td>
</tr>
<tr>
<td>adjusted yield/acre</td>
<td>189</td>
<td>67</td>
<td>98</td>
</tr>
<tr>
<td>X Crop Price/Unit</td>
<td>$4.55</td>
<td>$11.09</td>
<td>$5.67</td>
</tr>
<tr>
<td>= GROSS INCOME / ACRE</td>
<td>$859.95</td>
<td>$743.03</td>
<td>$555.66</td>
</tr>
<tr>
<td>Yield / ACRE</td>
<td>189</td>
<td>67</td>
<td>98</td>
</tr>
<tr>
<td>Base Yield</td>
<td>124</td>
<td>36</td>
<td>54</td>
</tr>
<tr>
<td>= Yield Above Base</td>
<td>65</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>X Added Unit Cost</td>
<td>$1.36</td>
<td>$1.24</td>
<td>$1.77</td>
</tr>
<tr>
<td>Added Unit Cost / ACRE</td>
<td>$88.40</td>
<td>$38.44</td>
<td>$77.88</td>
</tr>
<tr>
<td>Base Yield Cost</td>
<td>$516.99</td>
<td>$325.42</td>
<td>$296.98</td>
</tr>
<tr>
<td>= Total Non-Land Prod. Costs</td>
<td>$605.39</td>
<td>$363.86</td>
<td>$374.86</td>
</tr>
<tr>
<td>Net Return / ACRE</td>
<td>$254.56</td>
<td>$379.17</td>
<td>$180.80</td>
</tr>
<tr>
<td>X Cropping Pattern</td>
<td>0.4</td>
<td>0.526</td>
<td>0.074</td>
</tr>
<tr>
<td>= Rotational Net Return / ACRE</td>
<td>$101.82</td>
<td>$199.44</td>
<td>$13.38</td>
</tr>
<tr>
<td>Total Rotational Net Return</td>
<td><strong>$314.65</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Cap Rate</td>
<td>0.066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAUV Land Value</td>
<td>$4,767.37</td>
<td>SAY</td>
<td>$4,770</td>
</tr>
</tbody>
</table>

5/19/2015
2018 CAUV SAMPLE CALCULATION

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

PI DAT yield/acre (1984) 144 52 64
% increased yield 1.34661 1.320548 1.572727
adjusted yield/acre 194 69 101
X Crop Price/Unit $4.18 $10.43 $5.52
= GROSS INCOME / ACRE $810.92 $719.67 $557.52

YIELD / ACRE 194 69 101
BASE YIELD 129 38 58
= YIELD ABOVE BASE 65 31 43
X ADDED UNIT COST $1.44 $0.94 $1.49
ADDED UNIT COST / ACRE $93.60 $29.14 $64.07
BASE YIELD COST $529.28 $346.26 $330.53
= TOTAL NON-LAND PROD. COSTS $622.88 $375.40 $394.60

NET RETURN / ACRE $188.04 $344.27 $162.92
X CROPPING PATTERN 0.39 0.55 0.06
= ROTATIONAL NET RETURN / ACRE $73.34 $189.35 $9.78

TOTAL ROTATIONAL NET RETURN $272.46

BASE CAP RATE 0.08

UNADJUSTED VALUE $3,405.74 SAY $3,410
2017 Value $4,205
ADJUSTED CAUV VALUE $3,810

5/11/2018
## 2015 CAUV SAMPLE CALCULATION

<table>
<thead>
<tr>
<th>SOIL: Miami Silt Loam</th>
<th>SLOPE: 2-6</th>
<th>EROSION: Slight</th>
<th>DRAINAGE: Well</th>
<th>PROD. INDEX: 76</th>
</tr>
</thead>
</table>

| % 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**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>142</td>
<td>49</td>
<td>76</td>
</tr>
</tbody>
</table>

**BASE YIELD**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>124</td>
<td>36</td>
<td>54</td>
</tr>
</tbody>
</table>

**= YIELD ABOVE BASE**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>13</td>
<td>22</td>
</tr>
</tbody>
</table>

**X ADDED UNIT COST**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.36</td>
<td>$1.24</td>
<td>$1.77</td>
</tr>
</tbody>
</table>

**ADDED UNIT COST / ACRE**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$24.48</td>
<td>$16.12</td>
<td>$38.94</td>
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</table>

**BASE YIELD COST**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$516.99</td>
<td>$325.42</td>
<td>$296.98</td>
</tr>
</tbody>
</table>

**= TOTAL NON-LAND PROD. COSTS**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$541.47</td>
<td>$341.54</td>
<td>$335.92</td>
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</table>

**NET RETURN / ACRE**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$104.63</td>
<td>$201.87</td>
<td>$95.00</td>
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</table>

**X CROPPING PATTERN**

<table>
<thead>
<tr>
<th>CORN</th>
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<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>0.526</td>
<td>0.074</td>
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</tbody>
</table>

**= ROTATIONAL NET RETURN / ACRE**

<table>
<thead>
<tr>
<th>CORN</th>
<th>BEANS</th>
<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$41.85</td>
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</table>

**TOTAL ROTATIONAL NET RETURN**

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<thead>
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<th>WHEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$155.07</td>
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**BASE CAP RATE**

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<td>0.066</td>
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</table>

**CAUV LAND VALUE**

<table>
<thead>
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<th>WHEAT</th>
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</thead>
<tbody>
<tr>
<td>$2,349.48</td>
<td>SAY</td>
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</table>

5/19/2015
### 2018 CAUV SAMPLE CALCULATION

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Miami Silt Loam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope</td>
<td>2-6</td>
</tr>
<tr>
<td>Erosion</td>
<td>Slight</td>
</tr>
<tr>
<td>Drainage</td>
<td>Well</td>
</tr>
<tr>
<td>Product Index</td>
<td>76</td>
</tr>
</tbody>
</table>

#### Corn

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% increased yield</td>
<td>1.34661</td>
</tr>
<tr>
<td>adjusted yield/acre</td>
<td>145</td>
</tr>
<tr>
<td>X Crop Price/Unit</td>
<td>$4.18</td>
</tr>
</tbody>
</table>

\[
= GROSS INCOME / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$606.10</td>
<td>$521.50</td>
<td>$436.08</td>
</tr>
</tbody>
</table>

#### Beans

<table>
<thead>
<tr>
<th>Yield/acre</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Crop Price/Unit</td>
<td>$10.43</td>
</tr>
</tbody>
</table>

\[
= GROSS INCOME / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$606.10</td>
<td>$521.50</td>
<td>$436.08</td>
</tr>
</tbody>
</table>

#### Wheat

<table>
<thead>
<tr>
<th>Yield/acre</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Crop Price/Unit</td>
<td>$5.52</td>
</tr>
</tbody>
</table>

\[
= GROSS INCOME / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$606.10</td>
<td>$521.50</td>
<td>$436.08</td>
</tr>
</tbody>
</table>

#### Yield per Acre

- **Corn:** 145
- **Beans:** 50
- **Wheat:** 79

#### Base Yield

- **Corn:** 129
- **Beans:** 38
- **Wheat:** 58

\[
= YIELD ABOVE BASE
\]

#### Added Unit Cost

- **Corn:** $1.44
- **Beans:** $0.94
- **Wheat:** $1.49

\[
= ADDED UNIT COST / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$23.04</td>
<td>$11.28</td>
<td>$31.29</td>
</tr>
</tbody>
</table>

#### Base Yield Cost

- **Corn:** $529.28
- **Beans:** $346.26
- **Wheat:** $330.53

\[
= TOTAL NON-LAND PROD. COSTS
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$552.32</td>
<td>$357.54</td>
<td>$361.82</td>
</tr>
</tbody>
</table>

#### Net Return per Acre

- **Corn:** $53.78
- **Beans:** $163.96
- **Wheat:** $74.26

\[
= NET RETURN / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$53.78</td>
<td>$163.96</td>
<td>$74.26</td>
</tr>
</tbody>
</table>

#### Cropping Pattern

- **Corn:** 0.39
- **Beans:** 0.55
- **Wheat:** 0.06

\[
= ROTATIONAL NET RETURN / ACRE
\]

<table>
<thead>
<tr>
<th>Corn</th>
<th>Beans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20.97</td>
<td>$90.18</td>
<td>$4.46</td>
</tr>
</tbody>
</table>

#### Total Rotational Net Return

- **Corn:** $115.61

#### Base Cap Rate

- **Corn:** 0.08

#### Unadjusted Value

- **Corn:** $1,445.10
- **Beans:** $1,440
- **Wheat:** $1,950

#### 2017 Value

- **Corn:** $1,440
- **Beans:** $1,950
- **Wheat:** $1,700

#### Adjusted CAUV Value

- **Corn:** $1,700

5/11/2018
# CAUV Summary Values

**6/26/2018**  
TY 2018 Final Values (Adjusted)

<table>
<thead>
<tr>
<th>Productivity Index</th>
<th>No. of Units</th>
<th>Net Return/Acre</th>
<th>Cropland Value/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>0-49</td>
<td>601</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>50-59</td>
<td>749</td>
<td>0</td>
<td>71</td>
</tr>
<tr>
<td>60-69</td>
<td>1,114</td>
<td>0</td>
<td>134</td>
</tr>
<tr>
<td>70-79</td>
<td>798</td>
<td>49</td>
<td>195</td>
</tr>
<tr>
<td>80-89</td>
<td>211</td>
<td>120</td>
<td>243</td>
</tr>
<tr>
<td>90-99</td>
<td>35</td>
<td>206</td>
<td>271</td>
</tr>
<tr>
<td>100+</td>
<td>6</td>
<td>272</td>
<td>272</td>
</tr>
<tr>
<td>All Regions</td>
<td>3,514</td>
<td>$0</td>
<td>$272</td>
</tr>
</tbody>
</table>

**TY 2015 Final Values - 5/28/2015**

<table>
<thead>
<tr>
<th>Productivity Index</th>
<th>No. of Units</th>
<th>Net Return/Acre</th>
<th>Cropland Value/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>0-49</td>
<td>601</td>
<td>0</td>
<td>54</td>
</tr>
<tr>
<td>50-59</td>
<td>749</td>
<td>0</td>
<td>106</td>
</tr>
<tr>
<td>60-69</td>
<td>1,114</td>
<td>0</td>
<td>169</td>
</tr>
<tr>
<td>70-79</td>
<td>798</td>
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<td>239</td>
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<tr>
<td>80-89</td>
<td>211</td>
<td>157</td>
<td>284</td>
</tr>
<tr>
<td>90-99</td>
<td>35</td>
<td>247</td>
<td>314</td>
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<tr>
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<td>315</td>
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<tr>
<td>All Regions</td>
<td>3,514</td>
<td>$0</td>
<td>$315</td>
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</table>
## CAUV Summary Values

### TY 2018 Final Values (Adjusted)

<table>
<thead>
<tr>
<th>Productivity Index</th>
<th>No. of Units</th>
<th>Net Return/Acre</th>
<th>Cropland Value/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>Average</td>
</tr>
<tr>
<td>0-49</td>
<td>601</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>50-59</td>
<td>749</td>
<td>0</td>
<td>71</td>
</tr>
<tr>
<td>60-69</td>
<td>1,114</td>
<td>0</td>
<td>134</td>
</tr>
<tr>
<td>70-79</td>
<td>798</td>
<td>49</td>
<td>195</td>
</tr>
<tr>
<td>80-89</td>
<td>211</td>
<td>120</td>
<td>243</td>
</tr>
<tr>
<td>90-99</td>
<td>35</td>
<td>206</td>
<td>271</td>
</tr>
<tr>
<td>100+</td>
<td>6</td>
<td>272</td>
<td>272</td>
</tr>
</tbody>
</table>

**All Regions**

3,514 | $0 | $272 | $60 | $350 | $3,810 | $1,015

## TY 2017 Final Values - 8/03/2017

<table>
<thead>
<tr>
<th>Productivity Index</th>
<th>No. of Units</th>
<th>Net Return/Acre</th>
<th>Cropland Value/Acre</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
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<td>Average</td>
</tr>
<tr>
<td>0-49</td>
<td>601</td>
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<td>40</td>
</tr>
<tr>
<td>50-59</td>
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<td>90</td>
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<td>1,114</td>
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<tr>
<td>100+</td>
<td>6</td>
<td>296</td>
<td>296</td>
</tr>
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</table>

**All Regions**

3,514 | $0 | $296 | $74 | $350 | $4,205 | $1,153

20
### Average CAUV Values by Year, 2002-2018

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-49</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>108</td>
<td>100</td>
<td>100</td>
<td>176</td>
<td>200</td>
<td>300</td>
<td>350</td>
<td>350</td>
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<td>350</td>
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<tr>
<td>50-59</td>
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<td>101</td>
<td>114</td>
<td>106</td>
<td>134</td>
<td>100</td>
<td>200</td>
<td>214</td>
<td>328</td>
<td>362</td>
<td>516</td>
<td>700</td>
<td>518</td>
<td>466</td>
<td>430</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
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<td>113</td>
<td>104</td>
<td>101</td>
<td>125</td>
<td>123</td>
<td>188</td>
<td>435</td>
<td>436</td>
<td>632</td>
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<td>1218</td>
<td>1778</td>
<td>1371</td>
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<td>241</td>
<td>283</td>
<td>431</td>
<td>746</td>
<td>845</td>
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<td>1147</td>
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<td>1969</td>
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<td>467</td>
<td>342</td>
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<td>465</td>
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<td>708</td>
<td>1059</td>
<td>1278</td>
<td>1641</td>
<td>1717</td>
<td>2743</td>
<td>3718</td>
<td>3354</td>
<td>3302</td>
<td>2909</td>
<td>2586</td>
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<tr>
<td>90-99</td>
<td>713</td>
<td>663</td>
<td>533</td>
<td>492</td>
<td>675</td>
<td>747</td>
<td>973</td>
<td>1368</td>
<td>1601</td>
<td>2017</td>
<td>2128</td>
<td>3310</td>
<td>4428</td>
<td>4104</td>
<td>4074</td>
<td>3602</td>
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<tr>
<td>100+</td>
<td>870</td>
<td>820</td>
<td>690</td>
<td>650</td>
<td>880</td>
<td>970</td>
<td>1200</td>
<td>1620</td>
<td>1900</td>
<td>2380</td>
<td>2490</td>
<td>3780</td>
<td>5030</td>
<td>4770</td>
<td>4750</td>
<td>4205</td>
<td>3810</td>
</tr>
<tr>
<td><strong>Total No. of Soils</strong></td>
<td><strong>180</strong></td>
<td><strong>163</strong></td>
<td><strong>135</strong></td>
<td><strong>123</strong></td>
<td><strong>177</strong></td>
<td><strong>181</strong></td>
<td><strong>249</strong></td>
<td><strong>459</strong></td>
<td><strong>505</strong></td>
<td><strong>700</strong></td>
<td><strong>719</strong></td>
<td><strong>1205</strong></td>
<td><strong>1668</strong></td>
<td><strong>1388</strong></td>
<td><strong>1310</strong></td>
<td><strong>1153</strong></td>
<td><strong>1015</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>3307</strong></td>
<td><strong>3313</strong></td>
<td><strong>3313</strong></td>
<td><strong>3358</strong></td>
<td><strong>3482</strong></td>
<td><strong>3510</strong></td>
<td><strong>3511</strong></td>
<td><strong>3511</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
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</tbody>
</table>

### Average CAUV Values by Reappraisal/Update Year

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<tr>
<th>Productivity Index</th>
<th>2003</th>
<th>2006</th>
<th>2009</th>
<th>2012</th>
<th>2015</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-49</td>
<td>100</td>
<td>108</td>
<td>176</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>50-59</td>
<td>101</td>
<td>134</td>
<td>200</td>
<td>362</td>
<td>518</td>
<td>400</td>
</tr>
<tr>
<td>60-69</td>
<td>113</td>
<td>125</td>
<td>435</td>
<td>610</td>
<td>1371</td>
<td>896</td>
</tr>
<tr>
<td>70-79</td>
<td>244</td>
<td>241</td>
<td>746</td>
<td>1147</td>
<td>2347</td>
<td>1723</td>
</tr>
<tr>
<td>80-89</td>
<td>467</td>
<td>465</td>
<td>1059</td>
<td>1717</td>
<td>3354</td>
<td>2586</td>
</tr>
<tr>
<td>90-99</td>
<td>663</td>
<td>675</td>
<td>1368</td>
<td>2128</td>
<td>4104</td>
<td>3226</td>
</tr>
<tr>
<td>100+</td>
<td>820</td>
<td>880</td>
<td>1620</td>
<td>2490</td>
<td>4770</td>
<td>3810</td>
</tr>
<tr>
<td><strong>Total No. of Soils</strong></td>
<td><strong>163</strong></td>
<td><strong>177</strong></td>
<td><strong>459</strong></td>
<td><strong>719</strong></td>
<td><strong>1388</strong></td>
<td><strong>1015</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>163</strong></td>
<td><strong>3482</strong></td>
<td><strong>3511</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
<td><strong>3514</strong></td>
</tr>
</tbody>
</table>
Comparison of Inputs, Tax Years 2015-2018

<table>
<thead>
<tr>
<th>Crop Prices</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Difference</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2015-18</td>
<td>2017-18</td>
</tr>
<tr>
<td>Corn</td>
<td>$4.55</td>
<td>$4.49</td>
<td>$4.51</td>
<td>$4.18</td>
<td>($0.37)</td>
<td>($0.33)</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$11.09</td>
<td>$10.91</td>
<td>$10.83</td>
<td>$10.43</td>
<td>($0.66)</td>
<td>($0.40)</td>
</tr>
<tr>
<td>Wheat</td>
<td>$5.67</td>
<td>$5.53</td>
<td>$5.53</td>
<td>$5.52</td>
<td>($0.15)</td>
<td>($0.01)</td>
</tr>
</tbody>
</table>

| Non-land Production Costs |       |       |       |       |            |            |
| Base Cost               |       |       |       |       |            |            |
| Corn                    | $516.99| $524.47| $538.78| $529.28| $12.29    | ($9.50)    |
| Soybeans                | $325.42| $336.33| $347.10| $346.26| $20.84    | ($0.84)    |
| Wheat                   | $296.98| $323.52| $336.21| $330.53| $33.55    | ($5.68)    |

| Additional Unit Cost   |       |       |       |       |            |            |
|                       | $1.36 | $1.38 | $1.45 | $1.44 | $0.08      | ($0.01)    |
| Corn                   | $1.24 | $1.07 | $1.05 | $0.94 | ($0.30)    | ($0.11)    |
| Soybeans               | $1.77 | $1.64 | $1.62 | $1.49 | ($0.28)    | ($0.13)    |
| Wheat                  |       |       |       |       |            |            |

| Capitalization Rate    | 80/20 | 80/20 | 80/20 | 80/20 |           |            |
| Mortgage/Equity Ratio  |       |       |       |       |           |            |
| Years                  | 25    | 25    | 25    | 25    |            |            |
| Interest Rate          | 6.15  | 5.76  | 7.73  | 7.73  |            |            |
| Equity Rate            | 5.25  | 5.25  | 5.55  | 5.55  |            |            |
| Tax Additur            | 1.6   | 1.6   | 1.6   | 1.6   |            |            |
| Capitalization Rate    | 6.6   | 6.3   | 8.0   | 8.0   | 1.40       | 0.00       |