Who am I? - Missouri

Appleton City: Bates County, Missouri
Who am I? – Kansas

- Majors: Agriculture Economics and Agronomy
- Student Assistant to Dr. Barry Flinchbaugh
- Legislative Assistant to University President
  - Extension and Agricultural Funding and Policy
- National Bio and Agro-defense Facility (NBAF)
Who am I? – Back to Mizzou

• Major: Agriculture and Applied Economics
  -Policy Analysis

• Graduate Student Researcher at the Food and Agricultural Policy Research Institute (FAPRI-MU)
Farm Management Program

Located in the Department of

Agriculture, Environmental, and Development Economics

Mission:

Address critical farm management issues affecting Ohio agriculture, including marketing and price analysis, farm financial management, risk evaluation, agricultural processing, environmental issues, and farm entry among other issues. Serve as a bridge between AEDE’s research, teaching and outreach to stakeholders.

OSU Farm Management- https://aede.osu.edu/research/osu-farm-management
OSU Ag Manager- https://u.osu.edu/ohioagmanager/
What Does Farm Business Analysis Do For You?

- Whole Farm Analysis
- Personalized Reports
- Annual Summaries
- Benchmarks against Similar Sized Operations
- Enterprise Analysis
- Machinery Cost per Acre
- Cost of Production per Acre, Ton, CWT

2017 Analysis: $100
Benefits of farm business analysis for your farmers

- High quality financial statements
  - Multiple internal accuracy checks
  - Program review process

- Multiple uses
  - Document and review past performance
  - Cash flow planning and budgeting
  - Base plan for analyzing business changes
Financial Standards Graphics

Current Ratio
The extent to which current farm assets, if liquidated, would cover current farm liabilities.
Total current farm assets divided by total current farm liabilities.
- Strong: Greater than 2
- Caution: 2 to 1.3
- Vulnerable: Less than 1.3

Working Capital to Gross Revenues
Measures operating capital available against the size of the business.
Working capital divided by gross revenues.
- Strong: Greater than 30
- Caution: 30 to 10
- Vulnerable: Less than 10
# Personalized Reports

## Corn 2013; Owned Land

**Benchmark Report, 25 Farms**

<table>
<thead>
<tr>
<th>My Farm</th>
<th>Group Median</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield per acre (bu.)</td>
<td>130.06</td>
<td>150.27</td>
</tr>
<tr>
<td>Value per unit</td>
<td>6.00</td>
<td>6.74</td>
</tr>
<tr>
<td>Total product value</td>
<td>760.49</td>
<td>851.42</td>
</tr>
<tr>
<td>Gross return</td>
<td>760.49</td>
<td>851.42</td>
</tr>
<tr>
<td>Seed</td>
<td>105.00</td>
<td>106.65</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>169.89</td>
<td>152.66</td>
</tr>
<tr>
<td>Crop chemicals</td>
<td>66.96</td>
<td>56.15</td>
</tr>
<tr>
<td>Crop insurance</td>
<td>22.76</td>
<td>15.64</td>
</tr>
<tr>
<td>Fuel &amp; oil</td>
<td>48.43</td>
<td>47.10</td>
</tr>
<tr>
<td>Repairs</td>
<td>77.95</td>
<td>47.00</td>
</tr>
<tr>
<td>Utilities</td>
<td>8.72</td>
<td>7.51</td>
</tr>
<tr>
<td>Operating interest</td>
<td>3.20</td>
<td>3.74</td>
</tr>
<tr>
<td>Total direct expenses</td>
<td>554.35</td>
<td>488.86</td>
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<tr>
<td>Return over direct expenses</td>
<td>226.14</td>
<td>358.51</td>
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<tr>
<td>Hired labor</td>
<td>0.00</td>
<td>28.35</td>
</tr>
<tr>
<td>Real estate taxes</td>
<td>17.47</td>
<td>17.47</td>
</tr>
<tr>
<td>Farm insurance</td>
<td>7.70</td>
<td>7.81</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Dues &amp; professional fees</td>
<td>1.50</td>
<td>2.36</td>
</tr>
<tr>
<td>Interest on interm. debt</td>
<td>8.33</td>
<td>4.77</td>
</tr>
<tr>
<td>Interest on long term debt</td>
<td>15.55</td>
<td>56.72</td>
</tr>
<tr>
<td>Machinery depreciation</td>
<td>60.49</td>
<td>66.27</td>
</tr>
<tr>
<td>Building depreciation</td>
<td>13.81</td>
<td>8.31</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>34.99</td>
<td>13.28</td>
</tr>
<tr>
<td>Total overhead expenses</td>
<td>159.84</td>
<td>205.86</td>
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<tr>
<td>Total dir &amp; ovrn expenses</td>
<td>714.19</td>
<td>713.90</td>
</tr>
<tr>
<td>Net return</td>
<td>66.30</td>
<td>105.46</td>
</tr>
<tr>
<td>Government payments</td>
<td>24.50</td>
<td>11.46</td>
</tr>
<tr>
<td>Net return w/ govt pymts</td>
<td>90.80</td>
<td>120.89</td>
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<tr>
<td>Labor &amp; management charge</td>
<td>109.82</td>
<td>84.31</td>
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<tr>
<td>Net return over lab &amp; mgmt</td>
<td>-19.02</td>
<td>36.60</td>
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<tr>
<td>Direct cost of prod per unit</td>
<td>4.26</td>
<td>3.06</td>
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<tr>
<td>Dir &amp; ovrn cost of prod</td>
<td>5.49</td>
<td>4.37</td>
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<tr>
<td>COP from gov't &amp; other income</td>
<td>5.30</td>
<td>4.30</td>
</tr>
<tr>
<td>Cost of prod w/ lab &amp; mgmt</td>
<td>6.15</td>
<td>4.96</td>
</tr>
<tr>
<td>Machinery cost per acre</td>
<td>105.11</td>
<td>191.43</td>
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<tr>
<td>Est. labor hours per acre</td>
<td>9.23</td>
<td>4.45</td>
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</table>

**RankEm**

**Farm ID: Sample Farm**

<table>
<thead>
<tr>
<th>RankEm</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>10%</td>
<td>26</td>
</tr>
<tr>
<td>20%</td>
<td>26</td>
</tr>
<tr>
<td>30%</td>
<td>26</td>
</tr>
<tr>
<td>40%</td>
<td>26</td>
</tr>
<tr>
<td>50%</td>
<td>26</td>
</tr>
<tr>
<td>60%</td>
<td>26</td>
</tr>
<tr>
<td>70%</td>
<td>26</td>
</tr>
<tr>
<td>80%</td>
<td>26</td>
</tr>
<tr>
<td>90%</td>
<td>26</td>
</tr>
<tr>
<td>100%</td>
<td>26</td>
</tr>
</tbody>
</table>

**2013 Ohio Farm Business Analysis; ©The Ohio State University**
Expanding our Impact – 4 New FINPACK Technicians

FINPACK Technician Host Counties

Defiance, Bruce Clevenger
Licking, Dean Kreager
Miami, Amanda Bennett
Pickaway, Mike Estadt
For More Information About Farm Business Analysis:

Visit: [http://farmprofitability.osu.edu/](http://farmprofitability.osu.edu/)

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Things that Keep Me Awake at Night

• **Taxes** - I’m not sure what will shake out
  • Estate Tax
  • Step up in Basis
  • Agricultural Exemptions

• **2018 Farm Bill** *(Defer to Dr. Zulauf)*
  • Reallocation of Commodity Program Dollars
  • Research Funding

• **Trade with NAFTA** *(Defer to Dr. Sheldon)*
  • Affect on World Commodity Prices
  • Market Power

• **Federal Reserve**
  • New Chair of the Board - ?
  • Interest Rate Increases - ?
Demand - World Population

Population level

Annual population growth

Source: IHS Markit, December 2016
### Demand - GDP Growth

#### Percentage of Real GDP Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>6.9</td>
<td>6.7</td>
<td>6.5</td>
<td>6.3</td>
<td>7.3</td>
</tr>
<tr>
<td>U.S.</td>
<td>2.4</td>
<td>2.6</td>
<td>2.1</td>
<td>1.6</td>
<td>2.2</td>
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<tr>
<td>Mexico</td>
<td>2.3</td>
<td>2.6</td>
<td>2.3</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.5</td>
<td>1.8</td>
<td>0.3</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Japan</td>
<td>-3.8</td>
<td>-3.6</td>
<td>-3.8</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>World</td>
<td>2.8</td>
<td>2.7</td>
<td>2.7</td>
<td>2.9</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Global Grain and Oilseeds
Metric Tons/ hectare

Data Source: USDA PSD Online
Ranked 10th with $1,888,920,000 in sales in 2016

Source: USDA-NASS
Soybean Production

Ranked 5th with $2,447,744,000 in sales in 2012

Data Source: USDA- NASS
Where Ohio stands - Wheat

Wheat - Bu/Acre

Data Source: USDA- NASS
Where Ohio stands - Wheat

Wheat Production

Data Source: USDA- NASS
World Price Projections

Corn Price Projections

Soybean Price Projections

Sources:
FAPRI August Baseline Update;
USDA Agricultural Outlook- Office of Chief Economist;
The CME Group- futures prices
Net Farm Income 2005-2026

Source: USDA-ERS and FAPRI-MU
National Land Prices

2017 Farm Real Estate Values
$ / Acre and % Change from 2016

Source: USDA-NASS
Nominal U.S. Farm Capital Expenditures

Years/Economic Quarters

Data Sources: Authors calculations based on data from USDA-ERS and Federal Reserve Bank District 4
Signs of Optimism

Ag Economy Barometer

Components of the Barometer

Source: Purdue University-Center for Commercial Agriculture and CME Group
2014 Farm Bill: Commodity Programs
Commodity Payments in Perspective?

**Per Acre Returns for Corn with ARC**

- **Market Revenue**
- **Marketing Loans**
- **ARC Payment**
- **Ins. Net Ind.**

**Per Acre Returns for Soybeans with ARC**

- **Market Revenue**
- **Marketing Loans**
- **ARC Payment**
- **Ins. Net Ind.**

**Per Acre Returns for Wheat with ARC**

- **Market Revenue**
- **Marketing Loans**
- **ARC Payment**
- **Ins. Net Ind.**

Source: FAPRI-MU 2017 baseline
Payments Do Help- Corn

Source: USDA-FSA, 2016
Ohio ARC-CO Payments: Corn 2016

* Payments adjusted for 85% of base acres and a 6.8% government sequester; rounded to nearest dollar
Benchmark Declines Going Forward

Corn Payments Under ARC

Marketing Year Average

Revenue/Acre

0.86 Benchmark

Data Source: FAPRI-MU 2017 baseline
Ashtabula County, OH Corn Revenue

Years

Revenue

0.86 Guarantee

Sources: Historical Revenue: USDA-FSA, Projections: FAPRI-MU
### ARC-CO Payment Triggers

#### 2017 ARC-CO Example: Ashtabula Co., OH for Corn

<table>
<thead>
<tr>
<th>Year</th>
<th>Max of (MYA Price or reference Price) $/Bu.</th>
<th>County Yield (Bushels)</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/2013</td>
<td>$6.89</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>2013/2014</td>
<td>$4.46</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>2014/2015</td>
<td>$3.70</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>2015/2016</td>
<td>$3.70</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>2016/2017</td>
<td>$3.70</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Olympic Average</td>
<td>$3.95</td>
<td>134</td>
<td></td>
</tr>
</tbody>
</table>

| Expected Revenue Benchmark (Equation 1) | $529.30 |
| 86% of Revenue Benchmark (Equation 2)  | $455.20 |

| Scenario 1: Set Price | *$3.20 | <143 | <$455.20 |
|                       | <$3.40 | **134 | <$455.20 |

*median WADE corn price October 2017  **Average of yield for all five previous years
Soybean Payments under ARC

Marketing Year

$/Acre

Data Source: FAPRI-MU 2017 baseline
* Payments adjusted for 85% of base acres and a 6.8% government sequester; rounded to nearest dollar
Ohio ARC-CO Payments: Wheat 2016

* Payments adjusted for 85% of base acres and a 6.8% government sequester; rounded to nearest dollar

Data Source: USDA-FSA
Conclusions

- Farm Business Analysis Program
  - In search of 4 part time technicians
  - Actively looking for Participants

- World Grain Supply and Demand
  - World Population is *Increasing* but at a *Decreasing* Rate
  - Four Years of above trend yields led to large stocks and lower prices

- Ohio Corn
  - Higher Production on Fewer Acres
  - Trend Yields would show a decrease in Production

- Ohio Soybean
  - Increased Planted Acres with Flat Production

- Farm Income
  - 40% *Lower* than when the 2014 Farm Bill was Created
  - Moderate changes moving forward; *Unlike* the last Farm Bill
Conclusions

- Land Prices
  - Expected **Decrease** in Land Values in 2017 from 2016
    - -0.9% Change in Ohio- USDA Estimate
    - Mostly Flat- OSU Extension Estimate

- ARC and PLC Commodity Payments Across Ohio
  - ARC Corn & Wheat Payments for Majority of the State in 2016
  - Benchmark Revenue can be Calculated for 2017
    - Small Expectation of Corn or Soybean ARC Payments Going Forward
    - Wheat Payments **stronger** under PLC: Reference Price $5.50
      - USDA MYA Price- $4.60
      - FAPRI MYA Price- $4.79
Are there any questions? I’m all ears.
Ben Brown

Program Manager: Ohio Farm Management Program

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