Wisconsin Agricultural Economic Outlook Forum

Renk Agribusiness Institute
COLLEGE OF AGRICULTURAL AND LIFE SCIENCES
UNIVERSITY OF WISCONSIN–MADISON

UW Extension
University of Wisconsin-Extension
Introduction

• Welcome

• Thanks to our sponsors:
  – Wisconsin Farm Bureau Federation
  – Wisconsin Farmers Union
  – UW-Madison Office of University Relations

• Twitter “hashtag” -- #WIAgForum
Status of the Wisconsin Farm Economy, 2015

Bruce L. Jones
Director, Renk Agribusiness Institute
College of Agricultural and Life Sciences
UW-Madison
(608)265-8508
Key Points

- Wisconsin agriculture’s financial position continued to be strong in 2014. Net farm income was at a record level -- $4 billion plus -- and wealth of farmers continued to rise.

- Wisconsin farmers generally fared better than other US farmers. Declines in corn and soybean prices caused US net farm income to drop about 25 percent from 2013 to 2014.

- Nearly all of Wisconsin’s income gains were from milk production. The value of the state’s milk production was up by about $1.2 billion in 2014, largely thanks to strong milk prices.

- From December 31, 2012 to year-end 2013 the equity of Wisconsin farmers rose by about $1.2 billion. This wealth gain is the result of farm asset values rising by about $1.5 billion while farm debts increased roughly $300 million.
Farm Income and Expenses
<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014 Est</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Million $</td>
<td>Million $</td>
<td>Million $</td>
</tr>
<tr>
<td>Value of agricultural sector production</td>
<td>13,603.24</td>
<td>14,121.66</td>
<td>15,007.04</td>
</tr>
<tr>
<td>Production Expenses</td>
<td>7,153.17</td>
<td>7,422.58</td>
<td>7,673.76</td>
</tr>
<tr>
<td>Gross value added</td>
<td>6,450.07</td>
<td>6,699.08</td>
<td>7,333.28</td>
</tr>
<tr>
<td>Capital consumption</td>
<td>1,036.52</td>
<td>1,147.65</td>
<td>1,152.04</td>
</tr>
<tr>
<td>Net value added</td>
<td>5,413.55</td>
<td>5,551.43</td>
<td>6,181.24</td>
</tr>
<tr>
<td>Hired labor and employee compensation</td>
<td>924.57</td>
<td>924.72</td>
<td>978.35</td>
</tr>
<tr>
<td>Net rent received by nonoperator landlords</td>
<td>249.55</td>
<td>211.93</td>
<td>233.53</td>
</tr>
<tr>
<td>Total interest expenses</td>
<td>673.97</td>
<td>691.35</td>
<td>708.69</td>
</tr>
<tr>
<td>Net farm income</td>
<td>3,565.46</td>
<td>3,723.43</td>
<td>4,260.68</td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td>Wisconsin</td>
<td>Change</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td>2014F</td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td>Million $</td>
<td>Million $</td>
<td>Million $</td>
</tr>
<tr>
<td>Value of crop production</td>
<td>233,628.95</td>
<td>200,600.85</td>
<td>-33,028.09</td>
</tr>
<tr>
<td>Value of livestock production</td>
<td>182,114.77</td>
<td>206,552.30</td>
<td>24,437.53</td>
</tr>
<tr>
<td>Dairy products, Milk</td>
<td>40,276.93</td>
<td>49,685.17</td>
<td>24,437.53</td>
</tr>
<tr>
<td>Meat animals</td>
<td>92,087.09</td>
<td>107,017.55</td>
<td>14,920.46</td>
</tr>
<tr>
<td>Revenues from services and forestry</td>
<td>54,247.16</td>
<td>49,555.64</td>
<td>-4,691.52</td>
</tr>
<tr>
<td>Value of agricultural sector production</td>
<td>469,990.88</td>
<td>456,708.79</td>
<td>-13,282.09</td>
</tr>
<tr>
<td>Purchased inputs</td>
<td>244,083.79</td>
<td>257,791.78</td>
<td>13,707.98</td>
</tr>
<tr>
<td>Payments to stakeholders</td>
<td>62,835.97</td>
<td>66,685.05</td>
<td>1,828.00</td>
</tr>
<tr>
<td>Hired labor and employee compensation</td>
<td>27,742.00</td>
<td>29,351.10</td>
<td>1,609.11</td>
</tr>
<tr>
<td>Net rent received by nonoperator landlords</td>
<td>17,695.28</td>
<td>19,499.06</td>
<td>1,803.78</td>
</tr>
<tr>
<td>Total interest expenses 1/</td>
<td>17,398.69</td>
<td>17,834.88</td>
<td>436.19</td>
</tr>
<tr>
<td>Net farm income</td>
<td>128,988.14</td>
<td>97,316.34</td>
<td>-31,671.81</td>
</tr>
</tbody>
</table>

[@ 25% decrease]  [@ 15% increase]
Actual And Estimated Wisconsin Net Farm Income

Actual Reported by ERS-USDA
Estimated Using ERS USDA Forecast

Million $:
- 2005: 2,000
- 2006: 1,500
- 2007: 2,500
- 2008: 2,000
- 2009: 500
- 2010: 2,000
- 2011: 3,000
- 2012: 3,500
- 2013: 4,000

2015 Wisconsin Agricultural Outlook Forum
Estimated and Actual Value of Production and Expenses For Wisconsin Farms

- Actual VOP
- Actual Expenses
- Estimated VOP
- Estimated Expenses

M illion $

2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013
### Variation In Wisconsin Net Farm Income

<table>
<thead>
<tr>
<th>Period</th>
<th>Change in Net Farm Income</th>
<th>Billion $</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 - 2009</td>
<td></td>
<td>-1.3</td>
<td>@ -70%</td>
</tr>
<tr>
<td>2014 – 2015</td>
<td></td>
<td>-1.9</td>
<td>@ -45%</td>
</tr>
<tr>
<td>(Forecast)*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Assumes $7/CWT drop in milk price for 2015, all other factors at 2014 levels
Farm Balance Sheets
<table>
<thead>
<tr>
<th>Assets: Livestock inventory</th>
<th>$817.90</th>
<th>$829.79</th>
<th>$916.35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets: Crop inventory</td>
<td>$2,805.22</td>
<td>$2,829.66</td>
<td>$2,143.94</td>
</tr>
<tr>
<td>Assets: Purchased inputs</td>
<td>$435.98</td>
<td>$592.26</td>
<td>$514.36</td>
</tr>
<tr>
<td>Assets: Cash invested in growing crops</td>
<td>$77.08</td>
<td>$103.93</td>
<td>$75.11</td>
</tr>
<tr>
<td>Assets: Prepaid insurance</td>
<td>$67.99</td>
<td>$75.18</td>
<td>$74.27</td>
</tr>
<tr>
<td>Assets: Other</td>
<td>$2,347.61</td>
<td>$3,892.10</td>
<td>$2,325.56</td>
</tr>
<tr>
<td>Assets: Current</td>
<td>$6,551.78</td>
<td>$8,322.93</td>
<td>$6,049.51</td>
</tr>
<tr>
<td>Assets: Investment in cooperatives</td>
<td>$361.21</td>
<td>$354.24</td>
<td>$401.36</td>
</tr>
<tr>
<td>Assets: Farm equipment</td>
<td>$7,364.91</td>
<td>$8,790.67</td>
<td>$8,544.20</td>
</tr>
<tr>
<td>Assets: Breeding animals</td>
<td>$3,103.22</td>
<td>$3,020.15</td>
<td>$3,166.52</td>
</tr>
<tr>
<td>Assets: Land and buildings</td>
<td>$52,530.01</td>
<td>$51,906.54</td>
<td>$55,725.21</td>
</tr>
<tr>
<td>Assets: Non-current</td>
<td>$63,359.35</td>
<td>$64,071.52</td>
<td>$67,837.36</td>
</tr>
<tr>
<td>Farm assets</td>
<td>$69,911.13</td>
<td>$72,394.46</td>
<td>$73,886.87</td>
</tr>
<tr>
<td>Liabilities: Notes payable within one year</td>
<td>$499.43</td>
<td>$1,027.19</td>
<td>$995.99</td>
</tr>
<tr>
<td>Liabilities: Current portion of term debt</td>
<td>$886.59</td>
<td>$826.65</td>
<td>$872.93</td>
</tr>
<tr>
<td>Liabilities: Accrued interest</td>
<td>$259.26</td>
<td>$259.73</td>
<td>$269.22</td>
</tr>
<tr>
<td>Liabilities: Accounts payable</td>
<td>$174.64</td>
<td>$260.50</td>
<td>$241.51</td>
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<tr>
<td>Liabilities: Current</td>
<td>$1,819.92</td>
<td>$2,374.07</td>
<td>$2,379.66</td>
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<td>Liabilities: Nonreal estate</td>
<td>$1,191.90</td>
<td>$1,098.18</td>
<td>$1,186.83</td>
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<td>Liabilities: Real estate</td>
<td>$6,063.91</td>
<td>$5,705.67</td>
<td>$5,917.87</td>
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<tr>
<td>Liabilities: Noncurrent</td>
<td>$7,255.80</td>
<td>$6,803.92</td>
<td>$7,104.69</td>
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<tr>
<td>Farm liabilities</td>
<td>$9,075.72</td>
<td>$9,177.92</td>
<td>$9,484.35</td>
</tr>
<tr>
<td>Farm equity</td>
<td>$60,835.41</td>
<td>$63,216.53</td>
<td>$64,402.52</td>
</tr>
<tr>
<td>Assets: Operators dwelling</td>
<td>$8,356.61</td>
<td>$8,667.47</td>
<td>$8,199.03</td>
</tr>
<tr>
<td>Sector Financial Measures</td>
<td>2012</td>
<td>2013</td>
<td>2014F</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>Billion $</td>
<td>Billion $</td>
<td>Billion $</td>
</tr>
<tr>
<td>Farm assets</td>
<td>2,734</td>
<td>2,887</td>
<td>2,979</td>
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<tr>
<td>Real estate</td>
<td>2,194</td>
<td>2,385</td>
<td>2,454</td>
</tr>
<tr>
<td>Livestock and poultry</td>
<td>133</td>
<td>136</td>
<td>159</td>
</tr>
<tr>
<td>Machinery and motor vehicles</td>
<td>244</td>
<td>247</td>
<td>241</td>
</tr>
<tr>
<td>Crops stored</td>
<td>16</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td>Purchased inputs</td>
<td>22</td>
<td>21</td>
<td>21</td>
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<tr>
<td>Financial assets</td>
<td>125</td>
<td>69</td>
<td>71</td>
</tr>
<tr>
<td>Total farm debt</td>
<td>300</td>
<td>308</td>
<td>318</td>
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<tr>
<td>Real estate</td>
<td>173</td>
<td>178</td>
<td>183</td>
</tr>
<tr>
<td>Farm Credit System</td>
<td>80</td>
<td>87</td>
<td>NA</td>
</tr>
<tr>
<td>Farm Service Agency</td>
<td>4</td>
<td>4</td>
<td>NA</td>
</tr>
<tr>
<td>Farmer Mac</td>
<td>4</td>
<td>4</td>
<td>NA</td>
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<tr>
<td>Commercial banks</td>
<td>59</td>
<td>60</td>
<td>NA</td>
</tr>
<tr>
<td>Life insurance companies</td>
<td>13</td>
<td>13</td>
<td>NA</td>
</tr>
<tr>
<td>Individuals and others</td>
<td>13</td>
<td>9</td>
<td>NA</td>
</tr>
<tr>
<td>Storage facility loans</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Nonreal estate</td>
<td>127</td>
<td>130</td>
<td>135</td>
</tr>
<tr>
<td>Farm Credit System</td>
<td>42</td>
<td>44</td>
<td>NA</td>
</tr>
<tr>
<td>Farm Service Agency</td>
<td>3</td>
<td>3</td>
<td>NA</td>
</tr>
<tr>
<td>Commercial banks</td>
<td>60</td>
<td>63</td>
<td>NA</td>
</tr>
<tr>
<td>Individuals and others</td>
<td>21</td>
<td>19</td>
<td>NA</td>
</tr>
<tr>
<td>Farm equity</td>
<td>2,434</td>
<td>2,578</td>
<td>2,661</td>
</tr>
</tbody>
</table>
US Common Size Farm Balance Sheet

- D/A = 12.1
- 11.9
- 11.0
- 10.7

Percent of 2010 Assets

- 2010: Farm Equity
- 2011: Farm Equity
- 2012: Farm Equity
- 2013: Farm Equity

Farm Debt
Distribution of Farms, Farm Income, and Wealth For Wisconsin
Wisconsin Farm Wealth and Income By Economic Classes

Source: USDA-ERS ARMS

2013

Percent

Less Than $100,000
$100,000 - $249,999
$250,000 - $499,999
$500,000 - $999,999
$1,000,000 or more

Farms  Equity  Net Farm Income
Wisconsin Farms By Age of Operator

Source: ERS-USDA ARMS

2008 and 2013 data showing the number of farms by age of operator. The categories are:
- 34 or younger
- 35-44
- 45-54
- 55-64
- 65 or older

The chart indicates a decrease in the number of farms operated by 34 or younger operators and an increase in farms operated by 55-64 and 65 or older operators.
Wisconsin Farm Household Equity, By Age of Operator

Source: ERS-USDA ARMS

- 34 or younger
- 35-44
- 45-54
- 55-64
- 65 or older

2008

2013

2015 Wisconsin Agricultural Outlook Forum
Macroeconomic Conditions That Influence Agriculture

Steven C. Deller
Community Economic Development Specialist, UW-Extension
Professor, Department of Agricultural and Applied Economics
College of Agricultural and Life Sciences
University of Wisconsin-Madison
(608) 263-6251
THE LARGER MACRO ECONOMY AND WISCONSIN FARMING

Steven Deller
Department of Agricultural and Applied Economics
University of Wisconsin – Madison/Extension
Contribution of Agriculture to the Wisconsin Economy

Agriculture remains an important part of the Wisconsin economy. Using the data from 2012, this study updates prior analysis of the contribution of agriculture to the Wisconsin economy (Deller 2004; Deller and Williams 2009). For consistency with prior analyses, agriculture is defined as on-farm production and value added food processing. This study is composed of three parts: (1) general historical trends (1988 to 2012) of various measures of economic activity for Wisconsin compared to a national average and averages for the Great Lakes States; (2) an economic cluster analysis of various components of Wisconsin agriculture; and (3) an update of the contribution of agriculture to the Wisconsin economy. In addition to examining the contribution of agriculture to the Wisconsin economy in 2012 overall, we also explore the nine (9) sub-regions of Wisconsin as defined by the Wisconsin Agricultural Statistics (NASS) regions.

In the most recent study, Deller and Williams (2009) found that Wisconsin agriculture contributes $59.16 billion to total business sales/revenue (about 12.9% of Wisconsin’s total business sales), 389,953 jobs (16% of total Wisconsin employment) and $20.3 billion of total income (about 9% of Wisconsin’s total income).

- In 2012 on-farm activity contributed 153,900 jobs, $5.7 billion to labor income (wages, salaries and proprietor income), $8.9 billion to total income, and $20.3 billion to industrial sales.
- Food processing activity contributed 259,600 jobs, $12.9 billion to labor income (wages, salaries and proprietor income), $21.2 billion to total income, and $67.8 billion to industrial sales.
- Total agricultural activity contributed 413,500 jobs, $19.6 billion to labor income (wages, salaries and proprietor income), $50.1 billion to total income, and $88.3 billion to industrial sales.
- Dairy remains a strong cluster industry for Wisconsin with growing strength in dried condensed milk and butter production. Cheese remains a strength but the sector is growing more slowly than national production. Dairy in aggregate (farming and processing) contributes 78,900 jobs, $3.9 billion to labor income, $7.2 billion to total income, and $43.4 billion to industrial sales.
- Drought conditions for many parts of Wisconsin in 2012, the study period, caused a downward tick in grain farm activity further complicating the dairy and other livestock feeding challenge. For the analysis here the contribution estimates for farming may be conservative.
- The lingering effects of the Great Recession also placed downward pressure on agricultural processing not only in Wisconsin, but across the nation.

Despite the combined effects of the drought of 2012 and lingering effects of the Great Recession, agriculture has risen in importance for the Wisconsin economy accounting for 11.9% of employment, 10.9% of labor income, 10.9% of total income, and 16.1% of industrial sales.

Contribution of Agriculture to the Wisconsin Economy: Updated for 2012

In addition to the full report a series of shorter fact sheets have been created for your use. The information has been drawn from the full report and there is no additional information in the fact sheets that is not contained in the full report. In addition, a complementary set of fact sheets on food processing focus on the nation of “gaps and disconnects” to strengthen the food processing cluster.

The Wisconsin Dairy Industry

- Dairy Farming and Processing’s Contribution to Wisconsin Employment 2012
- Dairy Farming and Processing’s Contribution to Wisconsin Labor Income 2012
- Dairy Farming and Processing’s Contribution to Wisconsin Total Income 2012
- Dairy Farming and Processing’s Contribution to Wisconsin Total Industrial Sales/Revenue 2012

On-Farm Activity Contributions

- On-Farm Activity’s Contribution to Wisconsin Employment 2012
- On-Farm Activity’s Contribution to Wisconsin Labor Income 2012
Farming: Gross State Product


US  WI  GL
Wisconsin Earnings


WI: Total  WI: Farm

UW Extension
2015 Wisconsin Agricultural Outlook Forum
Economic Forecasting Survey

The Wall Street Journal surveys a group of nearly 50 economists on more than 10 major economic indicators on a monthly basis.
Forecasted Fed Fund Rates

June 2015: 0.58
Dec 2015: 1.38
June 2016: 2.10
Dec 2016: 2.86
Q&A: Foreign Fears Persist

What is the greatest downside risk to your GDP growth forecast in 2015?

- Weaker Capital Spending
- Rising Interest Rates
- Global Slowdown
- Other
- Other International Risk
Macro Trends that Will Affect Wisconsin Agriculture

- Interest rates will be increasing.
- Energy prices should decline then stabilize.
- US economy should remain strong but the rest of the world economy at risk.
- US dollar will grow stronger.
- Export markets are weaker than in the past.
Dairy Situation and Outlook, 2015

Mark Stephenson
Director of Dairy Policy Analysis
College of Agricultural and Life Sciences
UW-Madison
(608) 890-3755
The Dairy Outlook... 
Through My Lens

Mark Stephenson
Director of Dairy Policy Analysis

2015 Wisconsin Agricultural Outlook Forum
OK. Let’s just get it out... 2014 was a great year!
Highlights

• All-time high milk prices
• Much lower feed prices
• All-time high, and persistent, IOFC margins
• All-time high consumer prices for dairy products at retail—and they didn’t run away from consumption.

It’s been a pretty good year.
We Rode the Wave of Exports
U.S. All Milk Price

Wow!
MPP Ration Cost
Strong Profits Encourage Output
Farms Retained Cows

Dairy Cow Slaughter

1000s of Cows

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

2012 | 2013 | 2014

200 | 220 | 240 | 260 | 280 | 300

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Number of Cows

The graph shows the number of cows from Jan 2008 to Dec 2014. The data is represented in thousands of cows, with a peak around May 2010 and a decline towards the end of the year.
Milk per Cow

![Graph showing milk production per cow per day from January to December for 2011, 2012, 2013, and 2014.](image-url)
Fairly Strong Production Response
Wisconsin Wanted to Play Too
Consumer Confidence
BLS—Dairy and Related Products
Stocks Were Tight
U.S. Versus International Prices

Butter Prices

DMaP Dairy Markets and Policy

Oceania High-Low Range
Europe High-Low Range
NASS Prices
Updated 1/7/15
Implications...

• Butter may have found its international bottom
  – U.S. price may need to be around $1.10 to $1.20
• Not sure cheese is at the bottom yet
  – U.S. price would need to be around $1.40 to $1.50
• NFDM/SMP is still drifting down
  – U.S. price would be about $0.90 to $1.00
• Dry Whey looks to be stabilizing
  – U.S. price would be about $0.50 to $0.55
Other Factors

Dollar Index of Major Currencies

Index (Mar-73 = 100)

Jan-2008 to Jan-2014

Updated 12/26/14

DMaP
Dairy Markets and Policy

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Implications...

• Those product prices in our Federal Order formulas would yield:
  – Class III prices about $12 to $15
  – Class IV prices about $11 to $14
  – Those are about 50% of peak 2014 prices

• Currently, futures markets are forecasting:
  – Class III low of about $15.25 in April
  – Class IV low of about $14.25 in March

• Futures are starting to catch up with reality.
Around the World

Change in Milk Production

First 10 Months of 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>2.0%</td>
</tr>
<tr>
<td>N.Z.</td>
<td>12.0%</td>
</tr>
<tr>
<td>Aus.</td>
<td>4.0%</td>
</tr>
<tr>
<td>E.U. 28</td>
<td>4.0%</td>
</tr>
</tbody>
</table>
El Niño

• About 65% to 70% chance of El Niño conditions for winter/spring in the northern hemisphere
  – Greater chance of rain/cooler in western U.S.
  – Greater chance of dry/hot conditions in Oceania
• Some recent relief in California & Texas
• Some recent shortfall in moisture in New Zealand
The European Union

• Quota comes off in April, 2015
  – Several countries have designs on expanded production

• EU processors have started to invest in post-quota processing capacity. Investments are in milk powders, whey and lactose, but very few in cheese and butter.

• Russian import bans
  – Several countries of the E.U. looking for a home for their product
China Tapped on the Brakes

- China represents about 20% of world trade in dairy products
- China bought early, then slowed down
- We expect them to be back in the game
- Their GDP growth has slowed down
China—Milk Powder Imports

Source: Highground Dairy, based on GTIS/China Customs
### What Do Futures Markets Expect?

<table>
<thead>
<tr>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>&lt; $8.00</td>
<td></td>
<td>59%</td>
<td>83%</td>
<td>78%</td>
<td>53%</td>
<td>30%</td>
<td>31%</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>&lt; $7.50</td>
<td></td>
<td>24%</td>
<td>71%</td>
<td>67%</td>
<td>41%</td>
<td>21%</td>
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<td>55%</td>
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<td>42%</td>
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<td>11%</td>
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<td>6%</td>
<td>2%</td>
<td>1%</td>
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<tr>
<td>&lt; $4.00</td>
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<td></td>
<td></td>
<td></td>
<td>1%</td>
<td>2%</td>
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</tbody>
</table>

![Graph showing futures market expectations]
My Forecast...

- I expect a significant decline in milk prices
  - Class III to drop by at least $7.00
  - Class IV to decline by at least $8.00
  - Wisconsin All-Milk price to drop by about $7.20
- Harvest is largely known and feed prices will vary mostly with the cost of storage
- I expect the MPP margin to be somewhat worse than futures are currently forecasting
  - Not a horrible year by historic standards, but much worse than 2014.
The Option to Producing Milk
The Dairy Outlook... Through My Lens
Grain and Livestock Situation and Outlook

Brenda Boetel
Professor, Department of Agricultural Economics
University of Wisconsin-River Falls
brenda.boetel@uwrf.edu
(715) 425-3176
2014...
Slow planting, better conditions yr/yr, slow harvest
Grains
Record production

U.S. Corn Supply

Total Supply = 15472

5th highest corn acreage planted (1st in 2012)
5th highest corn acreage harvested (1st in 2012)
2014/2015 Usage

U.S. Corn Usage by Category

- Ethanol
- Food, Seed & Residual
- Feed & Residual
- Exports
- Carryover

Jan 2015 WASDE Estimate
2014/2015 Usage

• Ethanol usage is up almost 1% – EIA indicated increase last week
  – Margins are good
  – E10 “blend wall” and gasoline demand
  – Stocks are building
• Feed & residual key to 2014/15 usage
  – Up almost 5% over 2013/14
    • Feed usage up due to lower prices of corn – although down from Dec report
    • Net feedlot placement down from 2013
    • Sows farrowing and pigs per litter is up
    • Increase in production of pork and poultry in 2015
    • Beef production will not increase until 2017
• Exports are down YoY 8.5%
  – Behind where we need to be if we are to meet the USDA forecast
U.S. Soybean Yield

bushels/acre


20 25 30 35 40 45 50

47.8
2014/2015 Supply

• Record production of 3969 million bushels
  – US production up 18%

• Record carryover of 410 million bushels
  – S/U is 11.2%

• Increased forecasts for Brazilian production
  – Expected record production of 95.5 million ton

• High world S/U ratio of 32%
Soybean Export Sales

- Total commitments are 4.0 million tons higher than same period 2013
- Cumulative export inspection for Sep-Dec 2014 were record high
- Export pace is beginning to slow with competition from South America
Feed is the growth potential

- Growth in Poultry in 2015
  - 5-6% growth expected in 2015
Wheat price will stay steady in 2015

• US wheat supplies are up and projected carryover is up
• Global stocks are up due to increase in US stocks
• Shift among wheat exporters due to expected reduction in Russian wheat exports
  – No change in US exports
Thoughts for 2015 and beyond

• Supply/demand concerns
  – Record corn and soybean crops
  – Markets have adjusted downward to absorb supplies
  – Projected negative margins for 2014 and 2015 crops
  – Very little corn has been marketed to date
  – Cool, wet conditions may hamper and impact crop quality, especially that stored in bags
  – Limited upside potential for price
    • To make a move up need bullish news, but to continue down need no new news
Where will corn go in 2015?

• Dependent on acreage and mother nature
• Likely see a decrease in acreage
  – Trend yield of 162.5 bu/acre
  – Maintain current demand
  – Need to decrease to less than 88 million acres to have supply meet demand >> have price equal COP
    • About 2.6 million acres less than 2014
    • About 8.9 million less than 2012
Where will corn go in 2015?

- With 162.5 bu/acre and 88 million acres have a 13 bb production
- Given current demand S/U would be 9.7%
- Cash corn price at harvest could be $3.60
  - Average 2015/2016 price would be $3.95 - $4.55
    - 2014/15 USDA forecast is $3.65
    - 2015 COP average $4.43
Thoughts for 2015 and beyond

• A decrease in corn acreage does not mean there is a need for increase soybean acreage
• Trend yield soybeans will result in smaller crop than 2014 but production will still exceed use
Thoughts for 2015 and beyond

• Margins for corn and soybeans will be negative
  – COP of $4.43/bu for corn
    • 2014/15 USDA forecast is $3.65
    • Harvest price could be $3.60
  – COP of $10.94/bu for soybeans
    • 2014/15 USDA forecast price = $10.20
    • Harvest price could be less than $8.50
Livestock
Meat production is down 1.2% in 2014 and will be up 2% in 2015.

- Chicken production up 1.7% (+5.1% in 2015)
- Turkey production down 1.3% (+4.8% in 2015)
- Pork production down 1.3% (+4% in 2015)
- Beef production down 5.8% (-0.8% in 2015)
• Slow growth has been related to breeder flock fertility issues
• COP are down, poultry will be profitable even with lower poultry price
• Poultry production will increase 5-6%

• PEDv impact is lessening
  – Pigs per litter is increasing
• Production costs are decreasing
• Hog numbers are increasing
• 2014 average dressed weights up 12 lbs. from 2013
  • Will be up 12 lbs in 2015
• Cattle slaughter down 7.1% from 2013
  • Will be down 2.1% in 2015
• Beef Production down 5.8% from 2013
  • Down 0.8% in 2014
2015

- Larger meat production

- Continued strong exports
  - Concern with strength of dollar

- Continued strong domestic demand
  - Abundance of pork and poultry may limit beef demand and any increases in beef price

- Lower poultry and pork prices and higher beef prices in 2015
### 2015 Prices

<table>
<thead>
<tr>
<th></th>
<th>Production</th>
<th>Exports</th>
<th>Competitive Meats</th>
<th>Price Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Broilers &amp; Turkey</strong></td>
<td>Up</td>
<td>Broilers - Down Turkeys - Up</td>
<td>Higher pork</td>
<td>Down</td>
</tr>
<tr>
<td><strong>Pork</strong></td>
<td>Up</td>
<td>Down</td>
<td>Higher poultry and much lower beef</td>
<td>Down 15%</td>
</tr>
<tr>
<td><strong>Beef</strong></td>
<td>Down</td>
<td>Down</td>
<td>Strong competition from pork and poultry</td>
<td>Fed cattle - Up 5% Feeder cattle - Up 10%</td>
</tr>
</tbody>
</table>
Farm Production Costs

Bruce L. Jones
Director, Renk Agribusiness Institute
College of Agricultural and Life Sciences
UW-Madison
(608)265-8508
Average Annual Europe Brent Crude Oil Prices

Source: Energy Information Agency
Relationship Between Crude Oil Prices and Gasoline Prices
For May 1987 – November 2014 Period

\[
\text{Gas Price} = 0.131671 + 0.024854 \times \text{Crude Oil Price} \\
(t=174.13)
\]

Where:
- Gas Price = $ per Gallon New York
- Crude Oil Price = $ per Barrel Europe Brent Spot

\[R^2 = .9893\]
Short-Term Energy Outlook Forecast

West Texas Intermediate (WTI) Crude Oil Price

(dollars per barrel)

Source: Short-Term Energy Outlook, December 2014

Note: Confidence interval derived from options market information for the 5 trading days ending Dec. 4 2014. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Corn Nitrogen Rate Calculator
Finding the Maximum Return To N and Most Profitable N Rate
A Regional (Corn Belt) Approach to Nitrogen Rate Guidelines

http://extension.agron.iastate.edu/soilfertility/nrate.aspx

$6 to $5: -5.26%
$6 to $4: -7.02%
$6 to $3: -12.28%
Quarterly Change In The Value of "Good" Farmland
Source: Federal Reserve Bank of Chicago
Corn Costs of Production, Per Acre
Source: ERS-USDA

Variable inputs
Labor
Overhead
Land
Corn Yield in Bushels Per Acre

1.8754 Bushels per year: 1975 -

Trend
Actual

2015 Wisconsin Agricultural Outlook Forum
## Computing Cash Rent Bids

<table>
<thead>
<tr>
<th></th>
<th>$ Per Bushel</th>
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<tbody>
<tr>
<td>Variable Inputs</td>
<td>2.10 -- 2.30</td>
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<tr>
<td>Labor</td>
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<td>Overhead</td>
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<td>Total</td>
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<td>Expected Corn Price</td>
<td>4.00</td>
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<td>Residual Available</td>
<td>0.79 -- 1.11</td>
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### Computing Cash Rent Bids

<table>
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<tr>
<td><strong>Variable Inputs</strong></td>
<td>2.10 -- 2.30</td>
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<tr>
<td><strong>Labor</strong></td>
<td>0.00</td>
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<td><strong>Overhead</strong></td>
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<tr>
<td><strong>Total</strong></td>
<td>2.35 -- 2.55</td>
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<td><strong>Expected Corn Price</strong></td>
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<tr>
<td><strong>Residual Available</strong></td>
<td>1.45 -- 1.65</td>
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