Wheat Market Situation & Outlook

Extension Grain Outlook Session
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Extension Agricultural Economist
Kansas State University

World & U.S. Wheat Markets

- Wheat Prices in Perspective
- Supply & Demand Trends
- Ending Stocks Situation
- Stocks-Price Relations
- Price Forecasts
CBOT Soft Red Winter Wheat Monthly Futures: 2001- Present

Viewing 2007/08 Wheat markets in the context of other historic periods of price volatility

U.S. Wheat Price Trend & Variability
1908/09 - 2009/10 Marketing Years

Viewing 2007/08 Wheat markets in the context of other historic periods of price volatility
Wheat Market Situation

- Recovery in World & U.S. Wheat Supplies from historic lows during the 2007/08 MY
  a. Increased 2008/09 World Production in response to high Wheat prices in 2007/08
  b. Increased World Stocks from 2008/09 moving into 2009/10, even with lower World Prodn.
     - Increased World Supplies expected in 2009/10
     - World wheat production uncertainty remains
- Strong Competition for Export Sales
  Reduced prospects for U.S. Exports
## World Wheat Production & Supplies

<table>
<thead>
<tr>
<th></th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
<th>2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harvested Area (million hectares)</strong></td>
<td>212.3</td>
<td>217.9</td>
<td>224.9</td>
<td>223.7</td>
</tr>
<tr>
<td><strong>Yield (metric tons / ha)</strong></td>
<td>2.81</td>
<td>2.80</td>
<td>3.03</td>
<td>2.93</td>
</tr>
<tr>
<td><strong>Beginning Stocks (million metric tons)</strong></td>
<td>148</td>
<td>127</td>
<td>121</td>
<td>167</td>
</tr>
<tr>
<td><strong>Production (mmt)</strong></td>
<td>596</td>
<td>611</td>
<td>682</td>
<td>657</td>
</tr>
<tr>
<td><strong>Total Supply (mmt)</strong></td>
<td>745</td>
<td>738</td>
<td>804</td>
<td>823</td>
</tr>
</tbody>
</table>

Source: USDA WASDE Reports
### World Wheat Demand & Stocks

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<tbody>
<tr>
<td><strong>Food Use (mmt)</strong></td>
<td>509</td>
<td>521</td>
<td>522</td>
<td>532</td>
</tr>
<tr>
<td><strong>Feed Use (mmt)</strong></td>
<td>106</td>
<td>96</td>
<td>114</td>
<td>111</td>
</tr>
<tr>
<td><strong>Total Domestic Use (mmt)</strong></td>
<td>617</td>
<td>617</td>
<td>636</td>
<td>643</td>
</tr>
<tr>
<td><strong>Trade (mmt)</strong></td>
<td>111</td>
<td>118</td>
<td>136</td>
<td>124</td>
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Source: USDA WASDE Reports

### World Wheat Stocks/Use

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<td>127</td>
<td>121</td>
<td>167</td>
<td>181</td>
</tr>
<tr>
<td><strong>% Trade / End Stocks</strong></td>
<td>87%</td>
<td>98%</td>
<td>81%</td>
<td>69%</td>
</tr>
<tr>
<td><strong>% End Stks. / Use</strong></td>
<td>22%</td>
<td>20%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td><strong>U.S. Avg. Farm $ per bu. (June – May)</strong></td>
<td>$4.26</td>
<td>$6.48</td>
<td>$6.78</td>
<td>$4.80 - 5.80</td>
</tr>
</tbody>
</table>

Source: USDA WASDE Reports
World Wheat Harvested Area
1960 through 2009

World Wheat Yields
1960 through 2009
Moderating of World Production Trends During 1998/99 – 2007/08 Mktg Yrs

Continued steady growth in World Food Use of Wheat
Moderation & variation in use of Feed Wheat
World & U.S. Wheat Exports
1982/83 - 2009/10 Marketing Years

Market share of major wheat exporters

Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution (PS&D) database.
Wheat importers by region

Million metric tons

Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution (PS&D) database.

World Wheat Ending Stocks
1980 through 2009

Million metric tons

Marketing Year

- World Wheat Ending Stocks
- 3 Year Moving Avg
Supply – Demand Fundamental “roots” of Wheat Price surge

World Wheat % Ending Stocks-to-Use
1960 through 2009

% Stocks to Use

Marketing Year

UNITED STATES
WHEAT
SUPPLY - DEMAND
## U.S. Wheat Production & Supplies

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<thead>
<tr>
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<tbody>
<tr>
<td>Planted Area</td>
<td>57.3</td>
<td>60.5</td>
<td>63.1</td>
<td>59.8</td>
</tr>
<tr>
<td>(million acres)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvested Area</td>
<td>46.8</td>
<td>51.0</td>
<td>55.7</td>
<td>50.4</td>
</tr>
<tr>
<td>(million acres)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield (bushels / acre)</td>
<td>38.6</td>
<td>40.2</td>
<td>44.9</td>
<td>41.9</td>
</tr>
<tr>
<td>Beginning Stocks (mln bu)</td>
<td>571</td>
<td>456</td>
<td>306</td>
<td>667</td>
</tr>
<tr>
<td>Production (mln bu)</td>
<td>1,808</td>
<td>2,051</td>
<td>2,500</td>
<td>2,112</td>
</tr>
<tr>
<td>Imports (mln bu)</td>
<td>122</td>
<td>113</td>
<td>125</td>
<td>115</td>
</tr>
<tr>
<td>Total Supply (mln bu)</td>
<td>2,502</td>
<td>2,620</td>
<td>2,930</td>
<td>2,894</td>
</tr>
</tbody>
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Source: USDA WASDE Reports

## U.S. Wheat Demand & Stocks

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<tr>
<td>Food Use (mln bu)</td>
<td>938</td>
<td>947</td>
<td>922</td>
<td>955</td>
</tr>
<tr>
<td>Seed Use (mln bu)</td>
<td>82</td>
<td>88</td>
<td>79</td>
<td>78</td>
</tr>
<tr>
<td>Feed &amp; Residual Use (mln bu)</td>
<td>117</td>
<td>15</td>
<td>247</td>
<td>230</td>
</tr>
<tr>
<td>Total Domestic Use (mln bu)</td>
<td>1,137</td>
<td>1,050</td>
<td>1,248</td>
<td>1,263</td>
</tr>
<tr>
<td>Exports (mln bu)</td>
<td>909</td>
<td>1,264</td>
<td>1,015</td>
<td>925</td>
</tr>
<tr>
<td>Total Use (mln bu)</td>
<td>2,045</td>
<td>2,314</td>
<td>2,263</td>
<td>2,188</td>
</tr>
<tr>
<td>Ending Stocks (mln bu)</td>
<td>456</td>
<td>306</td>
<td>667</td>
<td>706</td>
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Source: USDA WASDE Reports
### U.S. Wheat Stocks/Use & Prices

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports (mln bu)</th>
<th>Total Use (mln bu)</th>
<th>Ending Stocks (mln bu)</th>
<th>% Exports / End Stocks</th>
<th>% End Stks. / Use</th>
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<td>2,314</td>
<td>306</td>
<td>413%</td>
<td>13.2%</td>
<td>$6.48</td>
</tr>
<tr>
<td>2008/09</td>
<td>1,015</td>
<td>2,263</td>
<td>667</td>
<td>152%</td>
<td>29.5%</td>
<td>$6.78</td>
</tr>
<tr>
<td>2009/10</td>
<td>925</td>
<td>2,188</td>
<td>706</td>
<td>131%</td>
<td>32.3%</td>
<td>$4.80 - $5.80</td>
</tr>
</tbody>
</table>

Source: USDA WASDE Reports

### U.S. Wheat Production

**1866/67 - 2009/10 Marketing Years**

- Recent trend toward less production, due to acreage declines – competition.
Steady Food Use
Variable – declining Exports
U.S. Wheat Exports
1973/74 - 2009/10 Marketing Year

Top 11 U.S. Wheat Export Destination Countries
% of Total U.S. Exports for 1999-2008 Marketing Years
Impact of “Russian Wheat Deal” ('73/74), USDA Storage Policy Changes ('87/88) & 2007/08 grain supply shortage
WHEAT PRICES:
PAST, PRESENT & FUTURE

"Internationalization" of the U.S. Wheat Market in evidence since 1973/74
Influence of other grain prices & broader economic factors not accounted for in this relation during last 3 marketing years

A "structural change" or an "incompletely specified model"?
Day-to-day influences are observed, but how strong is the long term relationship? U.S. Wheat Avg. Price Models

1973/74 – 2008/09 Marketing Years (36 observations)

Model #1: Ln(U.S Wheat $) a function of….

a) DV(1973/74 – 1987/88) (Changed govt. grain Storage Policy)
b) World Wheat Ending Stocks-to-Use (%)
c) U.S. Wheat Exports-to-Ending Stocks (%)
d) Wheat Futures in Year t-1 (Average of HRS, HRS & SRW $s)

R² = 0.79, Adjusted R² = 0.76


Compared to $4.80-$5.80 /bu USDA Projection
Other Wheat Price Models (9)

- Other Explanatory Variables Used
  - U.S. Dollar Index
  - Linear Price Trend
  - U.S. Exports-to-Ending Stocks Squared

- Forecast Results Across 7 Models
  - Average 2009/10 Forecast = $4.57 / bushel
  - Range of Forecasts = $4.37 to $4.78

- NOT including impact of corn, soybean price trends or broader economic factors

Wheat Prices in the Future

  - Model-Based Forecasts = $4.40 - $4.80 /bu
    - Contingent on model input forecasts & model design
  - USDA Forecast = $4.80 - $5.80 /bu
    - Contingent on World Supply-Demand assumptions
  - Wheat Cash Prices in early 2009/10 (7/24/09)
    - Kansas City Hard Red Winter Wheat = $5.24
    - Minneapolis Dark No. Spring Wheat = $6.01 ½

2009/10 Forecast - U.S. Avg. Wheat $s

- $4.80 per bushel
  - Equal to lower end of the USDA 2009/10 Wheat Price forecast range (i.e., $4.80 - $5.80 per bu.)
  - Wheat model forecasts used here are either equal to or $0.20 - $0.30 per bushel lower

Other Factors Affecting Wheat Prices

- Other Grain & Commodity Prices
  - Corn, Soybeans, Oil, etc.

- (Possible) Inflation Impacts
  - Q. How have wheat prices been affected by general inflation in the U.S. economy in the past?
Wheat $ inflation over time tracks similar to broader U.S. inflation measures.

Final Thoughts...

- If other U.S. grain prices weaken in 2009/10, wheat $ likely to move lower also.
- Production – Supply problems in World production areas may change the current Stocks-Use estimates – impacting export sources & supporting prices.
  - “El Nino” impacts in Australia (?), other issues (?)
  - Argentina political - wheat production problems
  - Canadian production challenges in western
QUESTIONS?