Highlights of USDA’s Long-term Projections to 2024

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Presentation Topics

• Background on long-term projections
• Overview of projections
• Key assumptions
• Selected results
  – Trade
  – U.S. crops
  – U.S livestock
• Uncertainties
Background
Background for long-term projections

• 10 year annual projections for agriculture
  – Covers major U.S. and international agricultural markets

• Projections, not forecasts
  – Conditional, long-run scenario
  – Neutral assumptions for macroeconomic conditions, agricultural policy, weather

• Prepared by USDA interagency committees
  – Composite of models & judgment-based analysis

• Start with November WASDE report
Projections Overview
Overview:
Two parts to each set of projections

• Short- to medium-term adjustments to current market conditions
  – Lower agricultural commodity prices
  – Supply response for both crop and livestock sectors

• Longer term market developments
  – Long-term supply and demand factors
Overview:
Two parts to each set of projections

- Short- to medium-term adjustments to current market conditions
  - Lower agricultural commodity prices
  - Supply response for both crop and livestock sectors

- Longer term market developments
  - Long-term supply and demand factors

- Implications
  - Prices projected to bottom out over next several years and then increase
Overview: Key factors underlying long-term projections

Demand

- Developing country population and economic growth lead to increased food demand
- Biofuel developments
  - Expansion slows
  - Continued demand for biofuel feedstocks

Supply

- Yield growth slowing
Key Assumptions—Macroeconomy
Macroeconomic assumptions:
Growth in developing economies important for agriculture

GDP growth, percent

Source: USDA Agricultural Projections to 2024, February 2015.
Population growth continues to slow: Strongest growth in developing countries

Average annual percent

- 1991-2000
- 2001-10
- 2015-24

USDA Agricultural Projections to 2024, February 2015.
Key Assumptions—Biofuels
Biofuels

• U.S. ethanol use constrained by
  – Declining gasoline consumption
  – 10-percent blend wall
• U.S. biodiesel mandate assumed fixed at 1.28 billion gallons per year
• EU biofuel use slows
Key Assumptions—Yields
Global crop yield growth generally lower than past 40 years

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Coarse grains</td>
<td>1.7</td>
<td>1.8</td>
<td>1.0</td>
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<tr>
<td>Corn</td>
<td>2.0</td>
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<td>Rice</td>
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<td>Oilseeds</td>
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<tr>
<td>Soybeans</td>
<td>1.3</td>
<td>1.2</td>
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<tr>
<td>Cotton</td>
<td>2.2</td>
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Selected Results
Commodity trade projections
Developing economies drive global agricultural trade growth

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Share of global import growth from developing countries, 2015 to 2024</th>
<th>percent</th>
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<tbody>
<tr>
<td>Wheat</td>
<td></td>
<td>89</td>
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<tr>
<td>Rice</td>
<td></td>
<td>98</td>
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<tr>
<td>Coarse grains</td>
<td></td>
<td>102</td>
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<tr>
<td>Soybeans</td>
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<td>104</td>
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<tr>
<td>Cotton</td>
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<td>100</td>
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</tbody>
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Selected trade projection highlights

- China has a strong presence in trade for many agricultural commodities
- U.S. agricultural sector continues to face trade competition from South America
China’s per capita meat consumption continues to grow

Source: Preliminary international results underlying USDA Agricultural Projections to 2024, February 2015.
China has been the top destination for U.S. agricultural exports in recent years

Billion dollars

Fiscal year


United States Department of Agriculture, Economic Research Service
China agricultural policies, selected provisions

• China emphasizes the production of grains over soybeans

• Policies favor the imports of soybeans over imports of soybean meal and soybean oil to use a large oilseed crushing capacity
Global corn imports

Million metric tons


- Other
- China
- Africa & M. East
- NAFTA
- Latin America 1/
- S & SE Asia 2/
- East Asia

1/ Excludes Mexico which is part of NAFTA. 2/ Includes Oceania.

Source: USDA Agricultural Projections to 2024, February 2015.
Global soybean imports

Million metric tons

- China
- Other
- N. Africa & Middle East
- Latin America 1/
- East Asia
- EU

1/ Includes Mexico.

Source: USDA Agricultural Projections to 2024, February 2015.
Global soybean oil imports

Million metric tons

1/ European Union, former Soviet Union, and other Europe.
2/ Includes Mexico.
3/ Asia excluding India and China.

Source: USDA Agricultural Projections to 2024, February 2015.
Area harvested, South America: Soybeans

Source: Preliminary international results underlying USDA Agricultural Projections to 2024, February 2015.
Global soybean exports

Million metric tons

- Other
- Argentina
- Brazil
- Other South America
- United States

Source: USDA Agricultural Projections to 2024, February 2015.
Global soybean meal exports

Million metric tons

- Other
- Argentina
- Brazil
- United States

Source: USDA Agricultural Projections to 2024, February 2015.
Global soybean oil exports

Source: USDA Agricultural Projections to 2024, February 2015.
Selected Results
U.S. crop projections
U.S. agricultural exports, bulk volume

Source: USDA Agricultural Projections to 2024, February 2015.
Global corn exports

Million metric tons

1/ Former Soviet Union.
Source: USDA Agricultural Projections to 2024, February 2015.
U.S. corn use projections:
Corn-based ethanol shows little change

Source: USDA Agricultural Projections to 2024, February 2015.
U.S. soybean use projections

Billion bushels

<table>
<thead>
<tr>
<th>Crop year</th>
<th>Domestic use</th>
<th>Exports</th>
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<td>1990/91</td>
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<td>2005/06</td>
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<td>2010/11</td>
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<td>2015/16</td>
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<td>2020/21</td>
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<td>2024/25</td>
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Source: USDA Agricultural Projections to 2024, February 2015.
U.S. planted area: Eight major crops

The eight major crops are corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans.

Source: USDA Agricultural Projections to 2024, February 2015.
Prices reflect global demand & continued biofuel use: Retreat from recent highs, but remain above historical averages

Source: USDA Agricultural Projections to 2024, February 2015.
Selected Results
U.S. livestock projections
U.S. livestock sector responds to lower feed prices: Production increases

Source: USDA Agricultural Projections to 2024, February 2015.
U.S. livestock prices

$ per hundredweight, nominal, U.S. markets

Beef cattle: Steers, 5-area
Broilers: National composite
Hogs: National base

Source: USDA Agricultural Projections to 2024, February 2015.
Milk prices

Source: USDA Agricultural Projections to 2024, February 2015.
Uncertainties
U.S. dollar value strengthening

Index values, 2010=100

Real U.S. agricultural trade-weighted dollar exchange rate, using U.S. agricultural export weights, based on 192 countries.

Source: USDA Agricultural Projections to 2024, February 2015.
U.S. crude oil prices: Sharply lower in near term

Source: USDA Agricultural Projections to 2024, February 2015.
Summary
Summary

Near term market adjustments to lower prices

Longer term demand factors
• Global economic growth and population increases, particularly in developing countries, provide the foundation for gains in demand for agricultural products
• Continued global biofuel production adds to agricultural demand

Longer term supply factors
• Slower yield growth

Prices
• Crop prices retreat from recent highs before rising in the projections
• Meat and dairy prices also reflect increased production, in response to lower feed prices