Ag Outlook Webinar

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USDA’s Corn Balance Sheet Changes

1. 2019 Corn Supply & Demand
   - Very small harvested acreage reduction
   - Lowered 2019 yield by 0.4 bu/acre to 167.4
   - Acreage & yield reduction pulled 2019 production down by 46 m bu.
   - But reduction in expected usage pushed carryover up by 5 m bu.
     • Reduced ethanol usage by 50 m bu. to 4.90 billion bu.
   - Season average price projection remained at $3.60/bu.

2. 2020 Corn Supply & Demand
   - No changes, except for slightly larger 2019 crop carryover
   - Season average price projection unchanged at $3.20/bu.
   - Acreage report comes out at the end of the month
USDA’s Soybean Balance Sheet Changes

1. 2019 Soybean Supply & Demand
   - No change in harvested acreage
   - No change in yield, but production down 5 m bu.
   - Increased crush by 15 m bu.
   - But reduced exports by 25 m bu.
   - Net result, expected carryover up 5 m bu to 585 m bu.
   - Season average price projection remained at $8.50/bu.

2. 2020 Soybean Supply & Demand
   - Increased expected crush (and total usage) by 15 m bu.
   - Season average price projection unchanged at $8.20/bu.
   - Acreage report comes out at the end of the month
USDA Forecasts Record Large Corn Production in 2020 But This Assumes Farmers Follow Planting Intentions & Trend Yields

Total U.S. Corn Production

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<tbody>
<tr>
<td>Billion Bu.</td>
<td>10.5</td>
<td>11.0</td>
<td>12.0</td>
<td>13.6</td>
<td>14.3</td>
<td>15.1</td>
<td>15.1</td>
<td>14.6</td>
<td>14.3</td>
<td>15.1</td>
<td>15.1</td>
<td>14.6</td>
<td>14.6</td>
<td>13.6</td>
<td>15.1</td>
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Source: USDA-WASDE

Purdue Center for Commercial Agriculture
March Planting Intentions vs. What Farmers Actually Plant

March Planting Intentions

• Corn: 97 million acres
• Soybeans: 83.5 million acres
• But conditions changed since March 1st
• Did farmers alter their plans from their March intentions?
Prices shifted in favor of soybeans starting in late March...how did farmers respond?
Ethanol Production Bottomed Out in Late April-Early May
% Change in U.S. Weekly Ethanol Production vs. Week Ending January 10, 2020

Source: U.S. Energy Information Agency
Purdue Center for Commercial Agriculture
Gasoline & Ethanol Prices Starting to Recover

Source: Taheripour & Mintert, 2020; Nebraska Energy Statistics
Purdue Center for Commercial Agriculture
Ethanol Margins Improving As Gasoline Usage Recovers

Estimated Daily Ethanol Plant Margins
Return Over Operating Costs, \$/Gallon of Ethanol
September 3, 2019-June 5, 2020

$0.40
$0.30
$0.20
$0.10
$0.00
($0.10)
($0.20)

9/3/19 10/3/19 11/2/19 12/2/19 1/1/20 1/31/20 3/1/20 3/31/20 4/30/20 5/30/20

Source: CARD, Iowa State University
Purdue Center for Commercial Agriculture

Ag Outlook Webinar, June 12, 2020
Estimated Daily Ethanol Plant Margins
Return Over Operating Costs, $ Per Bushel of Corn Purchased
September 3, 2019-June 5, 2020

Data Source: CARD, Iowa State University
Purdue Center for Commercial Agriculture
USDA Reduced 2019 Ethanol Usage Again But Forecasts Significant Ethanol Demand Recovery During 2020 Crop Year

Billion Bu. | Corn Used for Ethanol
---|---
05 | 1.0
06 | 1.1
07 | 1.8
08 | 2.8
09 | 4.1
10 | 4.90
11 | 5.20
12 | 5.38
13 | 5.61
14 | 5.0
15 | 5.0
16 | 5.0
17 | 4.90
18 | 5.20
19 | 5.20
20 | 5.20

Source: USDA-WASDE Purdue Center for Commercial Agriculture
Recent Ethanol Production Increases Have Supported Corn Basis Levels

<table>
<thead>
<tr>
<th>State</th>
<th>Region</th>
<th>Crop</th>
<th>Futures Contract</th>
<th>Crop Year(s)</th>
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<td>Indiana</td>
<td>Tippecanoe</td>
<td>Corn</td>
<td>Nearby</td>
<td>2018-2019</td>
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<td>2017-2018</td>
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<td>2016-2017</td>
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Purdue Center for Commercial Agriculture Crop Basis Tool
Corn: IN WC Region, Nearby Basis, Weekly

Historical Nearby Basis, Avg of Selected Crop Years ➔ 2019-2020 Regional Nearby Basis
https://www.purdue.edu/commercialag
USDA Projecting 2019 Crop Exports Will Fall 14% Below 2018’s & Then Rebound Above 2018’s in 2020 Crop Year...Implies Demand Recovery in Importing Countries

Source: USDA-WASDE

Purdue Center for Commercial Agriculture
USDA Projecting Strong Feed Demand for Both 2019 & 2020 Crops

![Bar graph showing U.S. Feed & Residual Corn Usage](source: USDA WASDE)
Rising Ending Stocks Spells Weaker Prices

$3.20 2020 MYA Price Forecast, Lowest MYA Since 2006

Source: USDA WASDE
USDA Expects Soybean Exports to Rebound in 2020 to Over 2 Billion Bushels
24% Increase From 2019 Crop Year’s Forecast

Source: USDA

Purdue Center for Commercial Agriculture
$8.20 MYA Projection for 2020 Is Lowest MYA Since 2006

Soybean MYA Price vs. Ending Stocks
Ending Stocks as a % of Total Usage

Source: USDA-WASDE

Purdue Center for Commercial Agriculture
CFAP Overview

1. Application period opens 5/26; ends 8/28
2. Single CFAP payment per commodity (CARES Act Funds and CCC Funds)
3. Eligible Inventory:
   - Lower of (a) self-certified unpriced inventory as of 1/15/20; or (b) 50% of 2019 production
4. Average Payment Rate:
   - Corn: $0.335 per bushel (eligible inventory)
   - Soybeans: $0.475 per bushel (eligible inventory)
ARC-CO and PLC Overview

1. ARC-CO (Soybeans):
   - Payments occur when actual crop revenue is below ARC-CO guarantee
   - Data: county yields and marketing year average U.S. prices

2. PLC (Corn):
   - Payments occur if the higher of U.S. average market price for the crop for the crop year less than the crop’s reference price ($3.70 for corn; $8.40 for soybeans; $5.50 for wheat)
   - Data: PLC program yields and marketing year average U.S. prices
ARC-CO and PLC Estimated Payments for Corn
White County, Indiana

Assumes MYA 2019 Corn Price = $3.60
ARC-CO and PLC Estimated Payments for Soybeans
White County, Indiana

Assumes 2019 MYA Soybean Price = $8.50

2020 Soybean Prices

- 19 - ARC-CO
- 19 - PLC
- 20 - ARC-CO
- 20 - PLC
Government Payments per Acre
Case Farm, West Central Indiana (Corn/Soybean Rotation)

1. 2018:
   - ARC-CO and PLC = $0
   - MFP = $52

2. 2019, Projected:
   - ARC-CO and PLC = $20
   - MFP = $62

3. 2020, Projected:
   - ARC-CO and PLC = $40
   - CFAP = $21
Net Return Projections

Definitions

• Net Farm Income
  – Gross revenue minus cash expenses and depreciation; excludes operator and family labor, and opportunity costs

• Net Return to Land
  – Gross revenue minus cash expenses (except rent), depreciation, and opportunity costs (except opportunity cost on owned land)

• Earnings
  – Gross revenue minus cash expenses, depreciation, and opportunity costs
Net Farm Income Sources, Corn/Soybean Rotation ($ per Acre)
West Central Indiana Case Farm

- Government Payments
- Crop Insurance
- Crop Net Returns
- Net Farm Income

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<tr>
<th>Year</th>
<th>Government Payments</th>
<th>Crop Insurance</th>
<th>Crop Net Returns</th>
<th>Net Farm Income</th>
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<td>20P</td>
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Operating Profit Margin Ratio
West Central Indiana Case Farm

- Annual
- Average
Cash Rent and Net Return to Land, West Central Indiana

Net Return to Land  Cash Rents

07  08  09  10  11  12  13  14  15  16  17  18  19  20P

$0  $50  $100  $150  $200  $250  $300  $350  $400  $450  $500
Factors Impacting Land Values

Positive Influences:

- Thin market, low supply of land for sale
- Low interest rates
- Land is a good hedge against inflation
- Investment potential for non-ag buyers

Negative Influences:

- Relatively low net returns to land for operators
- Working capital is depressed
Red Meat Production Rebounded Back to Year Ago Levels

U.S. Total Beef and Pork Production
Weekly, Federally Inspected Plants

Billion Pounds

Source: USDA & LMIC
After Dipping in April
Poultry Production Has Rebounded Back To Year Ago Levels

U.S. Total Poultry Production
Weekly, Federally Inspected Plants

Billion Lbs

Source: USDA & LMIC

Purdue Center for Commercial Agriculture
Wholesale Pork Values Dropped Back to Year Ago Levels As Production Rebounded

WEEKLY PORK CUTOUT VALUE

Source: USDA-AMS & LMIC
Hog Prices Slumped As Pork Cutout Declined

BASE SLAUGHTER HOG PRICES
National, Weighted Average Carcass Price, Weekly

$ Per Cwt

JAN  APR  JUL  OCT

Avg. 2014-18  2019  2020
Boxed Beef Values Have Declined As Production Has Come Back Up

BOXED BEEF CUTOUT VALUE
Choice 600-900 Lbs., Carcass, Negotiated, Weekly

Source: USDA-AMS & LMIC
Recent Fed Cattle Prices Tracking With Year Ago Levels

SLAUGHTER STEER PRICES
5 Market Weighted Average, Weekly

Source: USDA-AMS & LMIC
Next Ag Outlook Webinar
July 13, 2020

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