Farm Program Decisions and Directions

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Farm Programs and Decisions

• **ARC v. PLC election**
  - ARC moving average revenue protection based on county (ARC-CO) or farm (ARC-IC) yields and national marketing year average prices
  
  • PLC price protection based on effective reference price and national marketing year average prices

• 2019-2020 decision was backward-looking; 2021 and beyond are forward-looking, annual decisions
  - Difficult to predict production losses ahead of production year (except for wheat – during production year)
  - Price projections are available but also uncertain

• **Interaction with crop insurance and marketing decisions**
  - RP, RP-HPE, and YP available up to 85% coverage levels

  • SCO county-based coverage available from 86% down to insurance coverage level (not available if enrolled in ARC)

  • ECO county-based coverage available from 90% or 95% down to 86%

  • Marketing decisions impacted by protection in farm program and crop insurance (and any ad hoc assistance)
## PLC and ARC
### 2020 Crop Payment Rates*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Effective Reference Price</th>
<th>ARC Benchmark Price</th>
<th>Price</th>
<th>PLC Payment Rate</th>
<th>% Price Change from ARC Benchmark</th>
<th>% Yield Change Needed to Trigger ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>$3.70</td>
<td>$3.70</td>
<td>$4.53</td>
<td>$0.00</td>
<td>22%</td>
<td>-30%</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>$3.95</td>
<td>$3.95</td>
<td>$5.04</td>
<td>$0.00</td>
<td>28%</td>
<td>-33%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$8.40</td>
<td>$9.25</td>
<td>$10.80</td>
<td>$0.00</td>
<td>17%</td>
<td>-26%</td>
</tr>
<tr>
<td>Wheat</td>
<td>$5.50</td>
<td>$5.50</td>
<td>$5.05</td>
<td>$0.45</td>
<td>-8%</td>
<td>-6%</td>
</tr>
</tbody>
</table>

* Payment rates for PLC and trigger levels for ARC based on prices from USDA-WAOB and USDA-FSAA as of October 2021.
## ARC
### 2020 Crop Payment Rates*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>County-Practice Combinations</th>
<th>Average ARC-CO Payment Rate per Base Acre</th>
<th>% Yield Loss Needed to Trigger ARC</th>
<th>County-Practice Combinations that Triggered ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Corn</td>
<td>175</td>
<td>$2.44</td>
<td>-30%</td>
<td>16</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>97</td>
<td>$0.72</td>
<td>-33%</td>
<td>4</td>
</tr>
<tr>
<td>Soybeans</td>
<td>153</td>
<td>$1.05</td>
<td>-26%</td>
<td>5</td>
</tr>
<tr>
<td>Wheat</td>
<td>123</td>
<td>$5.74</td>
<td>-6%</td>
<td>40</td>
</tr>
</tbody>
</table>

* Payment rates for ARC based on prices and yields from USDA-WAOB and USDA-FSA as of October 2021.
## PLC and ARC
Projected 2021 Crop Payment Rates*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Effective Reference Price</th>
<th>ARC Benchmark Price</th>
<th>Projected Price</th>
<th>Projected PLC Payment Rate</th>
<th>Projected % Price Change Needed to Trigger PLC</th>
<th>Projected % Price Change from ARC Benchmark</th>
<th>Projected % Yield Change Needed to Trigger ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>$3.70</td>
<td>$3.70</td>
<td>$5.45</td>
<td>$0.00</td>
<td>-32%</td>
<td>47%</td>
<td>-42%</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>$3.95</td>
<td>$3.95</td>
<td>$5.45</td>
<td>$0.00</td>
<td>-28%</td>
<td>38%</td>
<td>-38%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$8.40</td>
<td>$8.95</td>
<td>$13.00</td>
<td>$0.00</td>
<td>-35%</td>
<td>45%</td>
<td>-41%</td>
</tr>
<tr>
<td>Wheat</td>
<td>$5.50</td>
<td>$5.50</td>
<td>$7.30</td>
<td>$0.00</td>
<td>-25%</td>
<td>33%</td>
<td>-35%</td>
</tr>
</tbody>
</table>

- Payment rates for PLC and trigger levels for PLC and ARC based on projected prices. Projected prices based on USDA-WAOB and USDA-FSA as of February 2022.
Farm Bill Decisions and Outlook
Corn Prices and the Safety Net

Farm Bill Decisions and Outlook
Soybean Prices and the Safety Net

# PLC and ARC
## Projected 2022 Crop Payment Rates*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Effective Reference Price</th>
<th>ARC Benchmark Price</th>
<th>Projected Price</th>
<th>Projected PLC Payment Rate</th>
<th>Projected % Price Change Needed to Trigger PLC</th>
<th>Projected % Price Change from ARC Benchmark</th>
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</thead>
<tbody>
<tr>
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<td>$3.70</td>
<td>$3.70</td>
<td>$5.00</td>
<td>$0.00</td>
<td>-26%</td>
<td>35%</td>
<td>-36%</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>$3.95</td>
<td>$3.95</td>
<td>$4.90</td>
<td>$0.00</td>
<td>-19%</td>
<td>24%</td>
<td>-31%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$8.40</td>
<td>$9.12</td>
<td>$12.75</td>
<td>$0.00</td>
<td>-34%</td>
<td>40%</td>
<td>-38%</td>
</tr>
<tr>
<td>Wheat</td>
<td>$5.50</td>
<td>$5.50</td>
<td>$6.80</td>
<td>$0.00</td>
<td>-19%</td>
<td>24%</td>
<td>-30%</td>
</tr>
</tbody>
</table>

* Payment rates for PLC and trigger levels for PLC and ARC based on projected prices. Projected prices based on USDA-WAOB, USDA-OCE, and USDA-FSA as of February 2022.
ARC-CO/PLC Decision Tools

www.fsa.usda.gov/programs-and-services/arcplc_program/index

About the Program

What has changed
Resources
Program Data
ARC/PLC Library

Program Definitions
Frequently Asked Questions
Yield Update Calculator (2020 Crop Year) and CCC-867 Generator

Web Tools
The Agricultural and Food Policy Center (AFPC) at Texas A&M University, in conjunction with the Food and Agricultural Policy Institute (FAPRI) at the University of Missouri, [https://www.afpc.tamu.edu/tools/farmbill/2018/](https://www.afpc.tamu.edu/tools/farmbill/2018/)
National Coalition for Producer Education (NCPE), led by the University of Illinois. [fd-tools.ncsa.illinois.edu](http://fd-tools.ncsa.illinois.edu)
ARC-CO/PLC Decision Tools
afpc.tamu.edu/tools/farm/farmbill/2018/
ARC-CO/PLC Decision Tools

fd-tools.ncsa.illinois.edu/

Model data last updated: Jan 18, 2022
2010 and 2020 numbers are actual values of ARC/PLC payments. All 2019 and 2020 yields and prices are final.
Market Outlook
What Do Markets Think? What Can You Predict?

Source: Price data and charts from barchart.com as of March 1, 2022
Weather Outlook
What Are Your Yield Expectations?

U.S. Drought Monitor

February 22, 2022
(Released Thursday, Feb. 24, 2022)
Valid 7 a.m. EST

Drought Impact Types:
~ Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g., agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g., hydrology, ecology)

Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

droughtmonitor.unl.edu
Risk Management Issues for 2022

• 2022 income and cash flow projections
  • Higher prices and lower government payments

• 2022 ARC v. PLC enrollment decisions
  • Neither ARC nor PLC expected to pay
  • ARC may provide more protection from county or farm-level yield losses
  • Farm-level crop insurance and county-based supplemental insurance may provide greater protection than ARC or PLC

• Risk management decisions
  • Extensive, complex, and complementary insurance tools
  • Proactive marketing decisions vs. ad hoc assistance
  • Role for producer education - managing a complex farm income safety net
Ag Economic and Policy Outlook

• Price, income, and financial challenges
  • Make sound management decisions based on economic principles
  • Factor in substantial price and revenue risk below current expectations before commodity programs would trigger
  • Manage portfolio of risks with portfolio of tools and management strategies

• Policy risks and uncertainty
  • Prepare for budget challenges and potential changes in farm income safety net
  • Watch, engage, and manage for policy developments in other areas that impact agriculture, including macroeconomic policy, environmental policy, trade policy, market policy, food policy, labor and immigration policy, and other policy issues and societal demands that impact agriculture
I am interested in individual and system effects of risk management programs

- Crop Insurance
- Hedging

Manage financial risk (yield, price and input) to make $ and survive
- My market position reflects my financial risk distribution (100% sold to 0% sold).

I limit my financial risk to achieve goals [not to get the highest price]

Crop insurance plays a central role in this forward-looking framework.
2022 Projected Prices

- Corn: $5.90
- Implied Volatility: 23%

- Soybeans: $14.33
- Implied Volatility: 19%

- Fall price possibilities are wider with a higher projected price and/or higher volatility factor.
Evaluating Prices

Expected Revenue per acre: APH*projected price

Self Insure or deductible

Liability (APH*projected price*coverage level)
Using the coverage level, we can calculate the price at which payments will start – if you grow APH yields.

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>Corn, $5.90 Projected Price</th>
<th>Soybeans, $14.33 Projected Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Floor Price</td>
<td>Probability below at contract expiration</td>
</tr>
<tr>
<td>85%</td>
<td>$5.02</td>
<td>25%</td>
</tr>
<tr>
<td>80%</td>
<td>$4.72</td>
<td>17%</td>
</tr>
<tr>
<td>75%</td>
<td>$4.43</td>
<td>11%</td>
</tr>
<tr>
<td>70%</td>
<td>$4.13</td>
<td>6%</td>
</tr>
</tbody>
</table>
Corn Harvest Price Distribution (Dec 1)

1st: Purchase (agree to pay premiums)
2nd: get protection

I do not need to know (can't anyway) where fall prices will end up… rather, I need to know my exposure.
1st: Purchase (agree to pay premiums)
2nd: get protection

Corn Harvest Price Distribution (Dec 1)
But Now...(three days into March) Dec Corn @ $6.20

YOUR expected revenue per acre: APH*Dec 2022

+$0.30

Expected revenue per acre: APH*projected price

Self Insure or deductible

Liability (APH*projected price*coverage level)

Larger gap so more to self insure/ higher deductible
• Using the coverage level, we can calculate the price at which payments will start – if you grow APH yields.

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>Corn, $5.90 Projected Price</th>
<th>Soybeans, $14.33 Projected Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Floor Price</td>
<td>New Implied Coverage Level</td>
</tr>
<tr>
<td>85%</td>
<td>$5.02</td>
<td>81%</td>
</tr>
<tr>
<td>80%</td>
<td>$4.72</td>
<td>76%</td>
</tr>
<tr>
<td>75%</td>
<td>$4.43</td>
<td>71%</td>
</tr>
<tr>
<td>70%</td>
<td>$4.13</td>
<td>67%</td>
</tr>
<tr>
<td>Rank</td>
<td>Country</td>
<td>World Total</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
<td>China</td>
<td>38,525,959</td>
</tr>
<tr>
<td>2</td>
<td>Mexico</td>
<td>62,497,329</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>8,767,165</td>
</tr>
<tr>
<td>4</td>
<td>Colombia</td>
<td>4,453,877</td>
</tr>
<tr>
<td>5</td>
<td>South Korea</td>
<td>2,494,162</td>
</tr>
<tr>
<td>6</td>
<td>Taiwan</td>
<td>695,591</td>
</tr>
<tr>
<td>7</td>
<td>Canada</td>
<td>1,328,444</td>
</tr>
<tr>
<td>8</td>
<td>Guatemala</td>
<td>987,471</td>
</tr>
<tr>
<td>9</td>
<td>Saudi Arabia</td>
<td>778,503</td>
</tr>
<tr>
<td>10</td>
<td>Honduras</td>
<td>650,996</td>
</tr>
</tbody>
</table>

Source: ERS/USDA (metric tons); October - July (Rob Cook, robcookkc@gmail.com)
Net Long Contracts

Corn Interest by Speculators

-4000000
-2000000
0
2000000
4000000
6000000

1/21/2020
4/21/2020
7/21/2020
10/21/2020
1/21/2021
4/21/2021
7/21/2021
10/21/2021
1/21/2022

NON-COMMERCIAL
Corn Futures Carry

Dollars Per Bushel

May  | July | Sept... | Dece... | March | May

- $0.41
- $1.14
- $1.29
- $1.31

- $1.70
- $1.20
- $0.70
- $0.20

Carry
Soybeans
### Top 10 U.S. Export Destinations For Soybeans

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2020</th>
<th>2021</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>12,718,035</td>
<td>30,364,158</td>
<td>138.75%</td>
</tr>
<tr>
<td>2</td>
<td>Mexico</td>
<td>4,129,380</td>
<td>4,078,084</td>
<td>-1.24%</td>
</tr>
<tr>
<td>3</td>
<td>EU-27</td>
<td>3,567,374</td>
<td>3,554,578</td>
<td>-0.36%</td>
</tr>
<tr>
<td>4</td>
<td>Egypt</td>
<td>3,401,519</td>
<td>2,459,117</td>
<td>-27.71%</td>
</tr>
<tr>
<td>5</td>
<td>Indonesia</td>
<td>1,821,064</td>
<td>2,094,405</td>
<td>15.01%</td>
</tr>
<tr>
<td>6</td>
<td>Japan</td>
<td>2,101,392</td>
<td>1,988,773</td>
<td>-5.36%</td>
</tr>
<tr>
<td>7</td>
<td>Taiwan</td>
<td>1,378,898</td>
<td>1,409,227</td>
<td>2.20%</td>
</tr>
<tr>
<td>8</td>
<td>Thailand</td>
<td>1,185,359</td>
<td>1,144,191</td>
<td>-3.47%</td>
</tr>
<tr>
<td>9</td>
<td>Vietnam</td>
<td>865,575</td>
<td>895,057</td>
<td>3.41%</td>
</tr>
<tr>
<td>10</td>
<td>Bangladesh</td>
<td>1,335,344</td>
<td>838,922</td>
<td>-37.18%</td>
</tr>
</tbody>
</table>

Source: ERS/USDA (metric tons): October - July (Rob Cook. robcookkc@gmail.com)
Soybean Interest by Speculators

Number of Net Long Contracts

-150,000
-100,000
-50,000
0
50,000
100,000
150,000
200,000
250,000

NON-COMMERCIAL
Soybean Market Carry

Dollars Per Bushel

- $17.00
- $16.00
- $15.00
- $14.00
- $13.00

July
August
September
November
January

- $0.89
- $1.72
- $2.20
- $2.30

- $0.00
- $0.50
- $1.00
- $1.50
- $2.00
- $2.50

Carry
Futures Price
New Soybean Crushing Plants

• Norfolk Crush LLC. Near Norfolk $375 Million build cost, process 38.5 million bushels of soybeans annual. Expected start date of 2024

• AGP, David City, process around 50 million bushels of soybeans annually

• Increased exposure to product differentiation – (soybean oil, meal, soybean hulls), right in our backyard.

• Will positively impact regional basis. Incentivize more storage?
Ukraine/Russia

- **Ukraine**
  - Major player in ag export market
  - Wheat, sunflowers, corn, wheat, barley, etc...
  - Uncertainty around 2022 crop input and growing ability, infrastructure

- **Russia**
  - Major player in ag export market
  - Wheat, sunflower, barley, corn
  - Losing export destinations
The market price reflects active buyers and sellers
Who are difficult to understand

Get your head wrapped around today's prices and ready to mentally deal with
large swings in expected revenue

As prices rise, you face more price risk.

Trade the market that your facing, not the one you want - Accurate budgets are your guide to reflect profit opportunities. Hedging is your friend (but when?)

You will not get the highest price, but you can make a good profit. Enjoy this environment, knowing you are achieving your goals. The rest is noise.

Lots of individual risk – i.e., need to grow a crop. Proceed accordingly with