Ukraine-Russia: Impact on Grain Markets

March 2, 2022
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July 2022 Wheat

$1.66 ½ in the past 7 trading days.
December 2022 Corn

45 cent trading range in 3 days.
November 2022 Soybean

$1.52 trading range the last four days.

At-the-money put for $1.20.
- Global influences on grain markets in Q1-Q2 2022.
  - Ukraine-Russia
  - China purchases
  - US plantings

- Wheat exports (bushels)
  - 1,286 Russia
  - 882 Ukraine (1.319 billion Corn)
The U.S. is not a major share of global production.
Ukraine: Corn Production

Production 5-year average
2016-20, '000 metric tons
- ≤ 1,000
- 1,001 - 2,500
- 2,501 - 4,100

Percentages (%) shown on map indicate percent of national production.

Source: State Statistics Service of Ukraine (Rosstat for Crimea Oblast)
Average Corn Production 2016-2020
What does this mean?

• Very unpredictable situation.
• Logistical and production disruptions.
• Volatility in markets should be expected.
• Higher energy prices.
• Impact on fertilizer prices and cost of production.

• Some production priced at this juncture (~25%)
• Downside protection essential on 2022 anticipated production.

• Stronger US dollar
• Global economic uncertainty
• Cyberattacks
• China reaction.
2022 Crop Insurance and ARC/PLC Sign Up

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## Crop Insurance Prices

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Projected Price</th>
<th>Volatility Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>$5.90</td>
<td>0.23</td>
</tr>
<tr>
<td>Cotton</td>
<td>$1.03</td>
<td>0.22</td>
</tr>
<tr>
<td>Soybean</td>
<td>$14.33</td>
<td>0.23</td>
</tr>
<tr>
<td>Wheat (Sept 15)</td>
<td>$7.14</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Revenue guarantee example: APH = 185 bu/acre, 80% buy-up

Revenue guarantee = 185 bu/acre x $5.90/bu x 80% = $873.20/acre
Crop Insurance Considerations

• Unit structure
  – Optional, basic, enterprise, or whole farm.
• Buy-up coverage
  – Not the year to pull back on coverage level.
• Premium amount
  – Premiums will be expensive, but worth it?
• Projected cost of production
  – Can you lock in a revenue guarantee above your anticipated cost of production?
• Area or companion policies
  – Supplemental Coverage Option (SCO) and/or Enhanced Coverage Option (ECO)
• RP or RP-HPE
  – Given the volatility and uncertainty in markets, having another price determination period is advised. (conceptually operates with the benefit of a put and a call)
ARC or PLC

• Producers have until March 15th to select their Title I safety net coverage at their local county FSA office.

• There is not a highly likelihood of payments based on current market prices.

• PLC – Price triggered

• ARC – Revenue triggered (price + yield)
  – Shallow loss 10% band.
Questions to Guide ARC / PLC Sign Up

• Will you participate in Supplemental Coverage Option (SCO) and/or Enhanced Coverage Option (ECO)?
  – Yes, PLC is required for acres to participate in SCO.
    • Given the high spring crop insurance prices, if a producer is looking for a shallow loss area revenue protection option, SCO often provides significantly more revenue protection than ARC-CO which uses marketing year average prices to determine revenue benchmarks.
    • Premiums are required for SCO, not ARC-co.

• Are you considering ARC-IC?
  – County revenue guarantees by commodity compared to aggregated revenues for individual farms.

• What does your crystal ball tell you prices will be for the 2022/23 Marketing Year?
  – Is there any way prices fall that far in 19 months?
<table>
<thead>
<tr>
<th>Commodity</th>
<th>Marketing Year</th>
<th>2022 ERP</th>
<th>2022 Projected ARC-co Benchmark Price</th>
<th>2023 Harvest Futures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>Jun. 1-May 31</td>
<td>$5.50</td>
<td>$5.50</td>
<td>$8.02</td>
</tr>
<tr>
<td>Corn</td>
<td>Sep. 1-Aug. 31</td>
<td>$3.70</td>
<td>$3.70</td>
<td>$5.68</td>
</tr>
<tr>
<td>Soybeans</td>
<td>Sep. 1-Aug. 31</td>
<td>$8.40</td>
<td>$9.12</td>
<td>$13.27</td>
</tr>
<tr>
<td>Seed cotton</td>
<td>Aug. 1-Jul. 31</td>
<td>$0.3670</td>
<td>$0.3670</td>
<td>81.31</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>Sep. 1-Aug. 31</td>
<td>$3.95</td>
<td>$3.95</td>
<td>-</td>
</tr>
</tbody>
</table>
**Example 1: 95% ECO Trigger**

<table>
<thead>
<tr>
<th></th>
<th>Deductible (no coverage)</th>
<th>100-95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO Coverage range</td>
<td>95-86%</td>
<td></td>
</tr>
<tr>
<td>SCO or ARC Coverage range</td>
<td>86-75%</td>
<td></td>
</tr>
<tr>
<td>MCPI coverage range</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>

**Example 2: 90% ECO Trigger**

<table>
<thead>
<tr>
<th></th>
<th>Deductible (no coverage)</th>
<th>100-90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO Coverage range</td>
<td>90-86%</td>
<td></td>
</tr>
<tr>
<td>SCO or ARC Coverage range</td>
<td>86-75%</td>
<td></td>
</tr>
<tr>
<td>MCPI coverage range</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>

**ARE YOU PLANNING ON PURCHASING SCO? ECO?**
## Supplemental Coverage Option (SCO)

<table>
<thead>
<tr>
<th>Step</th>
<th>SCO Coverage Calculation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>SCO Endorsement begins to pay when county revenue falls below this percent of its expected level (the percent is the same for all SCO policies – set by law)</td>
<td>86%</td>
</tr>
<tr>
<td>B</td>
<td>SCO Endorsement pays out its full amount when county revenue falls to the coverage level percent of its expected level (always equal to the coverage level of the underlying policy)</td>
<td>75%</td>
</tr>
<tr>
<td>C</td>
<td>Percent of expected crop value covered by SCO (A – B, or 86% – 75%)</td>
<td>11%</td>
</tr>
<tr>
<td>D</td>
<td>Amount of SCO Protection (C * Expected Crop Value, or 11% x $765)</td>
<td>$84.15</td>
</tr>
</tbody>
</table>

## Enhanced Coverage Option (ECO)

<table>
<thead>
<tr>
<th>Step</th>
<th>ECO Coverage Calculation for 95 percent Area Trigger Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ECO Endorsement begins to pay when county revenue falls below this percent of its expected level</td>
</tr>
<tr>
<td>B</td>
<td>ECO Endorsement pays out its full amount when county revenue falls to 86 percent of its expected level</td>
</tr>
<tr>
<td>C</td>
<td>Percent of expected crop value covered by ECO (A – B, or 95-86 percent)</td>
</tr>
<tr>
<td>D</td>
<td>Amount of ECO Protection (C x Expected Crop Value, or 9 percent x $765)</td>
</tr>
</tbody>
</table>

ECO cannot be elected if you have a Margin Protection or an Area Risk Protection Insurance policy. The underlying policy for ECO cannot have the Hurricane Insurance Protection – Wind Index Endorsement. ECO coverage cannot attach to any acres that are insured by a Stacked Income Protection Plan (STAX). Acres not insured under STAX may be insured under ECO. You can select SCO on all acres covered by ECO, but you are not required to elect SCO to purchase ECO.

ARC-IC

- ARC-IC is operationally more complex, thus harder to explain and understand. It pays on only 65% of program base acres while ARC-CO and PLC pay on 85% of base acres.

- May want to investigate ARC-IC if:
  - Production is highly variable from year to year on the ARC-IC farm.
  - ARC-IC benchmark yield is (much) higher than ARC-CO benchmark yield and PLC farm payment yield (~>30%).
Corn, Soybeans, and Wheat

PRICES
Corn Average December Futures Price and Price Range (Max-Min), January to Contract Expiration plus USDA MYA Price

<table>
<thead>
<tr>
<th>Year</th>
<th>Price (Max)</th>
<th>Price (Min)</th>
<th>Range (Max-Min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$2.46</td>
<td>$0.00</td>
<td>$2.46</td>
</tr>
<tr>
<td>2011</td>
<td>$2.33</td>
<td>$0.00</td>
<td>$2.33</td>
</tr>
<tr>
<td>2012</td>
<td>$3.34</td>
<td>$0.00</td>
<td>$3.34</td>
</tr>
<tr>
<td>2013</td>
<td>$1.82</td>
<td>$0.00</td>
<td>$1.82</td>
</tr>
<tr>
<td>2014</td>
<td>$1.92</td>
<td>$0.00</td>
<td>$1.92</td>
</tr>
<tr>
<td>2015</td>
<td>$0.94</td>
<td>$0.00</td>
<td>$0.94</td>
</tr>
<tr>
<td>2016</td>
<td>$1.33</td>
<td>$0.00</td>
<td>$1.33</td>
</tr>
<tr>
<td>2017</td>
<td>$0.79</td>
<td>$0.00</td>
<td>$0.79</td>
</tr>
<tr>
<td>2018</td>
<td>$0.83</td>
<td>$0.00</td>
<td>$0.83</td>
</tr>
<tr>
<td>2019</td>
<td>$1.14</td>
<td>$0.00</td>
<td>$1.14</td>
</tr>
<tr>
<td>2020</td>
<td>$1.06</td>
<td>$0.00</td>
<td>$1.06</td>
</tr>
<tr>
<td>2021</td>
<td>$2.06</td>
<td>$0.77</td>
<td>$1.29</td>
</tr>
<tr>
<td>2022</td>
<td>$0.77</td>
<td>$0.00</td>
<td>$0.77</td>
</tr>
</tbody>
</table>

Average Prices:
- 2010: $2.46
- 2011: $2.33
- 2012: $3.34
- 2013: $1.82
- 2014: $1.92
- 2015: $0.94
- 2016: $1.33
- 2017: $0.79
- 2018: $0.83
- 2019: $1.14
- 2020: $1.06
- 2021: $2.06
- 2022: $0.77
What About Corn in 2022?

- December 2022 contract average since January 1 = $5.78
- 2021 Range of $2.06
- +/- $1.03
- +/- $2.06
Soybean Average November Futures Price and Price Range (Max-Min), January to Contract Expiration plus USDA MYA Price

Volatility is likely to persist in 2022.
What About Soybeans in 2022?

- November 2022 contract average since January 1 = $13.75
- 2021 Range of $3.48
- +/- $1.74
- +/- $3.48
Current futures price = $9.96 (versus crop insurance price of $7.14). This morning a $9.50 put for 75 cents ($8.75 futures floor).
What About Wheat in 2022?

- July 2022 contract average since October 1 = $7.87
- 2021 Range of $1.88 +/- $0.94
- +/- $1.88
- Range has exceeded 2021 in 2022 $2.69, so far.