Understanding the Farm Program and the Farm Income Safety Net

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Farm Bill Directions

- Farm income safety net has evolved over time
  - Price support and supply control
  - Income support tied to price and revenue
  - Risk management
- Future program components
  - Crop insurance as the foundation
  - Revenue safety net or price safety net
  - Underlying marketing loan
  - Supplemental crop insurance
  - Disaster assistance
  - No direct payments

Farm Program Sign-Up Results
By Crop Base Acreage in Nebraska

<table>
<thead>
<tr>
<th>State</th>
<th>PLC</th>
<th>ARC-CD</th>
<th>ARC-IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>72%</td>
<td>28%</td>
<td>0%</td>
</tr>
<tr>
<td>Corn</td>
<td>4%</td>
<td>96%</td>
<td>0%</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>43%</td>
<td>57%</td>
<td>0%</td>
</tr>
<tr>
<td>Oats</td>
<td>20%</td>
<td>79%</td>
<td>0%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>2%</td>
<td>97%</td>
<td>1%</td>
</tr>
<tr>
<td>Sunflowers</td>
<td>65%</td>
<td>34%</td>
<td>1%</td>
</tr>
<tr>
<td>Wheat</td>
<td>55%</td>
<td>44%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: USDA-FSA

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Farm Bill Safety Net
Price Safety Net

- Price Loss Coverage – PLC
  - Following House PLC proposal
  - Adaptation of current CCP program
  - Protects deep (and shallow?) losses below legislated reference (target) prices
  - Parameters
    - Corn = $3.70/bushel
    - Soybeans = $8.40/bushel
    - Sorghum = $3.95/bushel
    - Wheat = $5.50/bushel
  - Payment yields equal to existing CCP yields or updated payment yields
  - Payment on 85% of existing or updated base acres
  - Impact
    - Provides income support and risk management when price is near or below reference price
    - Protection level set at fixed reference price, creating potential long-term distortion of production/marketing decisions

Calculating Program Payments
Price Loss Coverage

Price Loss Coverage Payment Rate

\[
\text{MAX of} \left\{ \frac{\text{reference price}}{\text{average price}} - \frac{\text{PLC rate}}{\text{national marketing or loan rate}} \right\} \text{ or } 0
\]

Price Loss Coverage Payment

\[
\text{PLC rate} \times \text{payment yield} \times \text{base acres} \times 85\% = \text{PLC payment}
\]

Farm Bill Safety Net
Price Safety Net Outlook

- Price Loss Coverage – PLC
  - No payments in 2015 for the 2014 crop for major Nebraska crops
  - Weaker price projections through 2018
  - Projected PLC payments for 2015-2018
    - Small for corn
    - None for soybeans
    - Greater payments for grain sorghum and wheat
  - PLC provides downside price protection from current projected price levels
  - Few producers enrolled in PLC for corn and soybeans, more for grain sorghum and wheat

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Farm Income Safety Net
Corn Prices and PLC/CCP/ML*

Farm Income Safety Net
Soybean Prices and PLC/CCP/ML*

Farm Income Safety Net
Sorghum Prices and PLC/CCP/ML*

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**Farm Income Safety Net**

Wheat Prices and PLC/CCP/ML*

![Graph showing wheat prices and PLC/CCP/ML](graph.png)


Source: USDA-FSA, USDA-NASS, and USDA-WAOB

**A Look Ahead to 2018**

PLC Payment Rates*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Reference Price</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn ($/bu)</td>
<td>3.70</td>
<td>$0.00</td>
<td>$0.10</td>
<td>$0.10</td>
<td>$0.05</td>
<td>$0.05</td>
</tr>
<tr>
<td>Grain Sorghum ($/bu)</td>
<td>3.95</td>
<td>0.00</td>
<td>0.45</td>
<td>0.55</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Soybeans ($/bu)</td>
<td>8.40</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Wheat ($/bu)</td>
<td>5.50</td>
<td>0.00</td>
<td>0.50</td>
<td>1.10</td>
<td>1.00</td>
<td>0.90</td>
</tr>
</tbody>
</table>

*Estimated national marketing year average prices for 2015 and resulting PLC payment rates projected from USDA-WAOB as of January 12, 2016. Projected prices and resulting PLC payment rates for 2016-2018 from USDA estimates as of December 2015.

**Farm Bill Safety Net**

Revenue Safety Net

- **Agriculture Risk Coverage - ARC**
  - Following Senate ARC proposal
  - Adaptation of current ACRE program for ARC-IC
  - ARC-IC similar to AGR or Whole Farm Risk insurance
  - Protects shallow losses below average revenue at farm (ARC-IC) or county (ARC-CO) level

- **Parameters**
  - Protect 86-76% of average revenue
  - ARC participants ineligible for SCO
  - ARC-CO:
    - Crop guarantee
    - Average revenue = 5-year Olympic average price * 5-year Olympic average yield
    - Payments on 85% of base acres
  - ARC-IC:
    - Whole farm guarantee
    - Average revenue across all covered crops
    - Payments on 65% of base acres

- **Impact**
  - Provides risk management when projected revenue is near or below average revenue
  - Protection level changes gradually with changes in revenue, reducing potential long-term distortion of production/marketing decisions

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Calculating Program Payments
Agriculture Risk Coverage - County

**ARC-CO Benchmark Revenue**

\[
\text{5-year Olympic average county yield} \times \frac{\text{5-year Olympic average national marketing year average price}}{} = \text{ARC-CO benchmark revenue}
\]

**ARC-CO Guarantee**

\[
\text{ARC-CO benchmark revenue} \times 86\% = \text{ARC-CO guarantee}
\]

**ARC-CO Actual Revenue**

\[
\text{county yield} \times \frac{\text{MAX of [national marketing year average price, loan rate]}}{} = \text{ARC-CO actual revenue}
\]

* County yield per planted acre, minimum yield for each year at county T-yield x 70%

** National marketing year average price, minimum price for each year at reference price

Calculating Program Payments
Agriculture Risk Coverage - County

**ARC-CO Payment Rate**

\[
\text{MAX of [0 or MIN of (ARC-CO guarantee - ARC-CO actual revenue) or (ARC-CO benchmark revenue x 10\%)]} = \text{ARC-CO payment rate}
\]

**ARC-CO Payment**

\[
\text{ARC-CO payment rate} \times \text{base acres} \times 85\% = \text{ARC-CO payment}
\]

Farm Bill Safety Net
Revenue Safety Net Outlook

- Agriculture Risk Coverage – ARC
  - ARC-CO payments in 2015 for the 2014 crop were large but variable across counties, crops, and practices
    - General price losses versus varied yield results
  - Similar large ARC-CO payments in 2016 for the 2015 crop are expected with similar variability across counties, crops, and practices
  - Outlook for 2016 ARC-CO payments remains large
    - Price protection drops, but an assumed return to average yields reduces revenue and keeps potential payments large
  - Outlook for 2017-2018 ARC-CO payments is quickly diminishing support from ARC-CO as 5-year Olympic average price begins to fall sharply
  - ARC-IC results and protection would mirror ARC-CO, but are dependent on individual farm-level yields and results
    - Very few farms enrolled in ARC-IC
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January 2016

Farm Income Safety Net
Corn Prices and Effective ARC Price Protection*

Farm Income Safety Net
Soybean Prices and Effective ARC Price Protection*

Farm Income Safety Net
Sorghum Prices and Effective ARC Price Protection*


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Farm Income Safety Net
Wheat Prices and Effective ARC Price Protection*

2014 ARC-CO Analysis
Payments

2014 ARC-CO Analysis
Gross Revenue with ARC-CO Payments as a Percent of Guarantees

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Crop Insurance Program

Yield Guarantee

\[
\text{farm APH} \times \text{ins. yield election} = \text{ins. yield guarantee}
\]

Insurance Indemnity

\[
\text{MAX of } \{ 0 \text{ or } (\text{ins. yield guarantee} - \text{actual farm yield}) \times \text{price election} \} = \text{ins. indemnity}
\]

Crop Insurance Program

Revenue Protection

Revenue Guarantee

\[
\text{farm APH} \times \text{MAX} (\text{base futures price}, \text{harvest futures price}) \times \text{ins. revenue election} = \text{ins. revenue guarantee}
\]

Insurance Indemnity

\[
\text{MAX of } \{ 0 \text{ or } \text{ins. revenue guarantee} - \text{actual farm yield} \times \text{harvest futures price} \} = \text{ins. indemnity}
\]

Crop Insurance Program

Revenue Protection with Harvest Price Exclusion

Revenue Guarantee

\[
\text{farm APH} \times \text{base futures price} \times \text{ins. revenue election} = \text{ins. revenue guarantee}
\]

Insurance Indemnity

\[
\text{MAX of } \{ 0 \text{ or } \text{ins. revenue guarantee} - \text{actual farm yield} \times \text{harvest futures price} \} = \text{ins. indemnity}
\]
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Farm Income Safety Net
Corn Prices and Effective Crop Insurance Revenue Protection (RP) Price Protection*

Farm Income Safety Net
Soybean Prices and Effective Crop Insurance Revenue Protection (RP) Price Protection*

Farm Income Safety Net
Sorghum Prices and Effective Crop Insurance Revenue Protection (RP) Price Protection*


Source: USDA-FSA, USDA-NASS, USDA-WAOB, USDA-RMA, and CME
Farm Income Safety Net

Wheat Prices and Effective Crop Insurance Revenue Protection (RP) Price Protection*


Source: USDA-FSA, USDA-NASS, USDA-WAOB, USDA-RMA, and CME

Farm Income Safety Net

- Farm bill programs
  - PLC
    - Not projected to provide large payments in Nebraska over 2014-2018 period
    - Large per-bushel payments for grain sorghum and wheat, but small relative to ARC-CO totals
  - ARC
    - Provided substantial payments in Nebraska for 2014 and should again for 2015
    - Nearly $600 million in farm program payments for the 2014 crop paid in October 2015
    - Similar projected payments for the 2015 crop to be paid in October 2016
    - Protection for 2016 should be similar to 2015 (to be paid in October 2016)
    - Lower 5-year Olympic average price, but an assumed return to average yields
    - Protection for 2017 and 2018 diminishes or disappears quickly with lower 5-year Olympic average price
  - Crop insurance
    - Effective price protection for intra-year price risk based on protection level
    - No protection for year-over-year or multi-year price risk
- Managing crop yield, price, and revenue risk
  - Utilize farm programs and crop insurance tools as available – both will help with short-term price risk, but neither ARC nor crop insurance will provide price protection over the long run
  - Analyze production and marketing decisions and manage for the price outlook ahead

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