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The Ohio State University's Guide to the 2018 Farm Bill Commodity Programs

Authors:
The Ohio State University Farm Bill Team

Ben Brown
State Program Coordinator
Email: brown.6888@osu.edu
Phone: 660-492-7574

Mary Griffith
State Program Coordinator
Email: Griffith.483@osu.edu
Phone: 740-852-0975

Christopher Zoller
State Program Coordinator
Email: zoller.1@osu.edu
Phone: 330-827-0249

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The Agriculture and Improvement Act of 2018 (2018 Farm Bill) reauthorized many of the same farm programs US producers utilized in the 2014 Farm Bill. Federal crop insurance was largely left in the same form, small changes were made to the Dairy Margin Protection Program (Dairy MPP) - although it was renamed the Dairy Margin Coverage Program- and the same three basic farm programs are options for producers again in the 2018 Farm Bill. The three basic farm programs include Agricultural Risk Coverage (ARC) separated into a county option (ARC-CO) and an individual option (ARC-IC) along with the Price Loss Coverage (PLC) program. The 2018 Farm Bill affords producers and landowners a couple decisions in regards to program election, yield update, and in the case of dairy, a coverage selection. The Ohio State University in partnership with the Extension Risk Management Education Association and the Cooperation with The Ohio Farm Service Agency (FSA) has put together several tools to assist in these decisions.

Background

The 2018 Farm Bill reauthorized the basic commodity support policies with minor revisions to both the ARC and PLC programs. The ARC programs are still programs that trigger payments if the current year revenue for a county or individual farm fall below a benchmark set by historical national Marketing Year Average (MYA) prices and then either the county yields or individual yields for ARC-CO and ARC-IC respectively. The PLC program continues to trigger payments when the national MYA falls below an effective reference price similar to historical target prices. The difference in these two prices, with a limit of the national loan rate, multiplied by a farms PLC yield creates the PLC payment per base acre. A summary of revisions in the 2018 Farm Bill is included in this article with introduction to Ohio State University and University of Illinois decision aides.

- The ARC-CO program now uses trend line yield adjustments for yields in the historical benchmark calculations, which are to be treated in a similar manner as trend yield adjustments factors used by the Federal Crop Insurance Program. Trend adjustment increase historical yields and the historical benchmark, increasing the likelihood that current year revenue is below the benchmark and therefore the chance of ARC-CO payments. An example is included in the ARC-CO example section.
- County yields used in the ARC-CO program will be based on a cascading order of Risk Management Agency, National Agricultural Statistics Service or State Committee yields.
- ARC- Payments will now be made based on the county that the farm is located instead of the administrative county of the farm. This was done as a way to smooth out payments for the same farm that might have land in multiple counties. The entire farm will receive the same payment for all base acres even if land is located in multiple counties. The payment will be weighted based on the percent in each county and the respective county payment rates.
- ARC-CO historical yields are lagged one year meaning that for the 2019 Farm Bill- the years used in the historical calculation are 2013, 2014, 2015, 2016 and 2017.
- Relatively low yielding years are replaced with a “plug yield” of 80% of the county transitional yield instead of 70%. Increasing low yields in the historical calculation increases the likelihood of the current year revenue falling below the historical benchmark.
The PLC program has the same reference prices as the 2014 Farm Bill, but now includes a reference price escalator that allows the effective reference price to increase above the limit set by Congress if 85% of the 5 year Olympic Average (dropping the highest and lowest and averaging the three remaining years) of previous MYA is higher than the statutory reference price, but no higher than 115% of the current reference price.

Owners of a parcel of land have the opportunity to update the PLC yields on their farm if they choose. The update is discussed below.

Commodity program election is no longer set for the lifetime of the 2018 Farm Bill as it was in the 2014 Farm bill. Producers will have the option in 2019 to elect between commodity programs for the 2019 and 2020 program years together, but then change their program election in 2021, 2022, and 2023. Sign-up deadline for 2019 and election for 2019 and 2020 program years is March 15, 2020.

ARC-CO Program Details:
ARC-CO is a county based revenue program that makes payments when the current year revenue (county yield multiplied by national MYA price) is less than 86% of the historical benchmark revenue of county yields and national MYA prices.

Both the benchmark yields and prices will be based on a 5-Year Olympic Average and including a 1-year lag. For 2019, the averages are based on data from the 2013-2017 commodity years and does not include data from 2018. This allows the landowner and producer to know the ARC-CO guarantee and benchmark before annual enrollment, which has a deadline of March 15.

New in the 2018 Farm Bill is trend adjusted historical yields, similar to the Federal Crop Insurance Program. The 2014 Farm Bill did not include trend adjusted yields in historical benchmark calculations. Table 1. illustrates how trend yields are calculated per county.

<table>
<thead>
<tr>
<th>Year</th>
<th>County Yields from RMA (bu./acre)</th>
<th>80% of T-Yield (bu./acre)</th>
<th>Higher of County Yield or 80% of T-Yield</th>
<th>Number of Years from 2019</th>
<th>Trend-Yield Adjustment 1.65/year</th>
<th>Trend Adjusted ARC-CO Yield for 2018 Farm Bill</th>
<th>Benchmark Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>177</td>
<td>119.2</td>
<td>177</td>
<td>6</td>
<td>9.9 bu.</td>
<td>187 bu.</td>
<td>185 bu.</td>
</tr>
<tr>
<td>2014</td>
<td>182</td>
<td>119.2</td>
<td>182</td>
<td>5</td>
<td>8.3 bu.</td>
<td>190 bu.</td>
<td>184 bu.</td>
</tr>
<tr>
<td>2015</td>
<td>177</td>
<td>119.2</td>
<td>177</td>
<td>4</td>
<td>6.6 bu.</td>
<td>184 bu.</td>
<td>165 bu.</td>
</tr>
<tr>
<td>2016</td>
<td>160</td>
<td>119.2</td>
<td>160</td>
<td>3</td>
<td>5 bu.</td>
<td>165 bu.</td>
<td>184 bu.</td>
</tr>
<tr>
<td>2017</td>
<td>181</td>
<td>127.2</td>
<td>181</td>
<td>2</td>
<td>3.3 bu.</td>
<td>184 bu.</td>
<td>184 bu.</td>
</tr>
</tbody>
</table>

In the example of Darke County Ohio non-irrigated corn risk management association crop insurance yields are listed in the first column. Yields for Darke County were 177, 182, 177, 160 and 181 bushels per acre from 2013-2017. The second column calculates the “plug yield” of 80% of the county transitional yield. For Darke County, OH the transitional yield was 149 bu./acre up
to 2017 and then 159 in 2017. Because the county yields were higher than 80% of the transitional yield every year the actual county yield is used, but had 2016 produced a yield below 119 bu./acre - that yield the 80% t-yield of 119 would have been used instead. The county yields used in this equation are listed in column four. Column five is the number of years from the current year of 2019. For 2013, that is 6 years (2019-2013= 6 years). The sixth column shows the trend adjustment yield that gets added to each historical year. It is calculated by taking the counties trend adjustment rate provided by the Federal Crop Insurance Corporation - in this case 1.65 bu./year and multiplied by the number of years since 2019. For 2013, the adjusted bushels equal 9.9 (1.65 * 6 years). The adjusted bushels are then added to the county yield to get the trend adjusted yield under the 2018 Farm Bill for each historical year. For 2013, 187 bu./acre is the sum of 9.9 bu. and 177 bu. The benchmark yield for Darke County is then calculated by dropping the highest and lowest values of 190 and 165, adding the three remaining values and dividing by 3 to get a historical benchmark yield of 185. The 2020 program year will have different historical yields due to two things:

1. Years used in the calculation 2014-2018 vs 2013-2017
2. The county trend adjustment factor

The 2019 historical benchmark price calculation is the Olympic average of National MYA prices by commodity for the years 2013-2017 (see Table 2). Actual MYA prices can be substituted out if the MYA price is below the effective reference price set by congress. MYA prices for corn were 2013- $4.46/bu., 2014-$3.70/bu., 2015- $3.61/bu., 2016- $3.36/bu. and 2017- $3.36/bu. All but 2013 had a MYA price that was below the reference price of $3.70. Because of this- the prices used in the historical benchmark price are $4.46, $3.70, $3.70, $3.70 and $3.70 for 2013-2017 respectively. The 5-Year Olympic Average drops the lowest and the highest and averages the rest leaving a benchmark price of $3.7= (($3.70 +$3.70 +$3.70)/3).

<table>
<thead>
<tr>
<th>Year</th>
<th>Marketing Year Price</th>
<th>Effective Reference Price</th>
<th>Higher of Reference Price or MYA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>$4.46/bu.</td>
<td>$3.70/bu.</td>
<td>$4.46/bu.</td>
</tr>
<tr>
<td>2014</td>
<td>$3.70/bu.</td>
<td>$3.70/bu.</td>
<td>$3.70/bu.</td>
</tr>
<tr>
<td>2015</td>
<td>$3.61/bu.</td>
<td>$3.70/bu.</td>
<td>$3.70/bu.</td>
</tr>
<tr>
<td>2016</td>
<td>$3.36/bu.</td>
<td>$3.70/bu.</td>
<td>$3.70/bu.</td>
</tr>
<tr>
<td>2017</td>
<td>$3.36/bu.</td>
<td>$3.70/bu.</td>
<td>$3.70/bu.</td>
</tr>
</tbody>
</table>

2019 Benchmark Price $3.70

Historical benchmark revenue equals benchmark price multiplied by benchmark revenue. For Darke County, Ohio benchmark revenue is equal to 185 bushels (table 1) multiplied by $3.70/bu. (table 2) for $684.50/acre. The guarantee is 86% of the benchmark revenue or $589 (0.86 x $685).

| Table 3. Calculation of ARC-CO Guarantee- Case Study: Darke County, OH, Corn, 2019 |
|----------------------------------|---------------------------------|
| Benchmark Yield (Table 1)       | 185 bu./Acre                    |
| Benchmark Price (Table 2)       | $3.70/ bu.                      |
| Benchmark Revenue (Price x Yield)| $685/ acre                      |
| ARC-CO Guarantee (86% of Benchmark) | $589/acre                      |
A payment will be triggered in Darke County, Ohio if the current year revenue for 2019 (current year county yield multiplied by 2019 national MYA price) comes in below $589. A payment cap of 10% of the benchmark revenue $69/ acre exists under ARC-CO (10% x $685). Payments are adjusted for the government sequestration and only paid on 85% of the historical base acres of the specific commodity.

Example: if current year revenue for Darke County is $560/ acre, a payment of $29/base acre would be triggered ($589 minus $560). That $29 payment would be adjusted for a government sequestration of 6.8% for a payment of $27.03/acre and then paid on 85% of the farms corn base acres.

The figure below show Darke County, Ohio’s performance for ARC-CO under the 2014 and then possibilities under the 2018 Farm Bill. The solid black line represents the historical benchmark guarantee calculated in Table 3. The solid red bars represent actual county revenue for the years listed and the dotted bars at the end represent possible 2019 and 2020 revenue for Darke County given average yields in both 2019 and 2020 and current marketing year average price forecasts of $3.80/bu. Payments are triggered when the red bars fall below the black line. Given that 2019 has been an unusual year for yields in Ohio- it is possible that yields will be below average for Darke County and that actual revenue is below the benchmark guarantee. The OSU Farm Bill tool discussed later can be used for different scenarios.

**Estimated 2019 & 2020 ARC-CO Performance for Darke County, Ohio-Corn**
PLC Program Details

The PLC program also existed in the 2014 Farm Bill and has very few modifications in the 2018 Farm Bill. The program protects against low prices- triggering per bushel payments when the national marketing year average price falls below an effective reference price, which is either the higher of:

1. The statutory reference price set by Congress (see table 4) or
2. 85% of the Olympic Average of five previous MYA prices with a one year lag- capped at 115% of the reference price.

Table 4. Statutory Reference Prices under the 2018 Farm Bill by Commodity

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Unit</th>
<th>Price</th>
<th>Commodity</th>
<th>Unit</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>Bushel</td>
<td>$3.70</td>
<td>Flaxseed</td>
<td>Bushel</td>
<td>$11.28</td>
</tr>
<tr>
<td>Soybean</td>
<td>Bushel</td>
<td>$8.40</td>
<td>Mustard</td>
<td>Cwt.</td>
<td>$20.15</td>
</tr>
<tr>
<td>Wheat</td>
<td>Bushel</td>
<td>$5.50</td>
<td>Rapeseed</td>
<td>Cwt.</td>
<td>$20.15</td>
</tr>
<tr>
<td>Barley</td>
<td>Bushel</td>
<td>$4.95</td>
<td>Safflower</td>
<td>Cwt.</td>
<td>$20.15</td>
</tr>
<tr>
<td>Chickpeas, Large</td>
<td>Cwt.</td>
<td>$21.54</td>
<td>Sesame Seed</td>
<td>Cwt.</td>
<td>$20.15</td>
</tr>
<tr>
<td>Chickpeas, Small</td>
<td>Cwt.</td>
<td>$19.04</td>
<td>Sunflower</td>
<td>Cwt.</td>
<td>$20.15</td>
</tr>
<tr>
<td>Dry Peas</td>
<td>Cwt.</td>
<td>$11.00</td>
<td>Peanuts</td>
<td>Ton</td>
<td>$535.00</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>Bushel</td>
<td>$3.95</td>
<td>Rice, Long</td>
<td>Cwt.</td>
<td>$14.00</td>
</tr>
<tr>
<td>Lentils</td>
<td>Cwt.</td>
<td>$19.97</td>
<td>Rice, Med. Short</td>
<td>Cwt.</td>
<td>$14.00</td>
</tr>
<tr>
<td>Oats</td>
<td>Bushel</td>
<td>$2.40</td>
<td>Rice, Temp. Jap</td>
<td>Cwt.</td>
<td>$16.10</td>
</tr>
<tr>
<td>Canola</td>
<td>Cwt.</td>
<td>$20.15</td>
<td>Seed Cotton</td>
<td>Pound</td>
<td>$0.367</td>
</tr>
<tr>
<td>Crambe</td>
<td>Cwt.</td>
<td>$20.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the effective reference price of corn to increase above the statutory reference price- the 5-Year Olympic Average of corn MYAs from 2013 to 2017 would have to equal $4.35 ($3.70 divided by 85%). The current MYAs from 2013 to 2017 are $4.46, $3.70, $3.61, $3.36 and $3.36 leading to a 5-Year Olympic Average of $3.56- 79 cents below the needed amount. Prices would need to increase significantly to increase the effective reference price. For program years 2019 and 2020, the MYAs are already known: 2019: 2013-2017 and 2020: 2014-2018 and the prices are not high enough to increase the effective reference prices for corn, soybeans and wheat, meaning that the statutory reference prices listed in Table 4 are the effective reference prices for program yeas 2019 and 2020.

A PLC payment is triggered when the current year MYA falls below the effective reference price. The 2019 MYA is based on the commodity marketing year for each specific crop: corn and soybeans is Sept. 1 – Aug. 31, and wheat is Jun 1- May 31. This means that the 2019 MYA for corn and soybeans will not be known until August 31, 2020. The 2019 wheat MYA will not be known until May 31, 2020. As an example: if the 2019 MYA for corn is $3.60 a 10 cent/bushel payment is triggered ($3.70 reference price minus $3.60 MYA= $0.10) whereas a $3.80 MYA does not trigger a payment.

The per bushel payment rate is then multiplied by the individual farms PLC yield to create a per acre payment. Example: Farm A has a PLC yield of 140 bu./acre. The payment would be $14/acre. (140 bu. multiplied by $0.10). Similar to ARC-CO payments are on 85% of commodity specific
base acres and adjusted for a government sequestration. The 2018 Farm Bill does allow owners of each FSA Farm the one-time opportunity to update PLC yields on the farm. More on this is covered in the next section.

The payment limitation for the PLC program is the national loan rate for each individual commodity. For corn, the national loan rate is $2.20/ bu. meaning that the maximum PLC payment rate is $1.50 ($3.70 effective reference price minus $2.20 marketing loan rate).

**PLC Yield Update**

The owners of each FSA farm have a one-time opportunity to update yields for each covered commodity on his or her farm. The 2014 Farm Bill also allowed PLC yield updates to individual farms and is viewed as the better chance to update program yields. However, it is wise for owners to check to see if a PLC yield update is beneficial even if he or she updated in 2014. All owners of the FSA farm must agree to update and producers who have Power of Attorney for their owners can file the appropriate paperwork on behalf of the owner. Owners do not have to update a yield. However, since PLC yields are tied to PLC payments, a higher PLC yield triggers a higher PLC payment.

The 2018 Farm Bill PLC Yield Update is based on the following formula:

1. 90% of the simple average of verifiable yields on the farm for years 2013-2017 substituting out low years with 75% of the specific county transitional yield.
2. Adjusted by a ratio that compares national yields in 2013-2017 to national yields of 2008-2012 between 0.9 and 1.

The adjustment ratios are based on national yields and are the same for everyone see table 5.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Ratio</th>
<th>Commodity</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>0.9437</td>
<td>Peanuts</td>
<td>0.9273</td>
</tr>
<tr>
<td>Canola</td>
<td>0.9643</td>
<td>Rapeseed</td>
<td>1</td>
</tr>
<tr>
<td>Chickpeas, Large</td>
<td>1</td>
<td>Rice, Long</td>
<td>0.9330</td>
</tr>
<tr>
<td>Chickpeas, Small</td>
<td>0.9760</td>
<td>Rice, Med, Short</td>
<td>0.9887</td>
</tr>
<tr>
<td>Corn</td>
<td>0.9000</td>
<td>Rice, Temp. Jap.</td>
<td>0.9591</td>
</tr>
<tr>
<td>Dry Peas</td>
<td>0.9988</td>
<td>Safflower</td>
<td>1</td>
</tr>
<tr>
<td>Flaxseed</td>
<td>1</td>
<td>Seed Cotton</td>
<td>0.9000</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>0.9077</td>
<td>Soybeans</td>
<td>0.9000</td>
</tr>
<tr>
<td>Lentils</td>
<td>1</td>
<td>Sunflower</td>
<td>0.9396</td>
</tr>
<tr>
<td>Mustard</td>
<td>0.9460</td>
<td>Wheat</td>
<td>0.9545</td>
</tr>
<tr>
<td>Oats</td>
<td>0.9524</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An example is illustrated in table 6. Landowners can make the update decision for each covered commodity on the FSA farm- meaning an owner can update for corn and soybeans and keep their current wheat PLC yield if he or she prefers. If yields are updated, it is recommended to maintain appropriate yield verification records if audited at a later date. Crop insurance records are likely the most common form of yield verification.
The example in table 6 and in figure 1 is for corn on FSA Farm 100 in Pickaway County, OH. The second column includes the farms verifiable yields between 2013 and 2017. Column three represents the “plug yield” for Pickaway County, OH at 135.44 bu./acre. Notice, 2016 is the only year where the “plug yield” is higher than the actual yield and it is substituted into the calculation. The PLC update is 90% of the simple average of any years that the crop was grown. In this case the producer planted corn and had a verifiable yield for all five years- however, if he or she only planted corn three of the five years- the average would be of those three years. If a producer planted corn one year, but does not have the verifiable yield records then the “plug yield” is used. After the simple average is calculated it is multiplied by 90% and the corresponding commodity update yield factor from table 5. In the case of corn, the update factor is 0.9 for a yield update potential to 139 bu./acre. (Simple Average Yield 154.15 multiplied by 90% multiplied by Corn Update Factor of 0.9)

If the updated yield is higher than the current PLC yield on record with the FSA a landowner may consider updating their PLC yield, but they do not have to update.

Figure 1.
The OSU Decision Tool offers a calculator pulling through each counties 75% t-yield or “plug yield” and the corresponding commodity update factor by following four steps (see figure 1):

1. Pick State, County, and Commodity
2. Answering Yes/Questions of planting the commodity in question during the listed year
3. Inputting verifiable farm yields into the grey boxes
4. Comparing the update potential yield in the blue box to the yield on record with FSA.

The updated yields will apply for any PLC payment triggered under elected commodities during program years 2020 through 2023 and any future farm bills that utilize PLC yields.

**Decision Tool between ARC-CO and PLC**

To provide education on the programs available and to answer questions about expected payments between ARC-CO and PLC, Ohio State University created an Excel based education tool for producers of corn, soybeans and wheat- although the program characteristics are the same for other covered commodities. Web-based products are also available from the University of Illinois at [https://fd-tools.ncsa.illinois.edu/#/](https://fd-tools.ncsa.illinois.edu/#/), Kansas State University in partnership with Oklahoma State University at [http://www.agecon.okstate.edu/agpolicy/decision.asp](http://www.agecon.okstate.edu/agpolicy/decision.asp) and Texas A&M University in partnership with The University of Missouri at [https://agrilifeextension.tamu.edu/solutions/farm-bill-decision-aid-tool/](https://agrilifeextension.tamu.edu/solutions/farm-bill-decision-aid-tool/). One large difference between the OSU decision tool and those of our partner institutions is that producers have the ability to substitute percentage changes in county yields for the ARC-CO calculation. While this is beneficial to allow producers to have this option-one extremely large drawback is that payments are tied on that yield and price. Whereas, other tools including that of the University of Illinois- uses an expected payment value based on a weighted distribution of 1000 possible price and yield scenarios. Because of this- Illinois model will never show a zero expected payment for either ARC-CO or PLC because there is always some chance of a scenario in the extremes. However, given the challenges associated with the 2019 planting season the OSU decision tool was specifically built to give producers the freedom to experiment with “what-if” scenarios. For experimenting with scenarios and learning program mechanics- OSU has a slight advantage; whereas, Illinois has the clear advantage for estimating relative payments under all possible outcomes.

When entering the OSU Decision Tool you will notice that the work book is broken out into four sections (see figure 1). This is an effort by the authors to provide transparency in the calculations, data sources and performance of ARC and PLC programs. Each section provides the user a different option to make a program decision for 2019 and 2020. The mathematical section (top left) - lays out all the numbers and calculations used to produce the graphics illustrated on the spreadsheet. Producers can see where revenue guarantees and benchmarks are for select years. The Results section (top right) illustrates the estimated payment for each of the next 2 years. The Program Design and Illustration Section (bottom right) has two parts: past performance of ARC and PLC (left) and estimates for ARC and PLC (Right) - when the red line or bar falls below the black line a payment is made. The Performance Section (bottom left) - is also broken into two sections: a past performance for the county of ARC and PLC (left) and estimates for comparison between ARC and PLC in 2019 and 2020. This section also has a graph that averages the 2019 & 2020 payments- since the 2019 decision is for two years. Additional information about each section is included below.
Key Instruction- Any text that is colored red is adjustable to the producer, including State, County, Production Practice, 2019 Yield Estimates, 2020 Yield “What-Ifs”, 2019 and 2020 Marketing Year Average Prices, and Individual Farm PLC Yields. Drop down boxes exist for estimated 2019 county yield estimates and 2020 county yield estimates in 5% increases or decreases. The trend line yield for the county is located on the first line under 2019 and 2020 and adjusts based on the percentage selected in the “What-if” boxes.

Figure 2.

The *Ohio State University ARC and PLC Decision Tool* - Corn

![Image of the tool interface]

The buttons along the top allow a producer to move within the tool (see dark box in Figure 2). However it should be noted that the product is set to automatically reset when the user moves to a new page. The purple reset button at the top takes all selections back to the default option-same as when opening the document for the first time.

Figure 3.

The *Ohio State University ARC and PLC Decision Tool* - Corn

![Image of the tool interface]

Most users are likely interested in this graph because it provides the expected payments over the next two years.
Within the mathematical section there is a lot of numbers, terms, and calculations. In an effort to help users understand where the numbers are calculated or where the data is procured from, definition boxes are available by clicking on any cell with a superscript number. A list of term definitions is also included at the end of this document and on the instructions tab of the tool.

Figure 4

The Case for Looking at the ARC-IC (ARC-Individual) Program Option
This was a Farmdoc Daily article published on October 29, 2019 by Carl Zulauf, Ben Brown, Gary Schnitkey, Krista Swanson, Jonathan Coppess and Nick Paulson.

ARC-IC (Agriculture Risk Coverage - Individual) has received less attention than ARC-CO (ARC - County) and PLC (Price Loss Coverage). 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. Nevertheless, ARC-IC is worth considering if an FSA farm has one or more of the appropriate production attributes. These attributes include (1) 100% prevent plant acres on a FSA farm, (2) high year-to-year production variability, (3) much higher farm than ARC-CO and PLC yields, and/or (4) acres planted to fruits and vegetables. Prevent plant is more relevant than normal in 2019.

ARC-IC Overview
- ARC-IC is a whole farm program option based on the average experience of all covered program commodities planted on the ARC-IC farm.
- ARC-IC applies to all base acres of all covered commodities on an ARC-IC farm. It is not elected on a commodity-by-commodity basis.
- An ARC-IC farm equals the sum of a producer’s share in all FSA farms he/she enrolls in ARC-IC in a state.
- All payment entities on an FSA farm must elect to enroll in ARC-IC.
ARC-IC makes a payment if average actual revenue/acre of all covered commodities planted on the ARC-IC farm is less than 86% of the ARC-IC farm’s average benchmark revenue/acre.

- For each year in the benchmark revenue calculation window, revenue/acre for a covered commodity equals (ARC-IC farm yield times (higher of US market year price or reference price)).

- ARC-IC farm benchmark revenue/acre equals (sum of the 5-year Olympic average revenue/acre for each covered commodity weighted by current year acres planted to a covered commodity).

- For the current production year, revenue/acre for a covered commodity equals (ARC-IC farm yield times US market year price).

- ARC-IC actual revenue/acre for current year equals (sum of actual revenue/acre for each covered commodity that was planted weighted by current year acres planted to the covered commodity).

- Payment is made on 65% of total base acres on an ARC-IC farm times ARC-IC payment/acre.

- Payment/acre is capped at 10% of the ARC-IC farm benchmark revenue/acre.

- NOTE: Payment depends on program commodities that are planted.

- NOTE: Prevent plant acres are included in ARC-IC revenue calculations ONLY IF 100% of an ARC-IC farm’s initially reported covered commodities are approved as prevent plant.

- NOTE: Only initially planted covered commodity and approved double crop acres are included in the revenue calculations. Any subsequently planted crops are not included in the calculations.

When ARC-IC should be considered: A farm production attribute must compensate for ARC-IC’s fewer payment acres (65% vs. 85% of base acres for ARC-CO and PLC). Such attributes include:

1. All of an ARC-IC farm’s initially planted covered commodities are approved as prevent plant. Current year revenue is zero since production is zero, resulting in a payment/acre equal to the payment cap of 10% of ARC-IC benchmark revenue/acre. In contrast, if any acre is planted to any covered commodity, payment is based on revenue/acre for the planted acre(s). Given the prevalence of prevent plant acres in 2019, examples are provided below. To underscore the key point, payment in this situation requires the ARC-IC farm has prevent plant for all covered program commodities on all base acres.

2. Production is highly variable from year to year on the ARC-IC farm. High variability increases the likelihood of ARC-IC payment. High variability is most likely when 1 crop is grown and 1 FSA farm makes up the ARC-IC farm. ARC-IC averages across crops and FSA farms. Variability declines as more than 1 crop is grown and/or more than 1 FSA farm makes up the ARC-IC farm.

3. ARC-IC benchmark yield is (much) higher than ARC-CO benchmark yield and PLC farm payment yield. Assuming 1 covered commodity and same percent payment rate for both ARC programs, ARC-IC benchmark yield needs to be more than 30% higher than the county benchmark yield for ARC-IC to pay more than ARC-CO. Other situations result in different breakeven yields.
4. Fruits and vegetables (other than mung beans and pulse crops) or wild rice are planted on a FSA farm. Payment base acres are 65% for ARC-IC vs. 85% for ARC-CO and PLC. Non-payment acres are the remaining base acres: 35% for ARC-IC vs. 15% for ARC-CO and PLC. Payment is reduced if fruits and vegetables (other than mung beans and pulse crops) or wild rice are planted on more than the non-payment acres. ARC-IC has more acres that can be planted to fruits and vegetables (other than mung beans and pulse crops) or wild rice without losing program payments. Note, base acres on the FSA farm are not altered in this situation.

ARC-IC Examples – role of prevent plant - Overview: An ARC-IC farm with all yield information needed to calculate the ARC-IC benchmark revenue is assumed. It has 100 acres of cropland and program base, both composed of 60 acres of corn and 40 acres of soybeans. This information plus the higher of US market year average price or the Reference Price for crop years 2013-2017 and currently expected US market year price for 2019 are in the top half of each table of values for each example. The reference price for corn is $3.70 while the reference price for soybeans is $8.40. The corn reference price of $3.70 is higher than the market year price for 2015 ($3.61), 2016 ($3.36), and 2017 ($3.36). and thus replaces the market year price in these three years when calculating the ARC-IC farm’s benchmark revenue. The soybean reverence price of $8.40 is below the soybean market year price for all years from 2013 through 2017. Thus, soybean market year price is used for each year from 2013 through 2017.

Calculation of the ARC-IC benchmark revenue is a 3-step process. In step 1, per acre revenue is calculated for each covered commodity (corn and soybeans in this case) for each of the 5 years in the benchmark calculation window. In step 2, Olympic average revenue per acre is calculated. An Olympic average removes the high and low value before calculating the average of the remaining values. For the example ARC-IC farm, the Olympic average revenue is $635 for corn and $475 for soybeans. In step 3, the Olympic average revenues are weighted by the acres planted in the current year (2019 in this case) to covered commodities to determine an ARC-IC farm benchmark average revenue per acre. This calculation for the example ARC-IC farm is: (($635*60) + ($475*40)) / (60+40), or an ARC-IC benchmark revenue of $571 / acre.

ARC-IC Example 1 – no prevent plant acres: Actual revenue / acre is $631 (166 bushels / acre times $3.80 / bushel) for corn and $423 (47 bushels / acre times $9.00 / bushel) for soybeans (see Table 7). These individual crop values are weighted by acres planted to each covered commodity, resulting in an actual revenue / acre for the ARC-IC farm of $548 (($631*60) + ($423*40)) / (60+40). Since actual revenue of $548 / acre exceeds the ARC-IC coverage revenue of $491 / acre (86% ARC-IC coverage level times benchmark revenue of $571 / acre), ARC-IC makes no payment.

ARC-IC Example 2 – some prevent plant acres: This example has 20 acres of corn prevent plant acres and lower 2019 yields (see Table 8). Actual revenue / acre is $532 for corn (140 bushels / acre times $3.80 / bushel) and $378 for soybeans (42 bushels / acre times $9.00 / bushel). These individual crop values are weighted by acres planted to each program commodity, resulting in an actual revenue / acre for the ARC-IC farm for 2019 of $494 (($532*60) + ($378*20)) / (60+20). Only 80 acres is used in calculating actual ARC-IC revenue. The 20 prevent plant acres are not
included in calculating ARC-IC actual revenue. Since actual revenue of $494 / acre is less than the ARC-IC coverage revenue of $512 / acre (86% ARC-IC coverage level times benchmark revenue of $595 / acre), ARC-IC makes a payment of $18/acre or $1,530 for the farm ($18/acre times 85% of 100 base acres). ARC-IC benchmark revenue and coverage revenue is higher in Example 2 than Example 1. The reason is the combined impact on the weighted averages of (a) higher revenue per acre for corn than soybeans and (b) fewer acres planted to soybeans (20, not 40). The interaction of these calculations with lower yields result in payments by ARC-IC. This example underscores that it is important to check ARC-IC payments for FSA farms that have yields that were notably lower in 2019.

ARC-IC Example 3 – all prevent plant acres: This example has no planted acres, with all initial planted covered commodity acres approved for prevent plant (see Table 9). Actual revenue / acre is $0 since no initial covered commodity is planted. Because no acres are planted to covered program commodities and all acres of initial planted covered commodities are approved as prevent plant, a benchmark revenue exists. It equals the benchmark revenue in example 1 ($571 / acre). ARC-IC makes a payment since actual revenue of $0 / acre is less than the ARC-IC coverage revenue of $491 / acre (86% ARC-IC coverage level times the benchmark revenue of $571 / acre). Payment is however capped at 10% of the benchmark revenue, or $57 per base acre ($571 times 10%). Total ARC-IC payment is $5,710 ($57 per base acre times 85% of 100 base acres).

Summary Observations of ARC-IC:
- Crop program choice rests on the production attributes of an FSA farm.
- ARC-IC may be worth considering more often than commonly thought.
- Farm production attributes which make ARC-IC potentially attractive include:
  - 100% of program base acres on a FSA farm are prevent plant acres,
  - high production variability from year to year on a FSA farm,
  - much higher farm than county or PLC yields on a FSA farm, and
  - Fruits and vegetables are planted on a FSA farm.
- If prevent plant is the production attribute of interest, all covered commodity acres on the ARC-IC farm must be prevent plant for ARC-IC to make a payment.
- If high production variability is the production attribute of interest, ARC-IC is more attractive if only 1 FSA farm in a state with only 1 program commodity is elected into ARC-IC. ARC-IC pays on the average experience across all program crops on all FSA farms in the ARC-IC farm. Averaging across multiple crops and FSA farms usually reduces variability and thus payment probability.
- Because of high yield variability during 2019 across fields, it is advisable to examine ARC-IC payments on FSA farms that had notably lower yields in 2019.
- Program sign up is for 2019 and 2020. Expected payments in both years need to be considered for ARC-IC, ARC-CO, and PLC. It is highly possible the program with the highest expected payment will differ for 2019 and 2020, especially if ARC-IC has the highest expected payment in one year.
- This article is not an argument for electing ARC-IC. It is an argument for not dismissing ARC-IC without thinking about the individual FSA farm production attributes.
Table 7. ARC-IC Example 1 - no prevent plant acres

<table>
<thead>
<tr>
<th>year / calculation</th>
<th>corn yield (higher of MYA or Reference)</th>
<th>corn price</th>
<th>ARC-IC yield (higher of MYA or Reference)</th>
<th>ARC-IC revenue</th>
<th>plant acres</th>
<th>prevent plant acres</th>
<th>prevent farm per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>155</td>
<td>$4.46</td>
<td>43</td>
<td>$13.00</td>
<td>$559</td>
<td>60</td>
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<tr>
<td>2014</td>
<td>169</td>
<td>$3.70</td>
<td>47</td>
<td>$10.10</td>
<td>$475</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>166</td>
<td>$3.70</td>
<td>48</td>
<td>$8.95</td>
<td>$430</td>
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<tr>
<td>2016</td>
<td>172</td>
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<td>52</td>
<td>$9.47</td>
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<tr>
<td>2017</td>
<td>174</td>
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<td>49</td>
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<td>$457</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>166</td>
<td>$3.80</td>
<td>47</td>
<td>$9.00</td>
<td>$423</td>
<td>60</td>
<td>0</td>
</tr>
</tbody>
</table>

Olympic average ('13-'17) $635 $475

benchmark revenue $571
Revenue coverage (86%) $491
actual revenue $548
revenue loss $0
payment $0

total ARC-IC payment $0

Table 8. ARC-IC Example 2 - some prevent plant acres

<table>
<thead>
<tr>
<th>year / calculation</th>
<th>corn yield (higher of MYA or Reference)</th>
<th>corn price</th>
<th>ARC-IC yield (higher of MYA or Reference)</th>
<th>ARC-IC revenue</th>
<th>plant acres</th>
<th>prevent plant acres</th>
<th>prevent farm per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>155</td>
<td>$4.46</td>
<td>43</td>
<td>$13.00</td>
<td>$559</td>
<td>60</td>
<td>20</td>
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<tr>
<td>2014</td>
<td>169</td>
<td>$3.70</td>
<td>47</td>
<td>$10.10</td>
<td>$475</td>
<td>60</td>
<td>20</td>
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<tr>
<td>2015</td>
<td>166</td>
<td>$3.70</td>
<td>48</td>
<td>$8.95</td>
<td>$430</td>
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<td>20</td>
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<tr>
<td>2016</td>
<td>172</td>
<td>$3.70</td>
<td>52</td>
<td>$9.47</td>
<td>$492</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>2017</td>
<td>174</td>
<td>$3.70</td>
<td>49</td>
<td>$9.33</td>
<td>$457</td>
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<tr>
<td>2019</td>
<td>140</td>
<td>$3.80</td>
<td>42</td>
<td>$9.00</td>
<td>$378</td>
<td>60</td>
<td>0</td>
</tr>
</tbody>
</table>

Olympic average ('13-'17) $635 $475

benchmark revenue $595
Revenue coverage (86%) $512
actual revenue $494
revenue loss $18
payment $18

total ARC-IC payment $1,530
Understanding the Supplemental Coverage Option (SCO)

The Supplemental Coverage Option (SCO) is a program that was first introduced in the 2014 Farm Bill and reauthorized in the 2018 Farm Bill, but is limited to acres that are covered under the PLC program only. It is not available for acres under either of the ARC options. Very few Ohio producers chose PLC for corn and soybeans in the 2014 Farm Bill, but potentially could in the 2018 Farm Bill- making the option of SCO available on more Ohio acres. Some producers could find SCO an attractive option if they typically buy high coverage levels of crop insurance and would like to lower their premium bill or for producers who buy low levels of crop insurance due to cost, but would like to get higher coverage at a lower costs. The tradeoff in the first scenario is giving up individual yields in substitute for less variable area based yields.

SCO provides protection for a band that is equal to 86% coverage down to the producers underlying Federal Crop Insurance policy. Figure 5 illustrates this point at the different individual policy levels. At a 50% COMBO policy, the band would be equal to 36% (86%-50%). SCO is available on individual revenue and yield policies, but not on area or index policies. With an underlying revenue policy the SCO component would be an area based revenue program that triggers a payment when the area revenue falls below 86%. For an underlying yield COMBO product, SCO would be an area yield policy that triggers if area yields fall below 86%. SCO then splits the payment with the underlying individual policy. It is possible for either the individual policy or the SCO to trigger, both to trigger, or neither to trigger. The biggest hurdle is that the SCO area might not have revenue or yields that match the individual farm revenue or yields.

Table 9. ARC-IC Example 3 - 100% prevent plant acres

<table>
<thead>
<tr>
<th>year / calculation</th>
<th>corn yield</th>
<th>corn price (higher of MYA or Reference)</th>
<th>corn ARC-IC revenue</th>
<th>beans yield</th>
<th>beans price (higher of MYA or Reference)</th>
<th>beans ARC-IC revenue</th>
<th>corn plant acres</th>
<th>beans plant acres</th>
<th>corn prevent plant</th>
<th>beans prevent plant</th>
<th>ARC-IC farm per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>155</td>
<td>$4.46</td>
<td>$691</td>
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<td>$559</td>
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<tr>
<td>2014</td>
<td>169</td>
<td>$3.70</td>
<td>$625</td>
<td>47</td>
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<tr>
<td>2015</td>
<td>166</td>
<td>$3.70</td>
<td>$614</td>
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<tr>
<td>2016</td>
<td>172</td>
<td>$3.70</td>
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<td>60</td>
<td>40</td>
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<td>$571</td>
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<tr>
<td>benchmark revenue</td>
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<tr>
<td>Revenue coverage</td>
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<td>(86%)</td>
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<tr>
<td>total ARC-IC payment</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,710</td>
</tr>
</tbody>
</table>
The primary advantage to SCO policies is that it is a way to get high levels of coverage at a cheaper premium rate. This is due to two factors:

1. The change of a payment under SCO is lower because area based revenue and yield policies are less variable.
2. The premium assistance rate by the government for SCO is higher than all coverage rates of basic and optional units above 50% meaning that the share paid by the producer is lower.

An example of SCO premiums with COMBO Premiums vs just COMBO premiums is illustrated in Table 10. This example is based on a revenue protection, non-irrigated corn policy in Union County, OH with an actual production history of 166, 160 acres in the policy and a $4.00 projected price.

The first column of table 10 shows the coverage level of the underlying policy. The second column shows what the premium rate would be for a basic unit under the conditions listed above. The last column shows what the premium would be with an additional SCO policy that creates a band between the individual COMBO policy and 86%. For 85% individual coverage, the SCO policy would just cover 1% (86%−85%) at a cost of $34.87. The producer paid 90 cents to get an additional 1% area coverage. However, a producer that buys 65% individual coverage can get a SCO band of 21% (86%−65%) for a total of $15.37. While a band of 21% exists for this policy the producer is getting some level (both area and individual) up to 86% and paying $15.37 vs $33.97 for 85% coverage. Producers that typically have high levels of coverage, may consider buying lower levels with SCO knowing that they are giving up some top end probability on the area based policy.

Producers that typically buy low levels of coverage can get higher coverage at a cheaper rate, but if they usually don’t buy higher coverage, maybe they are comfortable at their current level.
Table 10: Supplemental Coverage Option Premiums for Union County, OH

<table>
<thead>
<tr>
<th>Individual Coverage Level</th>
<th>Farm Policy Basic Premium</th>
<th>FARM + SCO = Total + Adm. Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
<td>$33.97</td>
<td>$33.97 + $0.90 = $34.87</td>
</tr>
<tr>
<td>80%</td>
<td>$22.53</td>
<td>$22.53 + $4.43 = $26.96</td>
</tr>
<tr>
<td>75%</td>
<td>$14.39</td>
<td>$14.39 + $6.52 = $20.91</td>
</tr>
<tr>
<td>70%</td>
<td>$9.55</td>
<td>$9.55 + $7.61 = $17.16</td>
</tr>
<tr>
<td>65%</td>
<td>$7.06</td>
<td>$7.06 + $8.31 = $15.37</td>
</tr>
<tr>
<td>60%</td>
<td>$4.58</td>
<td>$4.58 + $8.74 = $13.32</td>
</tr>
<tr>
<td>55%</td>
<td>$3.20</td>
<td>$3.20 + $8.83 = $12.03</td>
</tr>
<tr>
<td>50%</td>
<td>$2.07</td>
<td>$2.07 + $8.86 = $10.93</td>
</tr>
</tbody>
</table>

Crop insurance premiums increase quickly above 70% coverage levels due to the government assistance rates and the probability of triggering a payment. Producer might find advantage in these lower rates and buying SCO to get some form of 86% coverage with SCO.

It is encouraged that if producers are unfamiliar with area based insurance products to do so before buying SCO. Area based insurance policy have different rules than individual policies and could alter decisions made other times of the year. For instance, 2019 was a year with high levels of prevented plant insurance claims. Prevent plant as an insurance policy is not available on area based policies, which includes SCO. Producers can still have prevent plant claims on their underlying individual COMBO policy.

Is SCO right for an operation? There are three things to consider:

1. Was ARC-CO or ARC-IC elected for these acres? Reminder that ARC-CO and ARC-IC are paid on base acres, whereas SCO is paid on crop insurance planted acres.

2. The relationship of base acres to planted acres. If planted acres exceed base acres of a commodity, then SCO could be a cheaper option to get higher coverage levels.

3. The relationship of individual yields to area based yields. If individual yields are significantly more volatile than the area based yields, SCO might not be the best option for risk protection on the operation.

For 2019, since the crop insurance deadline of March 15, 2019 came before the 2019 program election for ARC and PLC, the penalty fee for misreporting eligible acres will not apply.
Conclusion
Producers and landowners in Ohio and across the United States will soon start considering federal commodity program election under the 2018 Farm Bill. Similar to 2014, the same three commodity crop programs: ARC-CO, ARC-IC and PLC exist in the 2018 with minor modifications. The Supplemental Coverage Option is again an option for acres enrolled under the Price Loss Coverage program and in areas that have SCO policies. The Ohio State University is committed to helping producers understand the decisions ahead and the program mechanics. The 2019 and 2020 program years will have the same commodity program election and must be filed with the local Farm Service Agency Office by March 15, 2020. Enrollment for the 2020 program year isn’t due until June 30, 2020 in the case that a change of ownership or farm makeup happens between March 15, 2020 and June 30, 20. Producers are allowed to make their election and change it before March 15, 2020 if they would like. Landowners and producers with Power of Attorney have until October 2020 to decide to update PLC yields on the farm knowing that not all commodities have to be updated.

The Ohio State University, the University of Illinois, Texas A&M University with the University of Missouri and Kansas State University with Oklahoma State University have built decision aids for producers. Illinois’ Farm Bill decision aid tool takes into account relative payments under all scenarios and is a preferred method for making program election. However, given the roughly planting and harvesting year in 2019- some counties with low yields might find the tool The Ohio State University built to be useful in working through “what-if” scenarios. A combination of the two products is optimal.

As a reminder ARC-CO and PLC pay on 85% of the historical base acres, whereas ARC-IC only pays on 65% of base acres. The supplemental coverage option is only available on acres that are elected into PLC and creates an area policy between 86% and the producers underlying COMBO product.

The Ohio State University Extension will be hosting close to 100 Farm Bill meetings in the fall of 2019 and spring of 2020 for Ohio Producers. A list of program and resources can be found at [go.osu.edu/farmbill2019](go.osu.edu/farmbill2019)
List of Terminology

**Actual Revenue (ARC-CO)**
The Actual Revenue for a county is used in the ARC-CO program to determine how much revenue the county brought in for the current year. For program year 2019, the current year revenue would be the 2019 average county yield for your respective county multiplied by the 2019 National Marketing Year Average Price (see below).

**Agricultural Risk Coverage- County (ARC-CO)**
The Agricultural Risk Coverage- County (ARC-CO) program provides income support tied to historical base acres (see below), not current production, on covered commodities (see below). ARC-CO payments are issued when the Actual Revenue (see above) of a covered commodity is less than the ARC-CO historical guarantee (see Guarantee below).

**Base Acres (ARC-CO & PLC)**
Base Acres are a farm's crop-specific acreage of wheat, feed grains, rice, oilseeds, pulse crops, or peanuts eligible for Farm Service Agency program purposes. Base acres do not necessarily align with current plantings of the farm. Producers had an opportunity to update base acres in the 2014 Farm Bill. There is not an option to update base acres in the 2018 Farm Bill.

**Benchmark (ARC-CO)**
The Benchmark is used in the ARC-CO calculation to determine if a payment is to be made. It is the historical reference to estimate what county revenue has been the last 5 years. It is calculated by taking the Benchmark Price (see below) times the Benchmark Yield (see below).

**Benchmark Price (ARC-CO)**
The higher of the effective reference price or the respective marketing year average price for a covered commodity. This benchmark price is multiplied by the benchmark yield to calculate the benchmark revenue used in ARC-CO.

**Benchmark Yield (ARC-CO)**
The Benchmark Yield is calculated in a specific year for ARC-CO calculations. It is calculated as the higher of the Average County Yield for a respective county or a plug yield. Plug Yields were 70% of the respective county T-Yield in the 2014 Farm Bill and they are 80% of the respective county T-Yield in the 2018 Farm Bill. Increasing the plug yield to 80% of the T-Yield from 70% of the T-Yield will help make the historical benchmark higher by removing relatively low yields and increases the probability of a payment triggering under ARC-CO.

**Covered Commodities (ARC-CO & PLC)**
Covered Commodities include wheat, oats, barley, corn, grain sorghum, rice, soybeans, sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe and sesame seed, dry peas, lentils, small chickpeas, large chickpeas, peanuts and cotton.

**Effective Reference Price (PLC)**
The Effective Reference Price is the higher of a Congressionally set reference price (Corn-$3.70, Soybeans- $8.40, Wheat $5.50 and so on) or a price that is calculated by taking 85% of the Olympic
Average of the 5 previous Marketing Year Average Prices. For example- if the five previous year Marketing Year Average Prices for Corn were ($3.70, $3.61, $3.36, $3.36, and $3.61) we would drop the high value of $3.70 and the low value of $3.36 and average the three remaining values ($3.61, $3.36, and $3.61) to get $3.53. Taking 85% of $3.53 gets us $3.00. Because $3.70 is higher than $3.00- $3.70 is used as the effective reference price.

**Farm Bill 2014 Yields (ARC-CO)**

Yields during the 2014 Farm Bill for ARC-CO were based on county yields first obtained by the National Agricultural Statistics Service and then second by the Risk Management Agency. They were non-trend adjusted yields.

**Farm Bill 2018 Yields (ARC-CO)**

Yields during the 2018 Farm Bill for ARC-Co are based on county yields first obtained by the Risk Management Agency and then second by the National Agricultural Statistics Service. These yields are also historically trend adjusted similar to historical crop insurance yields. The trend adjustment- will likely increase the historical benchmark and make the probability that the program will trigger a payment higher.

**Formula Rate (ARC-CO)**

The Formula Rate is used in ARC-CO calculations to see if a payment is to be made. It is calculated by subtracting the Actual Revenue (see above) from the Guarantee (see above). If the value is less than zero, then no payment is made because the Actual Revenue was higher than the Guarantee. However, if the value is positive then a payment will be generated for the base acres in the respective commodity subject to a Maximum Payment Rate (see below).

**FSA Farm PLC Yield**

The Farm Service Agency (FSA) Farm PLC Yield is the payment yield for your FSA farm based on historic average yields and those available from the FSA. The 2018 Farm Bill provided a one-time opportunity for the landlord (or a producer who has Power of Attorney) to elect to update the payment yield for the FSA farm. The yield that shows up in the OSU Farm Bill Decision Tool is a default yield for the selected county average. Producers will want to input their FSA Farm PLC yield that was received in a letter from FSA in that spot.

**Guarantee (ARC-CO)**

The Guarantee is used in the ARC-CO calculation to determine if a payment is to be made. The Guarantee is calculated by taking the Benchmark Revenue (see above) times 86%.

**Market Year Average (MYA Price)**

Reflects the average price received by farmers across the nation at the point of first sale, across all grades and qualities of the crop. The United States Department of Agriculture publishes Marketing Year Average (MYA) Price projections in the monthly World Agricultural Supply and Demand Estimates report. The MYA price is the season average farm price for the covered commodity (see above) as published by the National Agricultural Statistics Service (NASS) or determined by the World Agricultural Outlook Board. The MYA prices used in the OSU Farm Bill Decision Tool are those estimated from the Food, Agriculture and Research Policy Institute at the University of Missouri (FAPRI-MU) in their most recent baseline book. These prices come from a price forecast
model that is run 500 times for a distribution of price results. The price reported and shown is the average of those 500 trials.

**Maximum Possible Payment (ARC-CO)**
The Maximum Possible Payment is used in the ARC-CO program as a form of a payment cap on payments. The maximum payment is calculated by multiplying the Benchmark (see above) by 10%.

**National Loan Rate**
Marketing Assistance Loans provide producers interim financing at harvest time to meet cash flow needs without having to sell their commodities when market prices are typically at harvest time lows. The 2018 Farm Bill extended the marketing assistance loan program, making production for the 2019 through 2023 crops eligible for loan benefits. Relative to 2018 crop levels, the 2018 Farm Bill also increased the national loan rates for most of these commodities for each of the 2019-2023 crops (Corn=$2.20/bushel, Soybean=$6.20/bushel, Wheat $3.38/bushel and so on)

**Olympic Average 5-Year (ARC-CO)**
The Olympic Average of the previous 5 years is when you take five prices ($3.70, $3.61, $3.36, $3.36 and $3.61) you drop the highest value ($3.70) and the lowest value ($3.36) adding the remaining three ($3.61, $3.36, and $3.61) and dividing by three to get $3.53. The 2014 Farm Bill used the immediately previous 5 Marketing Years in the Olympic Average calculations for National Marketing Year Average Prices (See above) and the County Yields. The 2018 Farm Bill has a one-year lag in the 5-Year Olympic Average meaning that for program year 2019 the Marketing Years 2013, 2014, 2015, 2016 and 2017 will be used in the 5-Year Olympic Average for both MYA Price and County Yields.

**Payment Acres (ARC & PLC)**
Both ARC-CO and PLC make payments on 85% of the base acres for the farm. Base acres are a record of historic planting on the FSA farm available from the Farm Service Agency (FSA). Payments are made using the base acres in place of actual planted acres on the FSA farm. The 2014 Farm Bill provided land owners a one-time opportunity to revise the allocation of base acres for the FSA Farm. The 2018 did not allow for an update to base acres.

**Payment Rate (ARC-CO)**
The ARC-CO payment rate is the rate that the producer actually receives after being adjusted to being paid on only 85% of the farms base acres and a government sequestration of 6.8%. The Payment Rate is calculated by taking the lower value of the Formula Rate (see above) or the Maximum Payment Possibility (see above).

**Payment Rate (PLC)**
The PLC payment rate is the rate that the producer actually receives after being adjusted to being paid on only 85% of the farms base acres and a government sequestration of 6.8%. The PLC payment rate is calculated by first subtracting the Marketing Year Average Price (see above) from the Effective Reference Price (see above) if the value is positive then that means the MYA price is lower than the Reference Price and a payment will be triggered. This difference is then multiplied by the FSA Farm PLC Yield to create the per acre payment for PLC.
Price Loss Coverage (PLC)
The Price Loss Coverage (PLC) program makes payment when the higher of the Marketing Year Average Price (see above) or the National Average Loan Rate (see above) for a covered commodity (see above) is less than the respective Effective Reference Price (see above) for the respective commodity.

Reference Price (ARC-CO & PLC)
The Reference Price was created by the 2014 Farm Bill to replace the target price created in the 2002 Farm Bill. It is a commodity-specific fixed price in statute used to determine whether Price Loss Coverage (PLC) program payments are triggered. For a crop year, if the national Marketing Year Average (MYA) price is below the Effective Reference Price (see above), a payment is triggered for the base acres of that commodity. It is also known as the statutory reference price and is also used as a plug for the prices used in the ARC program benchmark calculation, such that any crop year where the MYA is below the reference price the reference price replaces that price for that year.

T-Yield or Transitional Yields
T-Yields are used as "plug yields" in the ARC-CO calculation. The T-Yield is the maximum average production per acre or equivalent measure that is assigned to acreage for a crop year by the Federal Crop Insurance Corporation (FCIC) in accordance with the regulations of the FCIC whenever the producer fails: 1) to certify that acceptable documentation of production and acreage for the crop year is in the possession of the producer; or 2) to present the acceptable documentation on the demand of Farm Service Agency or the insurance company. The 2014 Farm Bill defined plug yields as 70% of the County T-Yield. The 2018 Farm Bill defines plug yields as 80% of the County T-Yield.

Trend-Adjusted Yields (ARC-CO)
The 2018 Farm Bill included a provision to permit the use of a trend adjusted yield factor to adjust the yields used in the ARC program calculations by replacing the yield with the trend-adjusted yield in a manner similar to the yield factor that is used to increase yield history under the endorsement under the Federal Crop Insurance Act.
List of Frequently Asked Questions

Agricultural Risk Coverage and Price Loss Coverage

What Programs are available under the 2018 Farm Bill?

Answer: Similar to the 2014 Farm Bill, producers have the same three options for federal commodity programs: Agricultural Risk Coverage and Price Loss Coverage. Agricultural Risk Coverage is again divided up into a county and individual option for the 2018 Farm Bill. If producers are enrolled in Price Loss Coverage then they may also have the opportunity to participate in the Supplemental Coverage Option under the Federal Crop Insurance Program.

What is Agricultural Risk Coverage - County under the 2018 Farm Bill?

Answer: The ARC-CO program provides revenue loss coverage at the county level. ARC-CO payments are issued when the actual county crop revenue (current year county yield multiplied by the national marketing year price) of a covered commodity is less than the ARC-CO guarantee (5 year Olympic average county yields multiplied by 5 year Olympic average of the higher of the national marketing year price or the effective price for the covered commodity and the product reduced by 86%). The 5 year Olympic average has a 1 year lag- Program year 2019 would use the five years of 2013-2017.

- Source- USDA Farm Service Agency  https://www.fsa.usda.gov/programs-and-services/arcplc_program/index

What is Agricultural Risk Coverage - Individual under the 2018 Farm Bill?

Answer: Similar to the 2014 Farm Bill ARC-IC is available for producers to enroll all the base acres on their farm under one commodity program. The individual option of ARC is also a revenue program, but instead of county yields- it is the yields of the individuals planted acres that get used to calculate a payment. A weighted payment is made on base acres not planted acres. Another difference from the county version of ARC is that payments are only made on 65% of the farms base acres not 85%.

What is the Difference in ARC-IC and ARC CO?

Answer: Both programs are revenue based programs that trigger payments when current year revenue (price times yield) falls below a historical benchmark. ARC-CO uses the county average yields to calculate both current year revenue and historical benchmark whereas ARC- IC uses the farms individual yields to calculate potential payments. Another big difference in the two programs is that because county yields tend to be less volatile payments are made on 85% of the farms base acres whereas ARC-IC is on 65% of the farms base acres. Additionally, producers who elect ARC-CO have the option to only enroll a portion of their crops in ARC-CO and enroll the others in PLC. If a producer elects ARC-IC- it is for all base acres on the farm and the producer cannot elect PLC for certain commodities.
What data sources are used to calculate ARC-CO yields and prices?

Answer- This is a change from the 2014 Farm Bill where National Agricultural Statistics yield surveys were used as the primary data source for both current year and historical benchmarks. In the 2018 farm bill- Risk Management Agency Yields will be used as the primary source. If a year is missing from the data set the next level of data is National Agricultural Statistic Service Yields, then the State Average, then the National Average Yield. Prices are calculated by the Farm Service Agency using Agricultural Marketing Service and National Agricultural Statistics Marketing Year Average (MYA) prices. The MYA are prices are calculated by weighting prices throughout the year by the amount of grain sold at that price. If the MYA price falls below the fixed reference price for a commodity, the reference price is substituted in to the historical benchmark calculation.

What is Price Loss Coverage?

Answer- The PLC program payments are issued when the effective price of a covered commodity is less than the respective reference price for that commodity. The effective price equals the higher of the market year average price (MYA) or the national average loan rate for the covered commodity.

Source- USDA Farm Service Agency  https://www.fsa.usda.gov/programs-and-services/arcplc_program/index

Should I update my Price Loss Coverage Yields?

Answer- This is up to the landowner of the FSA farm or a producer that has Power of Attorney for that landowner. All landowners must agree to update a farms PLC yields. The 2018 Farm Bill give producers to update PLC for the lifetime of the 2018 Farm Bill and for any programs that come after the sunset period of the 2014 Farm Bill. Higher yields mean higher payments if PLC payments are triggered and so it is generally to the producer and landowners benefit to update PLC yields when given the change. They do not have to however. The Farm Service Agency will be sending a notice to all landowners with the current PLC yield listed. Starting Oct 1, 2019 and running through Sept. 31, 2020- producers have the option to update their yields. A decision tool is available in the decision tool section for producers to see if their new yield is higher than their existing PLC yield. The calculation for the 2018 update is based on a simple average of 2013-2017 yields time 90% de-trended to be comparable to the national yields of 2008-2012. Plug years can also be used in 2013- 2017 to erase bad years. A plug yields are equal to 75% of the county average from 2013-2017. It is expected that if a producer updated yields in 2014 that he or she will not find the 2018 yield update favorable, but is still worth checking. Farmers will need to proof their yields, if they get audited. Crop insurance records are preferred as they are already accredited proof of yields. Even if a farmer does not sign up for PLC, updating PLC yields for future Farm Bill program need to be considered.
All of my acres were prevent plant this year. Should I consider the ARC-IC program?

Answer- If all of your acres were prevented planting acres in 2019, you might want to consider this election. Keep in mind, ALL acres must have been prevented plant and that election is for two years (2019 and 2020). The choice of two years of ARC-IC needs to be considered against 2 years of PLC or ARC-CO.

What is the Reference Price?

Answer- Established in the 2014 Farm Bill and retained in the 2018 Farm Bill are reference prices for each commodity. They prices were congressionally set based on historical prices. Corn is set at $3.70, Soybeans at $8.40 and Wheat at $5.50. If the national Marketing year Average Price falls below these values a PLC payment is triggered. Reference prices are also substituted into the historical revenue benchmark calculations in the ARC-CO program when historical year prices are below the reference price. A list of all reference prices can be found here: https://www.ers.usda.gov/topics/farm-economy/farm-commodity-policy/crop-commodity-program-provisions-title-i/

Does the Effective Reference Price ever change?

Answer- New in the 2018 Farm Bill is the possibility that the reference prices for commodities can increase above what is congressionally set. Current reference prices are $3.70 for corn, $8.40 for soybeans and $5.50 for wheat. The higher the reference price the higher the likelihood that the PLC program triggers. Reference prices can be increased if the five year moving Olympic average for a commodity multiplied by 85% is greater than the current reference price. As of right now prices will have to increase for 85% of historical prices to be above the current reference prices. Although then prices will be high to not trigger a PLC payment. The effective reference price is also maxed out at 115% of the current reference price.

What is the Marketing Year Average (MYA) price and how is it calculated?

Answer- the National Marketing Year Average (MYA) price is the price that represents what the average price the commodity sold for on average during the year. Marketing years are associated with their respective commodity based on when they are harvested and the directly following year. For instance: corn and soybeans both have a marketing year that runs September 1 through August 31 of the following year. Wheat runs June 1 through May 31 of the following year. The national marketing price each month is multiplied by the weighted amount of the percent of the annual crop that was marketed during the respective month and then added up to become the national marketing year average price. The MYA prices are not known until the season finishes and thus the reason that ARC and PLC payments aren’t paid until a year after the harvest of the crop. Wheat is usually front end loaded for two or three months after harvest, whereas beans are usually front end loaded for the first five or six months.

My county is one that has irrigated and non-irrigated yields established. What is the impact of those differences?
Not new for the country but new to Ohio is the possibility of having irrigated and non-irrigated yields in certain counties. Payment rates for ARC will be calculated for irrigated and non-irrigated in the county. If a farm does have irrigated or non-irrigated crops then a weighted distribution of irrigated and non-irrigated acres is applied to the associated payment rates to create a blended rate.

For Ohio counties with corn irrigated values are Champaign, Pickaway, Ross and Williams.

For Ohio Counties with irrigated values are Allen, Auglaize, Champaign, Hardin, Putnam, Seneca, Shelby, Union, Van Wert, Williams, and Wyandot.

Counties were selected based on one of two criteria: RMA data was available and recorded for irrigated acreage in 3 of the years between 2013 or 2017 or FSA data noted that at least 10% of county was irrigated and non-irrigated between 2013 and 2017 and that there was at least 5,000 acres planted in the county ever year.

**Why does Lucas County Ohio have two payments?**

Answer- 25 counties across the country are split into two administrative unites based on the amount of acres in the county and the demographic difference between two sides of the country. Lucas County is the only county in Ohio that meets this definition and is broken up into East Lucas and West Lucas.

**Is it true that the ARC or PLC program I chose will be the same for 2019 and 2020?**

Answer- yes the decision producers make in 2019 will be the same decision for two program years 2019 and 2020. However, while the election is the same, the enrollment period is not. Producers can enroll in the federal commodity programs at the local office for 2019 starting September 3, 2019 through March 15, 2020. Producers can sign up for the 2020 program October 1, 2019 through June 30, 2020. Producers need to elect before March 15, 2020 and if not then they forfeit their potential 2019 ARC and PLC payment and their decision for 2020 reverts to the decision they had during the 2014 Farm Bill.

Changes to the farm operation can still be adjusted at FSA for the 2020 program up to June 30, 2020.

Annual decisions will start in 2021 and go through 2022 and 2023.

**What is an Olympic Average?**

Answer- An Olympic average is where you drop the lowest value and the highest value and average the remaining values. For instance: if a yield history had 35, 42, 45, 45, and 57- 35 and 57 would both be dropped and 42, 45, and 45 would be added up and divided by 3 to get the Olympic average. This is also a moving average, meaning that the average will move up one year when changing program years. Program Year 2019 will use 2013-2017 while Program Year 2020 will use 2014-2018.

This term has ties to when Olympic judges were removed from scoring Olympic figure skaters for either really high or low scores.
**Farm Record Questions**

**Are payments based on the location of my administrative county through the Farm Service Agency or the physical location of my fields?**

Answer- New in the administration of the 2018 Farm Bill is that payments will be based on the physical location of the fields not the FSA administrative county. In the 2014 version farms were likely to switch their administrative county from a county with a lower payment to one with a higher payment. This adjustment weights the historical benchmark, the guarantee and the current year revenue by the percent of acres in each county and recalculated a payment rate for all base acres enrolled on the farm.

A farm that has acres in three counties will have the same payment rate for all base acres weighted based on benchmark, guarantee and current year revenue in those three counties.

**Is there a base acre update/reallocation similar to the 2014 Farm Bill?**

Answer: No, farmers were offered a one-time opportunity to update base acres under the 2014 Farm Bill. Most producers updated base acres if it meant moving to a higher paying commodity under ARC or PLC.

**Will base acres be suspended if not planted to a covered commodity in the 2018 Farm Bill?**

Answer- Base acres that have been planted to grass, idled or pastured and with no base on the farm planted to a covered commodity between 2009-2017 will be suspended from participating in ARC or PLC, but still maintain historical base for future potential farm bill programs. Acres that qualify will be eligible for the Conservation Stewardship Program Grasslands Program and receive $18/acre throughout the lifetime of the 2018 Farm Bill. Suspended acres will be considered planted to a program crop during this time and be eligible for future legislation.

**Can payment yields be updated?**

Answer- This is up to the landowner of the FSA farm or a producer that has Power of Attorney for that landowner. All landowners must agree to update a farms PLC yields. The 2018 Farm Bill give producers to update PLC for the lifetime of the 2018 Farm Bill and for any programs that come after the sunset period of the 2014 Farm Bill. Higher yields mean higher payments if PLC payments are triggered and so it is generally to the producer and landowners benefit to update PLC yields when given the change. They do not have to however. The Farm Service Agency will be sending a notice to all landowners with the current PLC yield listed. Starting Oct 1, 2019 and running through Sept. 31, 2020- producers have the option to update their yields. A decision tool is available in the decision tool section for producers to see if their new yield is higher than their existing PLC yield. The calculation for the 2018 update is based on a simple average of 2013-2017 yields time 90% de-trended to be comparable to the national yields of 2008-2012. Plug years can also be used in 2013-2017 to erase bad years. A plug yields are equal to 75% of the county average from 2013-2017. It is expected that if a producer updated yields in 2014 that he or she will not find the 2018 yield update favorable, but is still worth checking. Farmers will need to proof their yields, if they get audited. Crop insurance records are preferred as they are already accredited proof of...
Payment Limitations

What are the payment limitations under the 2018 Farm Bill for commodity programs?

Answer - ARC and PLC programs are subject to a $125,000 payment limitation. This limitation will include all payments received directly or indirectly for all covered commodities except peanuts. Different from the 2014 Farm Bill is that this payment limitation is now separated from any benefits received from the Marketing Assistance Loans or the Loan Deficiency Payments.

Different from the Market Facilitation Program Payment that were administered to aid in a drop in commodity prices from retaliatory tariffs- the ARC and PLC has no exemption from the Adjusted Gross Income limit of $900,000 that was applied to the 2018 and 2019 MFP program if 75% of a person AGI came from farming or ranching actives.

What does the 10% cap on ARC-CO payments mean?

The maximum payment allowed to a producer under the ARC program (both individual and county) is 10% of the benchmark revenue. For example a 5 year Olympic average price of $3.70 and a 5-year Olympic average yield of 150 would have a benchmark revenue of $555.00. The 10% cap is the maximum payment that can be received and in this case would be ($555.00 x 0.10) = $55.50

ARC/PLC Enrollment and Key Dates

If a producer does not sign-up for a commodity program in 2019, what happens?

Answer - If a producer does not sign up for the 2019 commodity programs, he or she will forfeit any 2019 payment made under the programs and the decision between ARC or PLC will revert to the decision he or she made during the 2014 Farm Bill for Program year 2020. Starting in 2021 the producer can elect a different option if he or she chooses.

Do I have to go to my FSA office in 2020 to make my 2020 selection?

Answer - Producers will have the same commodity program election in 2020 as in 2019, but producer will need to enroll in the federal commodity program starting October 1, 2019 and running through June 30, 2020.
What are the Farm Bill Enrollment Dates?
    2020 Enrollment: October 1, 2019- June 30, 2020
    2021 Enrollment: October 1, 2020- March 15, 2021
    2022 Enrollment: October 1, 2021- March 15, 2022
    2023 Enrollment: October 1, 2022- March 15, 2023

Does the landlord or the tenant make the decisions on the program?
Answer- The ARC and PLC decision for the farm is for any person that has risk in the operation, which could include a crop share landlord and the tenant. If the lease agreement is a cash rent lease, then it is the tenant’s decision to elect commodity program (even if the tenant changes in 2020). If multiple people hold risk in the operation then all individuals must agree on a program election. If an agreement cannot be made then the decision reverts back to what the farm was enrolled in for the 2014 Farm Bill and the farm forfeits any payments earned in 2019.

As for the Yield Update for PLC yields- this is the landowner’s decision or if the tenant has Power of Attorney for the Landowner. FSA will send a form to the landowner notifying him or her of the yields currently associated with the farm. Payment yields updates can be estimated using the payment yield update tool in the decision tool section. Verifiable records like crop insurance yields will need to be used in the case the farm gets audited.

Is there any reason to sign-up early?
Answer- It depends. Producers can sign up for the 2019 program starting September 3, 2019 and the 2020 program starting October 1, 2020. If a producer wants to get the decision out of the way or done when he or she is in the FSA office signing up for the 2019 Market Facilitation Program then there might be some benefit. He or she can adjust that decision all the way up to the end of the enrollment period. Given the troublesome planting season this year, it could be beneficial to see what 2019 yields and prices look like in December and January before making the 2019 and 2020 election. It is important to not wait till the last minute as FSA office do fill up fast.

If payments are made, when can I expect them to arrive to me?
Answer- Because both ARC and PLC rely on the marketing year average price to calculate payments the marketing year has to be complete before payments can be released. Corn and soybean marketing year is September 1 through August 31 of the following year and so payments for ARC and PLC if triggered are paid out in October of the following year. Example 2019 payments will be made in October 2020. The payments made or not made in October of 2019 are associated with the final year of the 2014 Farm Bill, which was program year 2018.
Once a producer signs up under ARC or PLC can he or she change their decision?

Answer- The decision between ARC and PLC will be the same decision for both 2019 and 2020. However, starting in 2021 and including years 2022 and 2023 a producer can elect a new decision between October 1 and March 15 of the following year if he or she chooses. The producer does not have to elect a new program if he or she chooses not to as the decision will stay the same as the year prior. The option to purchase Supplemental Coverage Option on top of a crop insurance policy is an annual decision made at the time of crop insurance purchase.

**Crop Insurance**

What changes were made to crop insurance?

Answer: There were few changes in Title 11 of the Farm Bill. However, a couple changes that likely will have interest include: Enterprise units are now allowed across county lines, cover crops to be included in the definition of good farming practices for crop insurance coverage, and data changes to allow earlier estimates of ARC program payments using RMA yield data.

What is the Supplemental Coverage Option?

The Supplemental Coverage Option (SCO) is designed to allow higher coverage on crop insurance policies up to 86% on top of a yield or revenue individual policy. Area policies are not eligible underlying policies although SCO is based on area revenue and yields to make payments. Example a producer with a 60% insurance policy for Revenue Protection can buy SCO and get 86% insurance coverage: 60% percent based on the individual policy and the remaining 26% based on historical and current area revenue.

SCO can be purchased through your crop insurance agent. However, producers must meet all the eligibility requirements of the Federal Crop Insurance Corporation for underlying policies. Producer who elect ARC- CO or ARC-IC are ineligible for SCO coverage. Example: a farmer selects ARC-CO for soybeans and PLC for corn, he or she can still purchase SCO for corn even though the soybeans was in ARC-CO. If ARC-IC was selected the producer would be ineligible because all commodities on the farm have to be covered under ARC-IC SCO is paid out on planted acres similar to the underlying policy, but PLC would pay on base acres.

How will SCO be treated in 2019 since enrollment was delayed for ARC/PLC?

Answer: Producers will have a chance to cancel their SCO policies by March 15, 2019. This allows producers, particularly those who intend to elect ARC for all their acres, to no longer incur crop insurance costs for coverage in which they will not be eligible.

Second, producers will now have the option to file an ARC/PLC acreage intention report on their acreage reporting date or if their acreage reporting date has already passed by March 15, 2019. The number of eligible acres on Farms with an intention of PLC will be the number of acres insured for SCO regardless of any actual elections made with FSA. If the producer does not file an ARC/PLC acreage intention report, then SCO will cover all acres as though the producer elected PLC.

**When can I buy Supplemental Coverage Option for spring planted crops?**

Answer- If you choose to buy a SCO policy along with your underlying crop insurance product, you must do so before the sales date for crop insurance closes. (Corn and Soybeans- March 15). You may file an ARC/PLC acreage intention report by your normal acreage reporting date (Usually July 15) to adjust your insured SCO acre to your current election intentions.


**If a producer intends to elect ARC for one crop, but PLC for another, can he or she still get SCO?**

Answer- Yes, you can still get SCO coverage for the acreage that intends to be in PLC. ARC/PLC elections and SCO coverage are all done on a crop-by-crop basis. Each crop will have its own policy and own ARC/PLC acreage intention report as needed.


**Decision Tool**

**Which farm program should I choose?**

Answer- this will vary based on location and producer. Risk preferences should be taken into account when making a selection. In the previous farm bill most producers chose the program that was going to pay them the most money over the lifetime of the farm bill and ARC-CO paid in the first couple of years with no or little payments in the back years. PLC on the other hand paid in the back years for corn and never triggered for soybeans. Many farmers were financially strapped in some of the back years when PLC was making payments. Remember that the ARC programs help transition from periods of high revenue to low revenue. Revenue has to continue to decline for the program to keep making payments because of the 86% benchmark. Conversely PLC makes payments when the Marketing Average Price falls below a benchmark. If the prices stays below the benchmark all five years a payment will be triggered all five years. Both programs are considered shallow loss programs because of the camps to PLC rates being the difference between the reference price and the marketing loan rate and ARC payments are capped at 10% of the historical benchmark. An understanding of county yields and paying attention for market forecasts will help make decisions a little easier for producers. Articles about market forecasts are made available on the OSU Farm Management Page https://aede.osu.edu/research/osu-farm-management