

Crop Insurance and Farm Bill Decision

By: Chris Bruynis, Extension Educator, OSU Extension

The 2021 decision for making the crop insurance and farm bill decisions is all about risk management. With the recent increased crop prices and the volatility in the markets, crop insurance is expected to increase by about 50%-60% this year compared to last year. So, with crop insurance more expensive and the choice between Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) unclear, the strategy to protect risk exposure becomes more interesting. In this article different strategies are outlined looking at ARC/PLC with Revenue Protection (RP), Supplemental Crop Option (SCO) and Enhanced Coverage Option (ECO).

To illustrate the different decisions several corn scenarios from an example farm in Clermont County Ohio will be used for this article. Here is some background information pertinent to the examples.

- Revenue Protection pays against the actual farm revenue using either the December futures for the month of February or the higher of the spring price or the harvest price depending on the product selected. If you believe the spring price is the higher of the two, then some insurance premiums could be saved by not electing the harvest price. Levels of RP range from 50% to 85% in 5% increments. RP can be paired with any of the Farm Bill programs. To read more on RP go to <https://www.extension.iastate.edu/agdm/crops/html/a1-54.html>
- Supplemental Crop Insurance coverage starts at the level of RP and covers up to 86% of the revenue. SCO can provide additional protection above their individual policy at a cheaper premium rate. SCO does not protect against the actual farm revenue but instead uses a county yield times the spring/harvest price. So, if your farm's production history is significantly different than the county yield, this might not be the correct product for your farm. SCO can only be used with the PLC program.
- Enhanced Coverage Option covers county revenue like SCO but starts at 86% and can go to either 90% or 95%. ECO can be paired with any of the Farm Bill programs. To read more on SCO/ECO go to <https://www.extension.iastate.edu/agdm/crops/html/a1-44.html>
- Agricultural Risk Coverage-County makes a payment when the market year average (MYA) price times the county yield falls below the county guarantee, which is calculated at 86% of the 5-year Olympic Average of prices and yields. Unlike RP, which uses growing season prices, MYA are the prices received for crops between the start of harvest this year until the start of harvest next year. Also, unlike RP, ARC-CO payments are paid against 85% of the base acres, not planted acres.
- Price Loss Coverage pays when the MYA price falls below the reference price. For corn this price is \$3.70 per bushel. PLC payments are based on base yields, which typically are 25% to 35% lower than actual yields for most farms, times 85% of the base acres, which may not reflect actual acres planted.

Before deciding about crop insurance or farm bill elections, think about your farm's production history. Is it relatively consistent from year to year or is it highly variable? Does it yield similar to the county or is it significantly different? Are you growing crops that mirror the base acres on this farm, so the Farm Bill payments track with your risk exposure? It is also important to think about what risk you are comfortable assuming. If you can survive with less insurance in the event of a low revenue year, although not pleasant, do you want to "self-insure" to a greater level.

- A. This sample farm has an APH corn yield of 203 bu/A. The county’s five year average is 180 bu/A and trend with each other accordingly. Preliminary estimates have the spring crop insurance price at \$4.48 and at the 85% coverage level the coverage per acre would be \$773 and cost \$51 per acre. Fall prices will not be discussed for example simplicity.
- B. What happens to coverage if 50% RP is selected and then SCO is added for this farm? The RP coverage per acre, which is based on actual farm production, becomes \$454 and the SCO based on county revenue, would increase the coverage to \$696. The cost for this option becomes \$24 per acre.
- C. A third scenario is to purchase RP for 75% and then ECO for 95% leaving a coverage gap between 75% to 86% but still having 84% coverage level. Under this example RP coverage would be \$682 per acre based on actual farm revenue and then ECO would add an additional \$82 per acre based on county revenue. The cost of this combination is \$17 for RP plus \$29 for ECO for a total of \$46 per acre.

Let’s examine how these three scenarios would perform under different revenue examples. The amount displayed is the net from the transaction (estimated payments less estimated costs).

	Scenario A 85% RP	Scenario B 50% RP 86% SCO	Scenario C 75% RP 95% ECO
Farm Yield 200 bu/a County Yield 180 bu/a Harvest Price \$4.00	-\$51.00	-\$24.00	\$3.00
Farm Yield 150 bu/a County Yield 180 bu/a Harvest Price \$4.00	\$122.00	-\$24.00	\$85.00
Farm Yield 180 bu/a County Yield 135 bu/a Harvest Price \$4.00	\$2.00	\$132.00	\$27.00
Farm Yield 220 bu/a County Yield 200 bu/a Harvest Price \$3.50	-\$51.00	-\$24.00	\$27.00
Farm Yield 100 bu/a County Yield 90 bu/a Harvest Price \$5.50	\$348.00	\$339.00	\$330.00

A few conclusions can be drawn from examination of these three scenarios with different yield and price assumptions. First, ECO will make payments on smaller losses since it starts after a 5% county revenue loss. It is limited and will max out at \$4.00 corn with a payment of \$73.00 per acre.

Secondly there are potential differences between RP and SCO/ECO if a farm yields significantly differently than the county yields since these programs protect against county-based losses. Under certain situations, like a widespread drought event, all the combinations provide similar risk protection.

Continuing the example to include possible outcomes under the ARC/PLC election for this same example farm provides insight to another risk management decision that needs to be made. Using the same yield and prices, the following chart contains potential farm bill payments. Note that if electing SCO insurance, ARC-CO is not available on those farms.

	Scenario A	Scenario B	Scenario C
Farm Yield 200 bu/a County Yield 180 bu/a Harvest Price \$4.00	PLC - \$0.00 ARC-CO - \$0.00	PLC - \$0.00 ARC-CO - N/A	PLC - \$0.00 ARC-CO - \$0.00
Farm Yield 150 bu/a County Yield 180 bu/a Harvest Price \$4.00	PLC - \$0.00 ARC-CO - \$0.00	PLC - \$0.00 ARC-CO - N/A	PLC - \$0.00 ARC-CO - \$0.00
Farm Yield 180 bu/a County Yield 135 bu/a Harvest Price \$4.00	PLC - \$0.00 ARC-CO - \$0.00	PLC - \$0.00 ARC-CO - N/A	PLC - \$0.00 ARC-CO - \$0.00
Farm Yield 220 bu/a County Yield 200 bu/a Harvest Price \$3.50	PLC - \$26.00 ARC-CO - \$0.00	PLC - \$26.00 ARC-CO - N/A	PLC - \$26.00 ARC-CO - \$0.00
Farm Yield 100 bu/a County Yield 90 bu/a Harvest Price \$5.50	PLC - \$0.00 ARC-CO - \$73.00	PLC - \$0.00 ARC-CO - N/A	PLC - \$0.00 ARC-CO - \$73.00

Unless there are unexpected low prices or low revenue, these programs provide very little cash flow relative to crop insurance. Also, these payments are not on planted acres or farm/county yields but are on base acres and base yields. Additionally, the price is based on the MYA price and not the higher of the spring or harvest price. The real questions are “How much risk can you afford to assume?” and “Do I

use SCO with PLC to reduce crop insurance costs exposing the farm to additional risk if it yields significantly less than the county average?"