



2023 Commodity Title Choices: ARC-CO and PLC

Gary Schnitkey, Ryan Batts, and Nick Paulson

Department of Agricultural and Consumer Economics
University of Illinois

Carl Zulauf

Department of Agricultural, Environmental and Development Economics
Ohio State University

January 24, 2023

farmdoc daily (13): 13

Recommended citation format: Schnitkey, G., R. Batts, C. Zulauf, and N. Paulson. "2023 Commodity Title Choices: ARC-CO and PLC." *farmdoc daily* (13): 13, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 24, 2023.

Permalink: <https://farmdocdaily.illinois.edu/2023/01/2023-commodity-title-choices-arc-co-and-plc.html>

Farmers have till March 15 to change 2023 commodity title decisions on Farm Service Agency (FSA) farms. To aid in making decisions, we have updated the FAST spreadsheet entitled *Farm Bill What-If Tool* (click [here](#) for download). Chances of commodity title payments from the Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC) alternatives are low for 2023.

Decision Overview

Farmers have three program options when making commodity title elections.

- Price Loss Coverage (PLC) is a crop-specific fixed price support program that triggers payments if the marketing year average (MYA) price falls below the commodity's effective reference price. Payments are made on 85% of historical base acres (see *farmdoc daily*, [September 24, 2019](#))
- Agricultural Risk Coverage at the county level (ARC-CO) is a crop-specific county revenue program. ARC-CO triggers payments if actual revenue (MYA price times county yield) falls below 86% of the benchmark revenue (product of benchmark price and trend-adjusted historical yield for the county). Payments are made on 85% of historical base acres (see *farmdoc daily*, [September 17, 2019](#))
- Agricultural Risk Coverage at the individual level (ARC-IC) is a farm-level revenue support program. Like ARC-CO, payments are triggered if actual revenue falls below 86% of the benchmark. If an FSA farm unit is enrolled in ARC-IC, information for all commodities planted in 2023 is combined together in a weighted average to determine benchmark and actual revenues. If a farmer enrolls multiple FSA farms in the same state, all farm units are combined in determining the averages for actual and benchmark revenues. Payments are made on 65% of historical base acres (see *farmdoc daily*, [October 29, 2019](#)).

We request all readers, electronic media and others follow our citation guidelines when re-posting articles from *farmdoc daily*. Guidelines are available [here](#). The *farmdoc daily* website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies [here](#).

Decisions are made for each FSA farm unit. PLC and ARC-CO are commodity-specific and can be mixed and matched on the same FSA farm or across different FSA farms (i.e., PLC for one commodity, ARC-CO for another on the same FSA farm or using different programs for the same crop on different FSA farms). More detail on these decisions are available at the farmdoc website [here](#).

2023 Commodity Prices

Table 1 shows the 2023 PLC effective reference prices and 2023 ARC-CO benchmark prices for corn, soybeans, and wheat. These prices are the same for all counties. The effective reference prices are \$3.70 for corn, \$8.40 for soybeans, and \$5.50 for wheat. The 2018 Farm Bill introduced the effective reference price into commodity title choices, which allows the effective reference price to be above the statutory reference price if 85% of the five-year Olympic average of MYA prices is above the statutory reference price. For 2023, the effective reference price equals the statutory reference price. The 2024 reference prices for corn and soybeans likely will be above the statutory reference price (see *farmdoc daily*, [June 29, 2022](#)).

Table 1. 2023 PLC and ARC-CO Prices, and Market Year Average Price Projections

Crop	Effective Reference Price	ARC Benchmark Price	86% of Benchmark Price	Market Year Average Price Projections		
				2021	2022P	2023P
	S/bu	S/bu	S/bu	S/bu	S/bu	S/bu
Corn	3.70	3.98	3.42	6.00	6.70	5.50
Soybeans	8.40	9.57	8.23	13.30	14.20	13.00
Wheat	5.50	5.50	4.73	7.63	9.10	7.00

2022 come from World Agricultural Supply and Demand Estimates report. Projections for 2023 are based on fall delivery prices.

farmdocDAILY

All ARC-CO benchmark prices are above the effective reference prices. The ARC-CO prices are \$3.98 for corn, \$9.57 for soybeans, and \$5.50 for wheat (see Table 1). Table 1 also reports 86% of the ARC-CO benchmark prices. At those values, ARC-CO will trigger payments when county yields are at or below the benchmark yields. Take soybeans as an example. The soybean ARC-CO benchmark price is \$9.57, and 86% of the benchmark price is \$8.23. If county yields are at or below the benchmark yield, ARC-CO will trigger at prices at or below \$8.13. For all three crops, 86% of the benchmark price is below the effective reference price. When actual yields are at benchmark yields, PLC will trigger payments at higher prices than ARC-CO.

The effective reference prices and ARC-CO benchmark prices are well below the 2021 MYA prices and projections for 2022 and 2023 (see Table 1). Take corn as an example. The 2021 MYA price is \$6.00, and the Office of the Chief Economist is forecasting a \$6.70 price in 2022. For 2023, current fall delivery prices suggest a \$5.50 price. The 2023 projected MYA price is well above the \$3.70 effective reference price and \$3.98 ARC-CO benchmark price. Given high price projections, receiving commodity title payments for 2023 is unlikely.

Farm Bill What-If Tool

The *Farm Bill What-If Tool* is a Microsoft Excel spreadsheet that allows users to evaluate commodity title alternatives. One sheet makes comparisons between PLC and ARC-CO, while other sheets calculate what-if comparisons for ARC-IC.

A user selects a county, crop, and yield type for any county in the United States for which ARC-CO is available. The tool will then bring in defaults for that county, including average PLC yield, effective price,

ARC-CO benchmark price, and ARC-CO benchmark yield. The user can then evaluate payments for different 2023 MYA prices and county yields.

Payout examples will be shown for corn, soybeans, and wheat in the following sections.

Corn

Figure 1 shows ARC-CO/PLC output for LaSalle County, Illinois. Panel A shows PLC payments per base acre for different prices and yields, given a PLC yield of 179 bushels per acre, the average for the county. Payments will occur for any MYA price below the \$3.70 effective reference price, and county yield does not influence payment. For example, in Panel A, payments of \$30 occur for a price of \$3.50.

Panel B shows ARC-CO payments per base acre. For LaSalle County, the benchmark yield is 218.82 bushels per acre. With the \$3.98 benchmark prices, the guarantee is \$739.01 per acre. ARC-CO will make payments at low yields. For example, payments will result with a 179 bushel per acre yield at prices below \$4.10 per acre. At a \$3.50 price, ARC-CO will make a \$45 payment at a 199 bushel per acre yield. The payment increases to \$74 per acre, the maximum, for yields of 179 bushels per acre and below.

Panel C shows PLC minus ARC-CO payments. ARC-CO makes payments at low yields, while PLC does not. PLC payments will exceed ARC-CO at low prices when yields are not low.

None of the price/yield combinations in which PLC and ARC-CO payments are particularly likely. During a severe drought like that of 2012, yields could be off by 50%, resulting in a yield near 119. ARC-CO will make payment as long as MYA prices are not well above the \$5.50 expectation. In typical drought years, price increases.

We have no recommendation for corn. If one is concerned about localized low yields, like that which occurred due to the Dorecho in some counties in Iowa in 2020, ARC-CO would be a good alternative. However, if prices below \$3.70 are a concern, PLC is the better alternative. Payments are more likely on ARC-CO, but are still very small.

Soybeans

A soybean example for Logan County, Illinois, is shown in Figure 2. The effective price is \$8.40, and the only price for which payments are made in Panel A is \$8.25. Given a 55 bushel per acre yield, the payment will be \$7 per base acre.

ARC-CO will make payments at low yields. The ARC-CO benchmark yield is 71.55 bushels per acre. At a \$12 price, payments will occur at 49 bushels per acre and lower yields.

Low yields seem more likely a source of revenue shortfall than prices below \$8.40. Soybeans have never triggered a PLC payment since the current commodity title programs were instituted. As a result, ARC-CO seems like an appropriate choice for soybeans.

Wheat

Figure 3 shows payments at different prices and yields for wheat in Washington County. The effective price is \$5.50, resulting in payments at prices below \$5.50. A payment of \$26 per acre would occur with a price of \$5.00, given a PLC yield of 57 bushels per acre.

ARC-CO makes payments at low yields and prices. At a \$7.00 MYA price, payments are \$9 per acre at 52 bushels per acre and \$37 per acre at a 45 bushel per acre yield.

We have no recommendation for wheat. If one is concerned with yield shortfalls, ARC-CO is an appropriate alternative. PLC may be better for those who are concerned with prices below \$5.00 per acre.

Summary

Farmers have till March 15, 2023, to change commodity title decisions. Farmers can use the *Farm Bill What-If Tool* to evaluate alternatives. Payments are unlikely from any alternative, so spending much time

on analysis seems unwarranted. We suggest ARC-CO for soybeans. Choices for corn and soybeans depend on preferences for risk protection.

References

Schnitkey, G., C. Zulauf, K. Swanson, J. Coppess and N. Paulson. "[The Price Loss Coverage \(PLC\) Option in the 2018 Farm Bill.](#)" *farmdoc daily* (9):178, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 24, 2019.

Schnitkey, G., J. Coppess, N. Paulson, C. Zulauf and K. Swanson. "[The Agricultural Risk Coverage — County Level \(ARC-CO\) Option in the 2018 Farm Bill.](#)" *farmdoc daily* (9):173, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 17, 2019.

Zulauf, C., B. Brown, G. Schnitkey, K. Swanson, J. Coppess and N. Paulson. "[The Case for Looking at the ARC-IC \(ARC-Individual\) Program Option.](#)" *farmdoc daily* (9):203, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 29, 2019.

Zulauf, C., G. Schnitkey, K. Swanson, N. Paulson and J. Coppess. "[Effective Reference Price – Past and Future.](#)" *farmdoc daily* (12):97, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 29, 2022.