



## Release of the 2018 Farm Bill What-If Tool for 2021 Decisions

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For the 2021 cropping year, farmers can change their Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) choices from the selections made for the 2019 and 2020 crop years. We have revised the *2018 Farm Bill What-If Tool* to aid in making decisions. This tool is a Microsoft Excel spreadsheet that calculates ARC and PLC payments under different user-entered price and yield scenarios. Last year's version, the previous release of this tool, only allowed for the evaluation of 2019 payments. The tool's significant changes give users the ability to evaluate 2021 cropping year scenarios to aid in making the upcoming decision. The 2020 cropping year was also added. The Excel spreadsheet can be downloaded from the *FAST* section of *farmdoc* and from the following direct link (<https://farmdoc.illinois.edu/fast-tools/arc-co-plc-model>)

### The 2021 Commodity Title Choice

By a March 15, 2021 deadline, farmers can change commodity title choices for the 2021 cropping year. If changes are not made, choices made for 2019 and 2020 will continue into 2021. Three alternatives exist:

1. Price Loss Coverage (PLC). PLC makes payments when the national market year average (MYA) price falls below an effective price. For 2021, the effective prices are \$3.70 per bushel for corn, \$8.40 for soybeans, and \$5.50 per bushel for wheat. Any shortfalls below effective prices will result in payments (see *farmdoc Daily*, September 24, 2019)
2. Agricultural Risk Coverage at the county level (ARC-CO). ARC-CO makes payments when county revenue is below a benchmark revenue. Benchmark revenue will vary by county, and the calculation of each county's benchmark revenue is given in the *2018 Farm Bill What-If Tool*. County revenue equals the county yield times the MYA price (see *farmdoc Daily*, September 17, 2019)

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3. Agricultural Risk Coverage at the individual level (ARC-IC). ARC-IC makes payments when revenue from a farm is below a benchmark revenue. ARC-IC's revenue is aggregated across all crops grown on the farm. Similarly, the benchmark revenue is based on historical yields from crops grown on the farm (see *farmdoc Daily*, October 29, 2019 and January 7, 2020)

This decision for the 2021 cropping year differs from the decision made last year that applied to both the 2019 and 2020 cropping years because it is for only one year, and that year is an upcoming year for which both yield and price are unknowns. Last year farmers had the advantage of already knowing 2019 yields and being about halfway through the marketing year for estimating market year average price. Using that information, the two-year decision was likely based on the option that provided the greatest income enhancement for 2019 as opposed to a risk management decision this year.

For 2019 and 2020, 75.5% of U.S. corn base acres were enrolled in PLC and 79.7% of U.S. soybean acres were enrolled in ARC-CO (*farmdoc daily* April 30, 2020). Corn and soybeans were the only two commodities for which more than 2% of base acres were enrolled in ARC-IC, with 5.9% of corn base acres and 6.2% of soybean base acres. Because ARC-IC pays on only 65% of base acres versus 85% for the other programs, generally ARC-IC would not be expected to be the selection with the largest payment probably (*farmdoc daily* October 29, 2019).

However, exceptional circumstances due to delayed and prevented planting in 2019, along with the ability to change commodity title choices in 2021, made ARC-IC a more attractive alternative on FSA farms that were 100% prevent plant or had low yields (*farmdoc daily* January 7, 2020).

Farmers and landowners can make the PLC and ARC-CO choices for each program crop on a Farm Service Agency (FSA) farm. When ARC-IC is selected, it applies to all program crops grown on the farm. If more than one FSA farm is enrolled in ARC-IC in a state, revenues are aggregated across all FSA farms enrolled in that program.

### **ARC-CO PLC Comparison**

There are three sub-tools within the *2018 Farm Bill What-If Tool*:

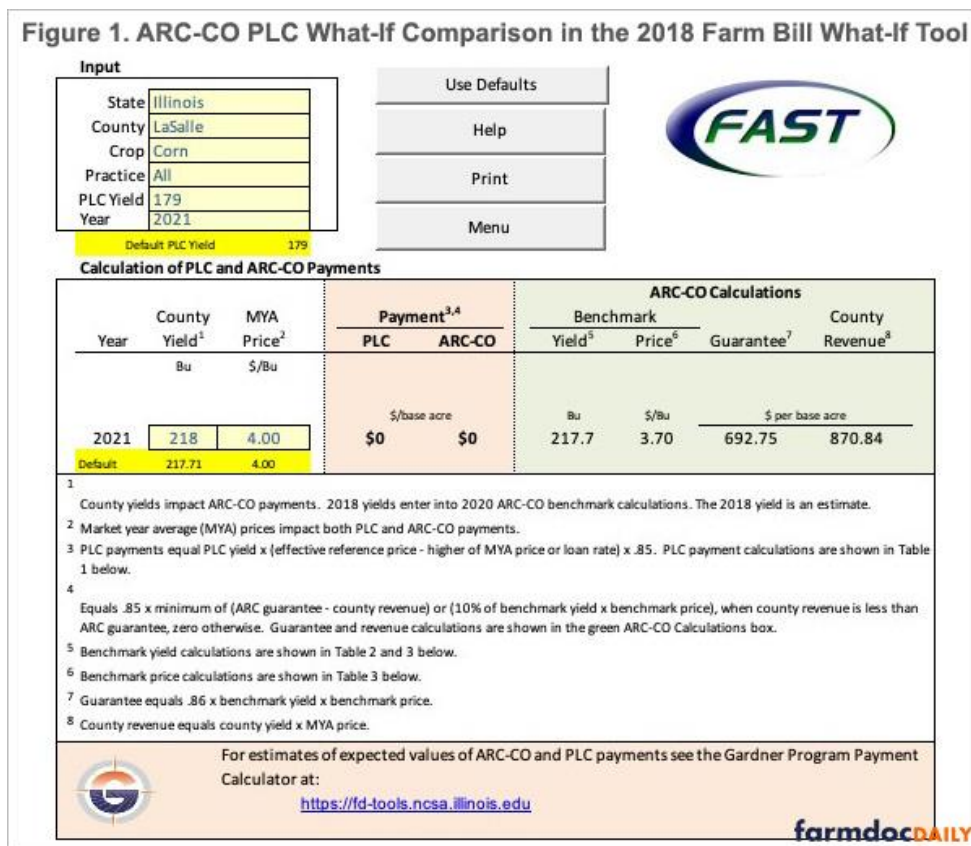
1. ARC-CO PLC Comparisons — shows PLC and ARC-CO payments for a county-crop comparison made by the user.
2. ARC-IC Payment Calculator (For one FSA farm) — shows ARC-IC payments for one farm enrolled in ARC-IC.
3. ARC-IC payment Calculator (for multiple FSA farms) — shows payments when more than one FSA farm is enrolled in a state.

Figure 1 shows the input screen when "ARC-CO PLC Comparisons" is selected. In Figure 1, payments are shown for corn base acres in LaSalle County, Illinois (see input screen in the upper left of Figure 1). The practice for corn in LaSalle County is "All." Some counties have irrigated and non-irrigated practices. In those cases, there will be a choice under the practice selection in the input section.

The selection for a year in Figure 1 is 2021. Three years can be selected:

1. 2019: Payments for 2019 have been made in late 2020. The tool will bring in the actual county yield and MYA price to calculate commodity title payments for 2019.
2. 2020: Commodity title selections for 2020 have already been made. Selecting 2020 allows estimation of likely 2020 commodity title payments that will be received in late 2020. At this point, the 2020 county yield and 2020 MYA price that come in as defaults are estimates. The Default yield and price values for 2020 can be changed to consider payment levels under different scenarios. Final yields, prices, and payments rates for ARC-CO and PLC will not be known and made until the early fall of 2021.
3. 2021: The 2021 selection will estimate payments for the 2021 cropping year. Commodity title choices can be changed for 2021 by the March 15, 2021 deadline. The selection of 2021 will bring in

all historical yields needed to calculate benchmark yields and prices. The 2021 county yield and MYA price are not known at this point. Estimates for 2021 county yield and MYA price are provided as a default, and users can change as desired to estimate payments under different scenarios. Final yields, prices, and payments rates for ARC-CO and PLC will not be known and made until the early fall of 2022,



### Calculation of PLC and ARC-CO Payments

In Figure 1, a 218 bushel per acre county yield and a \$4.00 MYA price are entered for 2021. The 218 yield is an estimate of the yield given that a normal cropping year occurs. The \$4.00 price is a current projection of the 2021 MYA price. This combination of county yield and MYA price will not generate either PLC or ARC-CO payments (see Figure 1).

PLC will make payments when the 2021 MYA price is below the \$3.70 reference price. In Figure 1, the PLC yield is 179 bushels per acre. At that PLC yield, a \$3.60 MYA price would generate a \$15 per acre PLC payment. However, that \$3.60 MYA price and the estimated 218 county yield would not generate an ARC-CO payment.

ARC-CO will generate payments when county revenue is below the county guarantee of \$692.75 per acre (see Figure 1). County revenue could fall below the \$692.75 guarantee with a combination of a lower county yield or MYA price. At a \$4.00 MYA price, county yields would have to fall below 174 bushels per acre before ARC-CO payments result. At a 218 county yield, MYA prices have to fall below \$3.18 per bushel before ARC-CO payment occurs.

### 2021 Decisions

The 2018 Farm Bill What-If Tool can be used to aid in making commodity title choices for the 2021 year that can be changed by March 15, 2021. If a decision to change is not communicated to FSA, choices made for the 2019 and 2020 crop years will continue into 2021.

At this point, the chances of 2021 commodity title payments are very low as expectations of 2021 MYA prices have risen considerably since August 2020. Last year, many farmers made the following choices for the 2019 and 2020 selections:

1. PLC for corn. Over 755 of corn base acres in the nation were enrolled in PLC for the 2019/2020 year (see *farmdoc Daily*, April 30,2020)
2. ARC-CO for soybeans. Nearly 80% of soybean acre in the nation were enrolled in ARC-Co for the 2019 and 2020 cropping year.
3. PLC for wheat. Over 90% of wheat base acres were enrolled in PLC for the 2019 and 2020 marketing years.

Continuing those choices into 2021 is sound, although a switch to the other choice can be justified for either corn or soybeans.

More than the expected number of farmers took ARC-IC for the 2019 and 2020 crop years. When making that decision, farmers knew 2019 prevented plant acres and yields, and ARC-IC fit many of those situations (see *farmdoc daily*, [October 29, 2019](#)). ARC-IC may still be a valid alternative in unique situations, but less about the decision is known this time around and careful consideration should be used to the ARC-IC decision.

## References

*2018 Farm Bill What-If Tool*. *farmdoc* FAST tools, updated January 14, 2021. Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, <https://farmdoc.illinois.edu/fast-tools/arc-co-plc-model>

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