



Weekly Farm Economics: Expected Payments on ARC-CO and PLC: Update of Gardner Payment ARC/PLC Payment Calculator

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After the release of the January WASDE report, the [Gardner ARC/PLC Payment Calculator](#) was updated to reflect revised price information for the 2019 and 2020 years. Herein updated estimates of Agricultural Risk Coverage at the County Level (ARC-CO) and Price Loss Coverage (PLC) are presented for corn, soybeans, and wheat. Overall, PLC payments in 2019 are not expected for corn and soybeans. Some counties in low producing areas may get ARC-CO payments for corn and soybeans. Wheat is very likely to make PLC payments. One more update of the Gardner Payment Calculator will occur in mid-February after release of county yields. Particularly for FSA farms with prevent plant acres or yields more than 25% lower than the five-year average, we suggest first evaluating the potential for an ARC-IC payment using the [2018 Farm Bill What-If Tool](#). If ARC-IC likely won't make a payment, guidance is provided below for ARC-CO and PLC elections. These elections will be for the 2019 and 2020 years and must be made at the Farm Service Agency (FSA) by March 15th (see the [2019 Farm Bill Toolbox](#) for more information).

Corn

Users of the [Gardner ARC/PLC Payment Calculator](#) will make a state, county, and crop selection. Figure 1 shows that selection for corn grown in Woodford County, Illinois. PLC payments in Figure 1 are based on a PLC yield of 184 bushels per acre.

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Figure 1. Output from the Gardner ARC/PLC Payment Calculator for Corn in Woodford County, Illinois



The first row of the output gives results for 2019. In 2019, the expected payment of ARC-CO is \$4.54 per base acre, with an 11% likelihood of payment. This means that ARC-CO probability of making a payment in 2019 is 11%. If 2019 could be repeated 100 times, payments would be made in approximately 11% of the years. Over those 100 years, the average payments would be \$4.54, including the 89% of the years in which a payment is not made. Similarly, PLC has a 13% likelihood of payment. If 2019 could be repeated a 100 times, PLC would make a payments in 13% of the years. The PLC payments would average \$1.30 per base increase, including the 77% of times PLC would not make a payment.

The Gardner Payment Calculator was updated after the release of the January WASDE report. The new information incorporated into that update dramatically changed expected payments and likelihood of payments. For example, the first row of output in Figure 1 shows PLC making a payment of \$1.30 per base acre in 2019 and a 13% chance of making a payment. Before the update those results were \$52.90 per base acre and a 61% chance of payment.

Two things changed in the Gardner Payment Calculator:

1. The expected MYA price for 2019 was \$3.56 before the update. At \$3.56, the expected MYA price was below the \$3.70 reference price and PLC payments were likely. The revised 2019 MYA price is \$3.85 per bushel, above the \$3.70 reference price. The actual 2019 price would need to be below \$3.70 to trigger a PLC payment. (The impact of expected price can be evaluated in the Gardner Payment Calculator by selecting different forecast models.)
2. The range of possible prices for 2019 was greatly reduced. The 2019 MYA price can still vary from \$3.85, but the range of possible outcomes for final 2019 MYA price is much smaller than at September when the marketing year began. This is because we now know price for four months of the marketing year. (see *farmdoc daily*, [January 14, 2020](#) for a more detailed discussion of price possibilities).

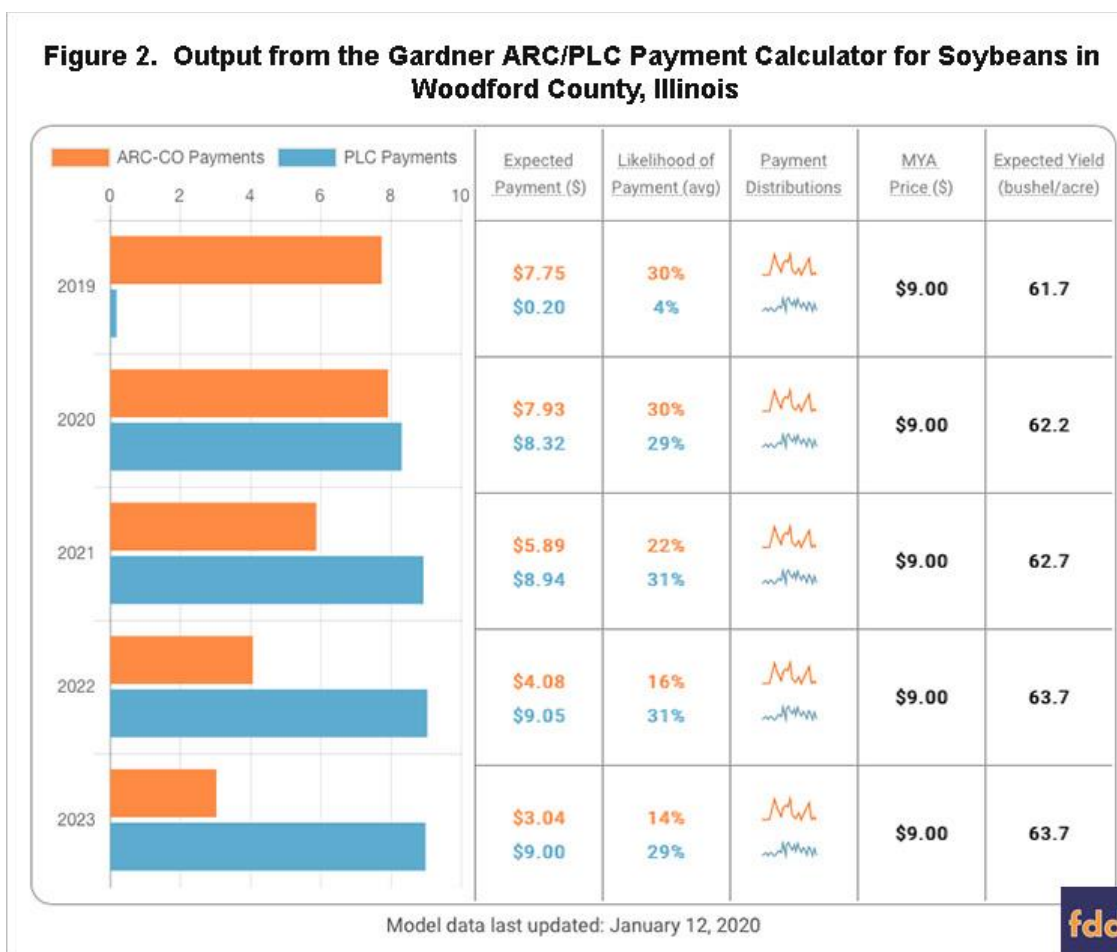
We expect to make one final update to the Gardner Payment Calculator after the release of National Agricultural Statistical Service (NASS) county yields on February 20th. County yield is not a factor in PLC payments, but it is a factor in ARC-CO payment calculations. Therefore, updating county yield estimates will not change results for estimated PLC payments or probabilities, but will change the results for ARC-CO. For most counties, the revised county yield estimates will lower the likelihood and expected payment level of ARC-CO. For a few counties with low yields, the expected payment levels and likelihood of payments will increase.

At this point, PLC is not expected to make payments for corn in 2019. ARC-CO could make payments for a limited number of counties in 2019. In contrast, PLC has a higher chance and expected payment level for 2020 than ARC-CO. For most individuals, PLC seems an appropriate choice for corn when considering potential payments and likelihood for payments over the two-year period.

A 5-minute *farmdoc daily* YouTube video looking at corn ARC and PLC payments is available at <https://youtu.be/IrCp0dc0SWE>

Soybeans

Figure 2 shows the Gardner ARC/PLC Payment Calculator results for soybeans in Woodford County, Illinois. This is for non-irrigated soybeans with a PLC yield of 55 bushels per acre. The 2019 MYA price is projected at \$9.00, well above the \$8.40 effective reference price threshold for triggering a payment, resulting in a very low chance of a PLC payment (4%). Currently ARC-CO has a 30% of making a payment, but this probability will change after the release of county yields.



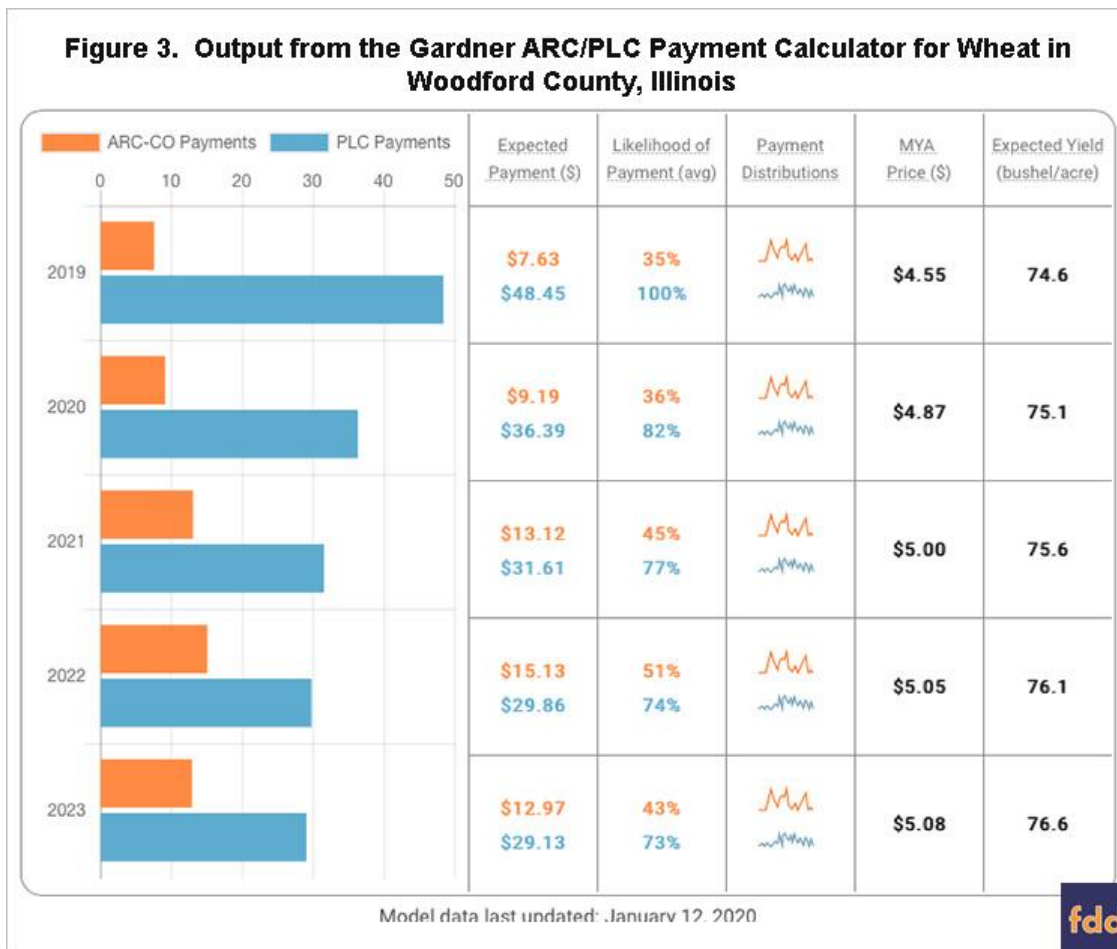
For 2020, the chance of PLC and ARC-CO payments is relatively even; 30% for ARC-CO and 29% of PLC.

At this point, PLC is not expected to make payment for soybeans in 2019. There is a chance that ARC-CO will make payments in some counties. For 2020, the likelihood of payments and levels of payments are about the same between ARC-CO and PLC. Choosing ARC-CO may be appropriate for soybeans.

A 5-minute *farmdoc daily* YouTube video looking at corn ARC and PLC payments is available at <https://youtu.be/7-DBSYutLxg>.

Wheat

Figure 3 shows probabilities for wheat in Woodford County, Illinois. The 2019 MYA price is expected to be \$4.55, well below the \$5.50 effective reference price. As a result, the chance of a PLC payment is almost certain.



The size of the PLC payment will depend on a farm's PLC yield. For most farms with PLC yields near or above the average, PLC will make higher payments than ARC-CO in almost all counties.

A 5-minute *farmdoc daily* YouTube video looking at corn ARC and PLC payments is available at <https://youtu.be/vplKM0ZirUs>

Summary

We will make at least one more update to the Gardner ARC/PLC Payment Calculator following the February 20th release of the NASS county yields. For most counties, results will not change much following the county yield update. For some counties, particularly those with low yields, ARC-CO may look more favorable for corn and soybeans after the update.

At this point, we suggest that farmers evaluate ARC-IC for their individual Farm Service Agency (FSA) farms. This evaluation can be done using the 2018 Farm Bill What If Tool. If ARC-IC is not expected to make payments, the following will likely hold:

- Corn: We would not expect PLC to not make payments in 2019. ARC-CO could make payments in a limited number of counties in 2019, but those counties likely will be limited to areas with very late planting. In contrast, given current price levels, PLC likely has a higher chance of payment and higher expected payment for 2020.
- Soybeans: PLC is not expected to make payments in 2019. There is a chance that ARC-CO will make payments in 2019 for more counties. For 2020, the likelihood and expected level of payments are about the same between ARC-CO and PLC.
- Wheat: There is a near certainty of PLC payments in 2019, and a very high chance of payments in 2020. ARC-CO will make payments in many counties in 2019, but those payments likely will be lower than PLC payments. The level of a PLC yield on a farm will matter in this determination. Changing the PLC yield in the Gardner Payment Calculator will allow analysis of PLC yields

Signing up FSA farms for ARC/PLC at this point seems appropriate as the March 15th deadline for making those elections is approaching. There is the possibility of long wait times as the March 15th deadline approaches. After making elections, we suggest running the Gardner ARC/PLC payment calculator in late February. Elections can be changed up to the March 15th deadline.

References

Schnitkey, G., K. Swanson, J. Coppess, N. Paulson and C. Zulauf. "[What are the Chance of PLC Payments for the 2019 and 2020 Pro-gram Year.](#)" *farmdoc daily* (10):6, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 14, 2020.