



Update on the Gardner- *farmdoc* Payment Calculator

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The Gardner Agriculture Policy Program in cooperation with the National Center of Supercomputing Applications (NCSA) in developing the second release of the ARC-CO/PLC Payment Calculator that will provide estimated payments from the Agriculture Risk Coverage, county option (ARC-CO) and Price Loss Coverage (PLC) programs as revised by the 2018 Farm Bill (*farmdoc daily*, [August 20, 2019](#)). The earlier release was a trial basis for use while development continued and additional data incorporated into the model for the calculator. With today's article, we are announcing the release of the beta version of the online decision support tool (<https://fd-tools.ncsa.illinois.edu/>).

Background

The Agricultural Improvement Act of 2018 (the 2018 Farm Bill) reauthorized the primary direct assistance programs for the covered commodities. By March 15, 2020, farmers will need to elect whether to receive ARC-CO or PLC for each covered commodity with base acres on each Farm Service Agency (FSA) farm (*farmdoc daily*, [October 1, 2019](#)). In lieu of ARC-CO or PLC, farmers may elect ARC individual farm level coverage (ARC-IC), which applies to all covered commodities on the FSA farm. The election made in 2020 will cover both the 2019 and 2020 crop years. Beginning with the 2021 crop year, farmers can revisit their decision each year. The programs have each undergone minor revisions, summarized as follows

- PLC: an effective reference price is calculated using 85% of the 5-year Olympic moving average of Marketing Year Average (MYA) prices; if the effective price is higher than the statutory reference price, it is used as the payment trigger in the program; the effective reference price is not expected to impact the initial decision as it would require at least two years of higher prices (*farmdoc daily*, [September 24, 2019](#));
- For ARC-CO, the effective reference price will be included in the 5-year benchmark price calculation to replace any year in which the MYA is below the effective reference price. The ARC-CO benchmark revenue is also now calculated with a trend adjustment to the benchmark

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yield (5 year Olympic moving average of the county average yields) which should generally provide for stronger yields and a higher benchmark, against which 86% is the trigger for payments if the average revenue is below it in a crop year (*farmdoc daily*, [September 17, 2019](#));

- ARC-IC remains an option for FSA farms but pays on fewer of the base acres (65% as compared to 85% for ARC-CO and PLC) and it includes all covered commodities on the FSA farm; it is worth reviewing the potential impact for FSA farms with significant prevented planting (*farmdoc daily*, [October 29, 2019](#)) but note that ARC-IC is not included in the Gardner-*farmdoc* payment calculator due to its multi-crop complexities and individual farm record data needs.

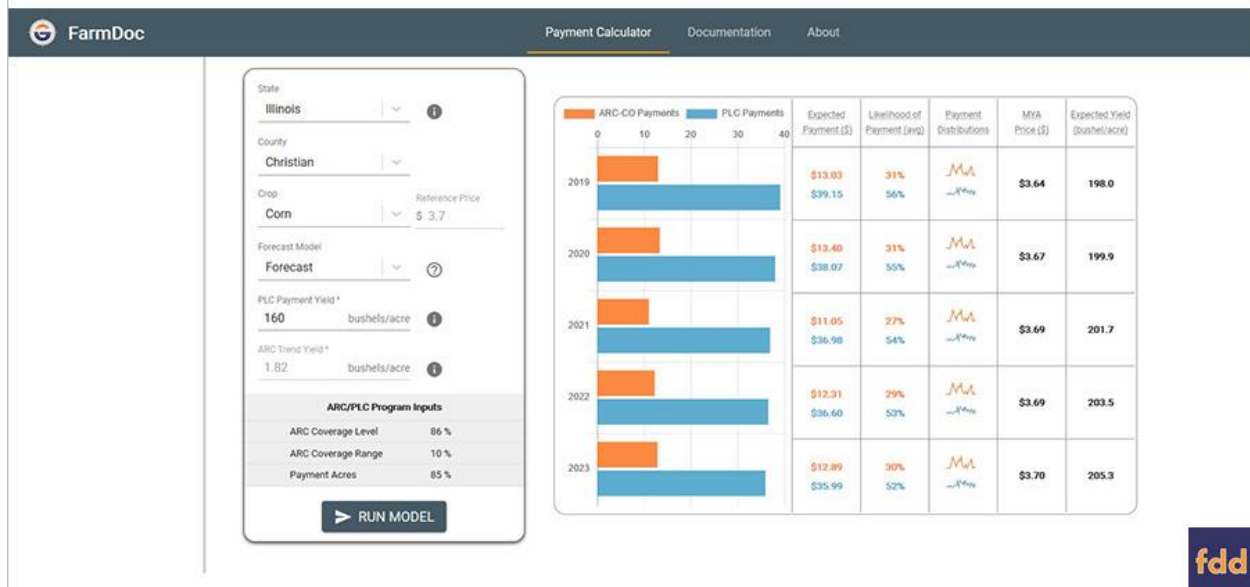
Discussion

The Gardner ARC-PLC Payment Calculator will estimate payments from ARC-CO and PLC for each year from 2019 through 2023. In addition to the updated version of the Gardner-*farmdoc* calculator we are also introducing a new feature for the *farmdoc* project: the “5-minute *farmdoc*” ([5-minute farmdoc](#)). These are short videos that provide brief summaries of information contained in *farmdoc* daily articles, *farmdoc* webinars or other information and updates as needed. For the Gardner calculator, there is a brief video regarding the new account signup and login feature ([accounts](#)) and another providing basic information for using the calculator ([using the calculator](#)). Finally, there is a brief discussion about the importance of prices and yield forecasts for the calculator ([prices and yields](#)). Estimates for ARC-CO and PLC payments will vary depending on expected prices and yields, both of which will come into clearer focus as the year progresses.

For return visitors to the Gardner calculator, one of the first things users will notice with the beta release of the calculator is that the “TRY IT OUT” feature has been removed and each user will need to create an account (login information with a username and a self-created password). This will create a secure account for each user and the user will receive an email to confirm their email address and account. In addition, the registration process uses reCAPTCHA to verify that the request is from a person and not a robot or a fake account. It also uses Keycloak for authentication and authorization to secure the user account (www.keycloak.org).

Among the updates to the calculator, the beta release includes added support for practice code selection in the user interface and provides for irrigated and non-irrigated counties, where applicable. Behind the scenes of the user interface, development for this release also focused on design of the database structure for the data used in the model to estimate payments. Further developments improved the application performance for database queries. Finally, the database was updated with the latest ARC/PLC data from USDA, as well as revised price forecasts. Figure 1 is a screenshot of a calculator run for corn in Christian County, Illinois.

Figure 1. Gardner Calculator Payment Estimates



Concluding Thoughts

Currently, the calculator estimates ARC-CO and PLC payments for corn, soybeans, and wheat. Additional crops soon will be added in the next release of the calculator. Additional features also will be added in future releases as development proceeds. The deadline for the decision between ARC-CO and PLC (or for ARC-IC) is not until March 20, 2020. Farmers and others interested in the programs are encouraged to make use of the calculator during this time and especially as new features are added and as more information becomes available concerning prices and yields. Farmers are advised to wait to make the decision until closer to the deadline but are able to work through the decision with the calculator now. In addition, future *farmdoc* daily articles will provide further analysis of the alternatives, as well as price, yield and financial outlooks.

References

- Coppess, J., G. Schnitkey, N. Paulson and C. Zulauf. "[Introducing the Gardner-farmdoc Payment Calculator.](#)" *farmdoc daily* (9):154, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 20, 2019.
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