ARC or PLC? -That is the Question

Robin Reid (robinreid@ksu.edu) – K-State Department of Agricultural Economics
February 2021

The 2018 Farm Bill allows a new farm program decision between Agricultural Risk Coverage (ARC) or Price Loss Coverage (PLC) by March 15th, 2021 and each year thereafter until 2023, which will likely be when the next Farm Bill will be passed. More flexibility for farmers to choose between programs is welcomed after the 2014 Farm Bill forced a 5-year irrevocable decision, but the choice is nonetheless difficult to make. Higher commodity prices are causing many farmers who have collected PLC payments in recent years to now give consideration to ARC.

To give a brief review of these programs, PLC is much like the old countercyclical payment program where payments are made when the Marketing Year Average price (MYA) drops below a certain threshold, called the effective reference price. For corn this is \$3.70, soybeans \$8.40, wheat \$5.50 and grain sorghum \$3.95. The difference between the effective reference price and the MYA price is the payment rate, which is multiplied by the established farm yield (PLC yield) with Farm Service Agency (FSA) and then by 85% of the base acres of that commodity. Table 1 shows historical PLC payment rates for the last six years. Large payments have been seen for wheat and grain sorghum base, with smaller payments in corn and no payments to date for soybeans.

Table 1. Historical PLC payments by commodity

Crop	2014/2015 Payment Rate	2015/2016 Payment Rate	2016/2017 Payment Rate	2017/2018 Payment Rate	2018/2019 Payment Rate	2019/2020 Payment Rate
Wheat	\$0.00	\$0.61	\$1.61	\$0.78	\$0.34	\$0.92
Corn	\$0.00	\$0.09	\$0.34	\$0.34	\$0.09	\$0.14
Grain Sorghum	\$0.00	\$0.64	\$1.16	\$0.73	\$0.69	\$0.61
Soybeans	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

ARC can either be selected at the county level, which pays on 85% of base in the commodity, or individual level, in which all crops on the farm are enrolled and payments are made on 65% of the entire base. ARC-County will only be discussed here, as ARC-Individual has had very little use outside of farms that had prevented planting in 2019. ARC-County is a revenue program, where 5 years of national MYA price and 5 years of county-level yield are used to set a benchmark revenue value, with the guarantee being 86% of that benchmark. If the current year revenue (national MYA price * actual county yield) falls below the guarantee, payment is made in the amount of the difference, up to 10% of the benchmark revenue. Two downfalls of this program are the 10% cap on payments and the low prices in recent years causing a low guarantee. Historical payments in the ARC-County program are crop and county-specific but can be found here: https://www.agmanager.info/ag-policy/arc-co-historical-payment-maps .

When considering ARC-County or PLC, the first major point to understand about this decision is when the marketing year actually starts and when the payments (if any) will be received. For fall crops (corn, soybeans, grain sorghum), the marketing year will not start until September 1st, 2021 and will run through August 31st, 2022. Each month, the national price released by National Ag. Statistics Service (NASS) will be weighted based on the amount of grain sold in that month, to determine a single national price for the entire 2021/2022 marketing season. One only has to think back to 2020 to get a lesson in volatility and know that much uncertainty in commodity prices exists in the next year and a half. Similarly, the wheat marketing year will start June 1st, 2021 and run through May 31st, 2022 and payments, if any, will be received in October of 2022. The higher commodity prices that we see now may not necessarily hold for the life of this current decision.

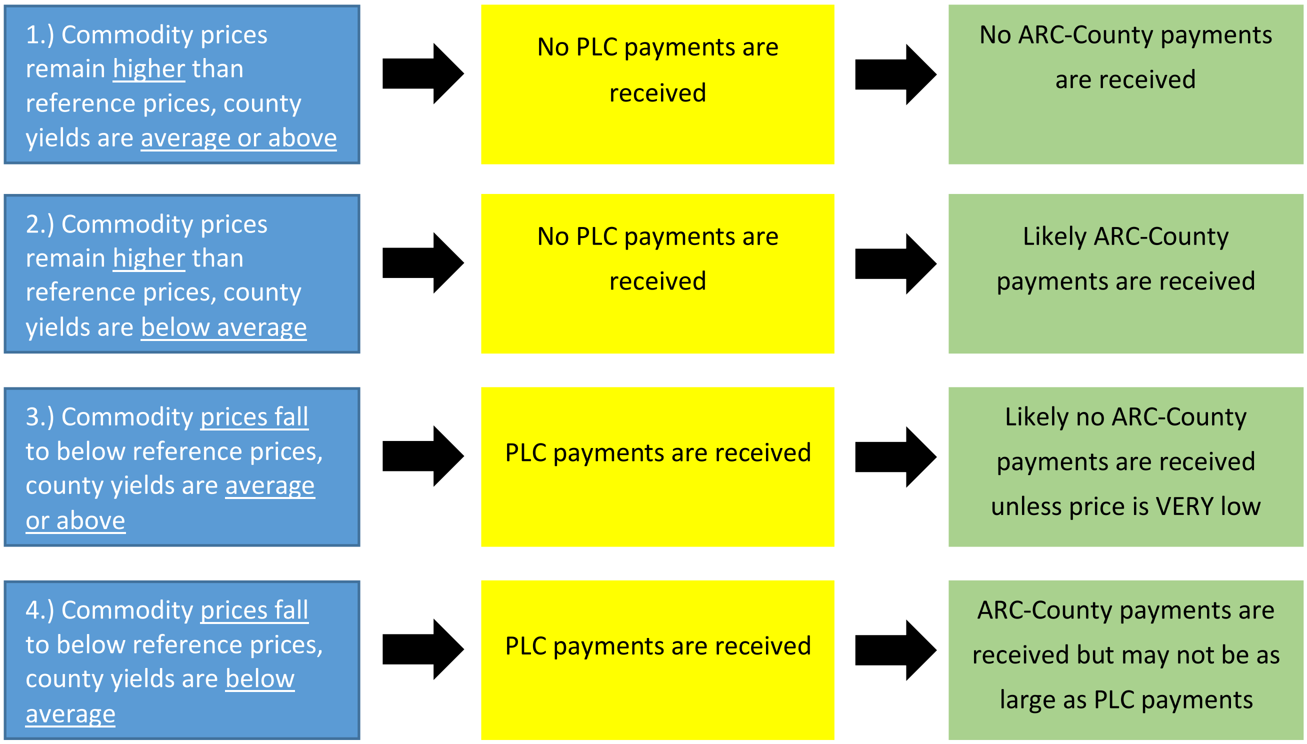
The most recent farm program election farmers made was March 16th, 2020, which covered the 2019 and 2020 harvested crops (which we are currently in the marketing year for). When looking at the percentage of commodity base that was elected between the three program choices, Kansas matches the national election choices very closely (Table 2). Almost all wheat and grain sorghum base went into PLC with over ¾ of the corn base also selected for that program. Soybeans favored ARC-County, with nearly 80% electing that program at the national level and 72% in Kansas. ARC-Individual was more popular for corn and soybean base nationally, as this program was more inviting in areas that had prevented planting in the spring of 2019.

Table 2. Farm Program elections in Kansas and Nationally

	ARC-County	PLC	ARC-Individual
Kansas			
Wheat	6.7%	93.1%	0.2%
Corn	22.0%	77.1%	0.8%
Grain Sorghum	6.5%	93.3%	0.2%
Soybeans	72.4%	26.4%	1.2%
National			
Wheat	5.9%	93.0%	1.0%
Corn	18.6%	75.5%	5.9%
Grain Sorghum	5.9%	93.4%	0.7%
Soybeans	79.7%	14.1%	6.2%

Will farmers make the same elections in 2021? This will be the first election since 2014 that farmers are making program decisions while experiencing favorable crop prices. An argument for either program could be made based on the farmer's risk preferences and market expectations going forward. Here are scenarios that could play out for the 2021/2022 marketing year:

Figure 1: 2021/2022 Marketing Year Scenarios



Arguably, Scenario #1 would be the best-case scenario, where payments are not received for either program and farmers can sell a good amount of bushels for a favorable price. However, ARC and PLC will offer risk protection if this does not occur. Several sources of 2021/2022 MYA prices are available, updated regularly, and compiled here: https://www.agmanager.info/crop-insurance/risk-management-strategies/projections-and-sources-mya-prices-arc-and-plc-commodity .

Historically soybeans have always fallen under Scenario #1 or #2, so the ARC-County program has been preferred and likely will remain that way for this election. Soybean MYA price would need to fall below $8.40 to trigger a PLC payment and below $7.70 to trigger an ARC-County payment with an average yield. All current MYA estimates are well above this. There would need to be a significant yield loss at the county level for an ARC-County payment to be made, but this will still be the preferred program if the farmer does not believe $8.40 soybeans are possible in the 2021/2022 MYA.

Wheat base has long-favored PLC because of the $5.50 reference price. While current prices are above this amount, much uncertainty exists as to whether prices will stay that way. The first three months of the marketing year, June, July and August, hold the highest weights in the MYA, so prices only need to remain high for the earlier part of the marketing year to reduce the chances of a PLC payment. However, the U.S. wheat price is largely driven by the world market, so arguably PLC would be the preferred choice for downward price risk. One could also make a case for ARC-County if dry conditions are present across the county and significant yield loss is likely.

Grain sorghum has also favored PLC because of its relatively high reference price ($3.95). With current basis running $1.00-$1.50 over the corn futures however, PLC payments are improbable if this trend continues. If China slows down imports and/or sorghum acres significantly increase across the U.S. in 2021, we easily could return to a "normal" basis which would again favor PLC. If one believes the current relationship will hold over the coming marketing year, ARC-County could be selected to potentially pay with a low county yield (such as in Scenario #2).

Corn would need an MYA price below $3.70 to trigger a PLC payment and below $3.18 to trigger an ARC-County payment with an average yield. Strong export demand currently would lead us to believe that PLC payments are unlikely, but again, much uncertainty exists. A farmer could select PLC for the downside price protection or, if they are optimistic that current high prices are here to stay, selecting ARC-County would give them a higher likelihood of payment if county yields are low. In the case of irrigated corn, the likelihood of a yield loss large enough to trigger an ARC-County payment is less, so irrigated base may lend itself more to PLC. Similarly, areas such as western Kansas have more frequent dry weather and potential yield losses, thus producers would want to assess their county benchmark and judge the likelihood of yield losses. The 2018 Farm Bill switched to using RMA data to set yield guarantees, added a trend adjustment and replaced low yielding years with 80% of the T-yield, so some counties have quite favorable yield benchmarks.

Unfortunately choosing between ARC-County and PLC is not as clear-cut a decision as it has been in the past for some commodities. One needs to decide if they want the downside price protection of PLC for risk management, or ARC-County to potentially receive a payment with a low county yield. A great tool for assessing potential ARC-County vs. PLC payments at various MYA price levels and county yields can be found here: https://www.agmanager.info/ag-policy/2018-farm-bill/tradeoff-between-20212022-arc-and-plc .

Finally, remember that these decisions are made at the farm level, meaning a different decision can be made for each FSA farm number. If one wants to put some base in each program for each crop, that can be a good strategy with multiple FSA farm numbers. Farms that have a higher program yield would be the preferred farms for PLC.