

KSU Releases ARC-CO Estimates for 2020/2021 Corn, Soybeans, Grain Sorghum and Wheat Payments

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March 2021*

The 2018 Farm Bill gave producers more flexibility in farm program choice by allowing annual ARC/PLC decisions starting this year. Confusion exists however, regarding the marketing year for which their selection actually applies. Producers have until March 15th, 2021 to select Agricultural Risk Coverage (ARC) or Price Loss Coverage (PLC) for 2021 harvested crops, but will not actually receive that payment (if any) until October 2022.

The payment that will be received October 2021 will be for the crop harvested in 2020, where the marketing year will conclude on May 31st for wheat and August 31st for corn, grain sorghum and soybeans. For cash flow purposes and general expectations of payment levels, the authors have estimated these ARC county-level rates which can be found in interactive map form here:

Kansas: <https://www.agmanager.info/ag-policy/20202021-arc-county-projections/20202021-kansas-arc-county-projections>

National: <https://www.agmanager.info/ag-policy/20202021-arc-county-projections/20202021-national-arc-county-projections>

These payments are listed as a per acre rate, which would be paid on 85% of base acres in that commodity. If your county is not displayed, you need to change the type to “All” or “Irrigated”/”Non-irrigated” in the dropdown menu to match your county’s irrigated designation.

There are a number of issues to discuss surrounding these estimates. First, the 2020/2021 Marketing Year Average (MYA) price used to compute these payments is still being determined. K-State Ag Econ. generates estimates which are updated monthly as the National Ag. Statistic Service (NASS) publishes a new price. These estimates can be found here: <https://www.agmanager.info/crop-insurance/risk-management-strategies/mya-price-estimates-updated-arc-and-plc-commodity-0>.

The second, and most problematic, issue with these ARC-County estimates is that the 2018 Farm Bill changed the source for Farm Service Agency’s (FSA) county-level yield data from NASS published county yields to the Risk Management Agency (RMA) published county yields. FSA will use those published RMA county yields to set benchmark county yields and determine the actual county yields that are used in the calculation of ARC-County payments. While both agencies are reporting a county-level yield, NASS yields are based on voluntary farmer reported survey results. However, RMA’s county yields are based on farmer certified crop yields with criminal



liability attaching, as reported to RMA for their crop insurance contracts. FSA can make adjustments to the RMA yields before FSA certifies the county yields used to make ARC-County payments. For example, in a county that has only a small amount of a crop's acres insured, FSA may adjust the RMA county yield using other data and the State Committee to account for the production on uninsured acres before FSA certifies the county yield. In the past RMA yields were published in June, much later than NASS published yields. In the meantime, the authors used NASS yields to estimate county yields for ARC-County projections.

Another issue with the county yield is that the 2018 Farm Bill splits more counties by practice, generating more counties with both an irrigated and non-irrigated ARC-County guarantee. Based on RMA county yields, FSA will certify an irrigated and a non-irrigated county yield and generate both an irrigated and a non-irrigated ARC-County payment. The producer's ARC-County payment (if any) would then be weighted between the two guarantees based on their Historical Irrigation Percentage (HIP). Click [HERE](#) for more information.

The problem in many counties with using NASS published yields to estimate the county yield FSA will use for ARC-County payments is that NASS only reports a combined yield for the county, which is impossible to separate into an irrigated and non-irrigated yield. However, one would expect that if a single practice dominates production across the county, then the combined NASS yield should be similar to the dominant practice county yield when final yields are published by FSA. Authors determined the dominant practice in a county based on the percent of acres insured in each practice. The RMA insured acre data is for crop year 2018, the most recent year published by practice.

These procedures assume the insured acres are a good estimate of the FSA base acres in a county by practice. If farmers only insured their non-irrigated yields in county, then likely the FSA certified county yield will be higher when published next October. However, a large percentage of USA crop acres are insured, so it unlikely this procedure will introduce a large error, in most counties. Therefore, this procedure allows the authors to utilize a NASS combined yield to estimate a county yield by practice. For example, if over 90% of the insured acres in the county were in one practice (commonly, non-irrigated), then it was assumed that the NASS reported combined yield will be similar to the final FSA approved county yield for that practice.

There are also issues in some states where different classes of wheat (hard red, soft white, spring vs. winter wheat, etc.) need to be combined to form one county yield for ARC-County payments because FSA treats all classes of wheat as just wheat. The combining of wheat classes into a combined yield is based on a weighted average of the NASS county wheat yields by type (class) of wheat. The weights were based on the county's insured acres by type (class) of wheat. However, there are many counties where no reasonable estimate of the ARC-County payment could be made, because either there was no published NASS yield or the NASS yields were published as a combined yield and could not be split by practice.

If "N/A" is reported on the map, then there was no NASS yield published or the combined yield that was reported did not meet the 90% dominate practice test. However, some counties will show "\$0.00" which means

these counties had available NASS yields, but generated an expected zero ARC-County payment. In counties with a N/A result, the popup window will still provide the maximum county yield needed to generate any ARC-County payment. The results will also show the maximum county yield needed to generate a maximum ARC-County payment.

Here are the key variables to note when looking at the detail for the county as you hover your cursor over it (see Figure 1):

2020 Benchmark Yield: 5-Year Olympic Average of trend adjusted county yields (2014-2018)

2020 Benchmark Price: 5-Year Olympic Average of National Marketing Year Prices (2014-2018)

2020 Benchmark Revenue: 2020 Benchmark Yield X 2020 Benchmark Price

2020 Guaranteed Revenue: 86% of Benchmark Revenue

2020 Estimated MYA National Price: National Marketing Year Average Price estimated from KSU

2020 Estimated Yield: County yield as reported by NASS

EST 2020 ARC-CO Payment Rate: The difference between the 2020 Guaranteed Revenue and the Estimated 2020 MYA price X 2020 estimated county yield, subject to the Maximum Payment Rate. This is your estimated payment per acre, that would be paid on 85% of the base acres in that crop

2020 Maximum Payment Rate: 10% of Benchmark Revenue, which is the maximum payment rate per acre by law

***Max Yield-Trigger Payment:** This is the maximum yield a county can have to trigger ANY ARC-CO payment at the projected MYA price (also provided in counties that don't have an ARC-CO payment estimate)

***Max Yield-Trigger Max Payment:** This is the maximum yield a county can have to trigger the MAXIMUM ARC-CO payment at the projected MYA price (also provided in counties that don't have an ARC-CO payment estimate)

**This information is insightful if NASS reported yields are significantly less than the yield trigger required for an ARC-County payment, giving some certainty to the payment even with known errors around the county yield data source.*



Figure 1. Screenshot of ARC-County Corn payment estimate detail for Rooks County, KS

State Name:	Kansas
County Name:	Rooks
Crop Name:	Corn
ARC-CO Yield Designation:	All
2020 Benchmark Yield (2014-18 olympic avg):	94.5
2020 Benchmark Price (2014-18 olympic avg):	\$3.70
2020 Benchmark Revenue:	\$349.80
2020 Guarantee Revenue:	\$300.83
2020 Estmated MYA National Price:	\$4.07
2020 Estimated Yield:	114.80
EST. 2020 ARC-CO Payment Rate:	\$0.00
2020 Maximum Payment Rate:	\$34.98
Max Yield to Trigger a Payment:	73.9
Max Yield-Trigger Max Payment:	65.3

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