



Indicated State 2014 ARC-CO and PLC per acre Payments by Crop and An Initial Comparison with per acre Direct Payments: January 2015

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Per acre state payment indicators are calculated for ARC-CO and PLC for barley, corn, oats, peanuts, long grain rice, medium (and short) grain rice, sorghum, soybeans, and wheat. Primary source of data are the [January 12, 2015 WASDE](#) (*World Agricultural Supply and Demand Estimates*) mid-price estimate and NASS's (National Agricultural Statistical Service) crop production annual report. The calculations use state yield instead of county yield for ARC-CO and farm payment yield for PLC and thus are not payment estimates but payment indicators. Nevertheless, they help frame perspectives and questions regarding crop program choices as well as potential program cost vs. the direct payment program. The latter was eliminated by the 2014 farm bill. Other discussions of indicated 2014 crop year payments are contained in the *farmdoc daily* articles of [August 13](#), [September 18](#), [October 14](#), [December 18](#), 2014 and [January 22](#), 2015.

Calculation of Estimated Payment Indicators

ARC-CO makes a payment if county revenue is below 86% of the county's benchmark revenue. Benchmark revenue involves multiplying 5-year Olympic moving averages (removes high and low values) of county yield times U.S. crop year price. ARC-CO payment is capped at 10% of benchmark revenue. PLC makes a payment if U.S. crop year price is below the crop's reference price. Reference prices are specified in the 2014 farm bill. PLC payments are capped by the national loan rate. A Farm Service Agency payment entity can receive no more than \$125,000 in payments from all crop programs, including ARC-IC (individual), for all program crops except peanuts, which has its own \$125,000 payment limit per payment entity.

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The crop programs use yield per planted, not harvested acre. Planted acre yield is calculated as production divided by acres planted to the crop. For corn and sorghum, acres harvested for silage are subtracted from planted acres. For oats, harvested acre yield is used because a large share of oats is planted as a cover crop for forage or hay. Information is not available for all states to calculate yield per planted acre.

Peanuts are not reported in WASDE. Thus, a price for the 2014 crop year is estimated using monthly prices reported by NASS since the start of the peanut crop year, August, through December 2014. Explanatory power of the regression model is 85%. Price estimates used in this analysis by crop are: barley (\$5.25/bushel (bu.)), corn (\$3.65/bu.), oats (\$3.25/bu.), peanuts (\$0.2171/pound), long grain rice (\$12.20/100 pounds (cwt.)), medium (and short) grain rice (\$18.50/cwt.), sorghum (\$3.80/bu.), soybeans (\$10.20/bu.), and wheat (\$6.10/bu.). Estimated per acre payments are multiplied by 85% to reflect the base acre payment factor (ARC-IC pays on 65% of base acres).

Share of States with Payments, 2014 Crop Year

Because PLC is a U.S. price payment program, in a given year a payment is or is not received by all participants (states in this analysis). Payment differs only by farm program yield. In contrast, ARC usually makes payment to some, perhaps most, but not all participants unless U.S. crop year price is far above or far below the price benchmark for the most recent 5 years. As a revenue program, ARC payments depend on the variation of both yield and price. It is unusual for yield to be uniformly good or bad across the U.S. where good and bad is defined relative to yields for the most recent 5 years. In short, ARC and PLC have different, often quite different, payout structures.

Each of these general payment features occur for the 2014 crop year (see Figure 1). PLC either has indicated payments for all states (corn, peanuts, long grain rice, and sorghum) or no states (other crops). ARC-CO makes payments for some but not all states for all crops, ranging from 7% of states for oats to 80% of states for corn. Share of states having no indicated payment from both ARC-CO and PLC ranges from 0% for the crops with a PLC payment indicated to at least 65% for the other crops. Oats is highest at 93%. In short, for lots of states for some program crops, no payments are indicated for 2014. If no payment is expected, then 2014 crop year payments will minimally influence program choice. Only corn and sorghum have states receiving indicated payments from both ARC-CO and PLC. For these states, ARC-CO indicated payments are higher for most, but not all, corn states while PLC indicated payments are higher for most, but not all, sorghum states.

Payment per acre

Indicated average state payment per base acre is highest for PLC peanuts (\$128), followed by PLC long grain rice (\$90) and ARC-CO corn (\$40) (see Figure 2). For all other crops, indicated payment per base acre is less than \$10 both ARC-CO and PLC.

During the 2014 farm bill debate, Congress selected PLC reference prices for peanuts and long grain rice that were closer to 2008-2012 market prices than for other crops. A commonly cited reason for long grain rice was to use PLC to provide payments that would replace the \$96 per base acre direct payment that rice gave up (see Figure 2). At least for the 2014 crop year, indicated PLC payments suggest Congress is likely to accomplish this objective. Note the stark difference that exists between long and medium (and short) grain rice. For the latter, no PLC payment is currently expected and only 1 state has an indicated ARC-CO payment (Texas). The policy driver for peanuts is less clear, but, in terms of only the 2014 crop year, peanuts is currently indicated to benefit the most among the crops analyzed from enactment of the 2014 farm bill. It gave up roughly \$46 per base acre in direct payments with indicated 2014 PLC payments of \$128 per base acre.

Corn and oats are the only other crops reported in Figure 2 for which per base acre payments from either ARC-CO or PLC are currently indicated to exceed direct payments. Corn gave up an average U.S. direct payment of \$24 per base acre vs. current indicated average state ARC-CO payment of \$40/acre. For oats, this same comparison is \$2 of ARC-CO payment per base acre vs. \$1 of direct payment per base acre. It is

important to note that, for these two crops, indicated ARC-CO payments do not exceed foregone direct payments for all states (see Figure 1, share of states receiving an indicated ARC-CO payment).

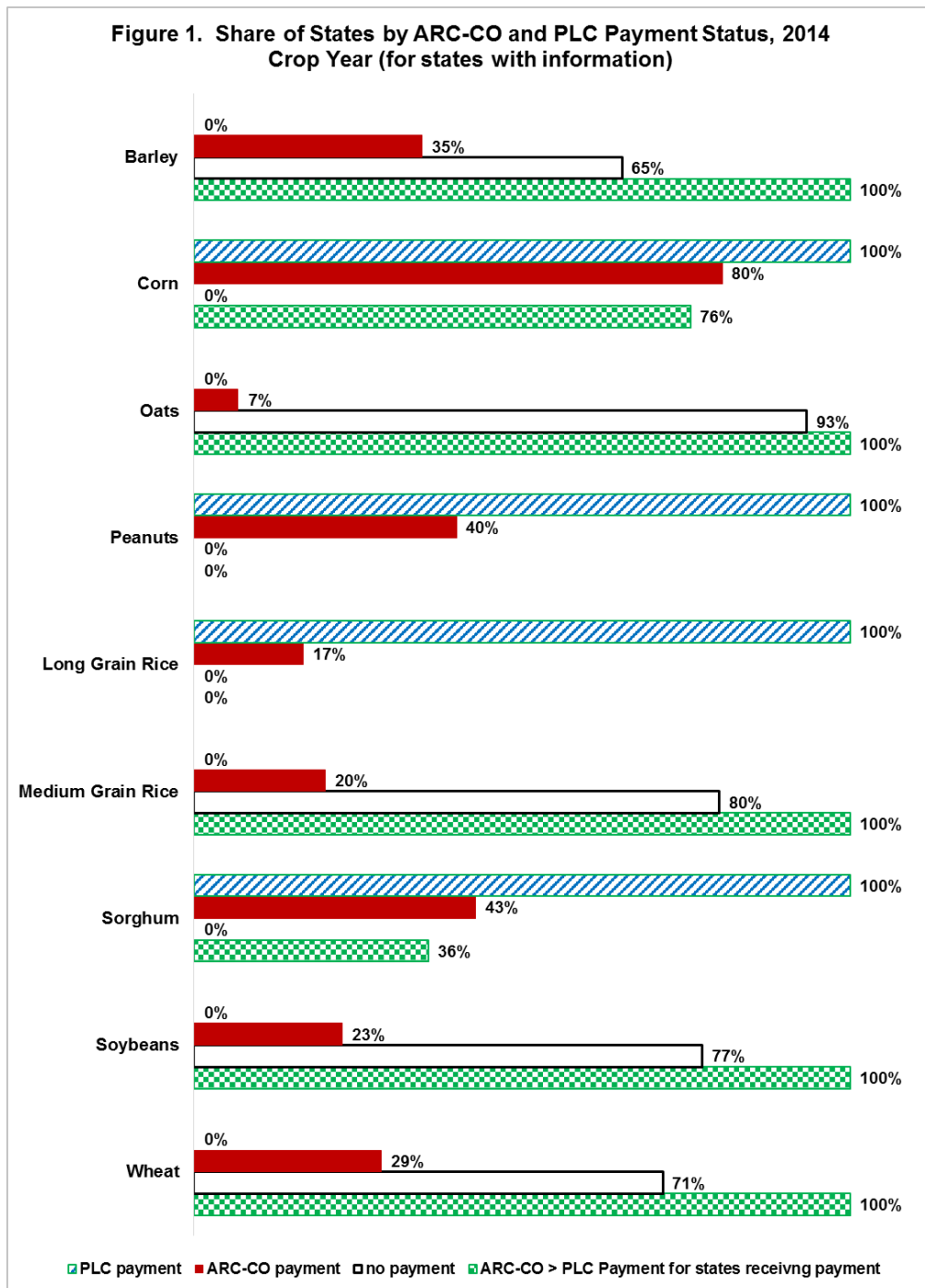
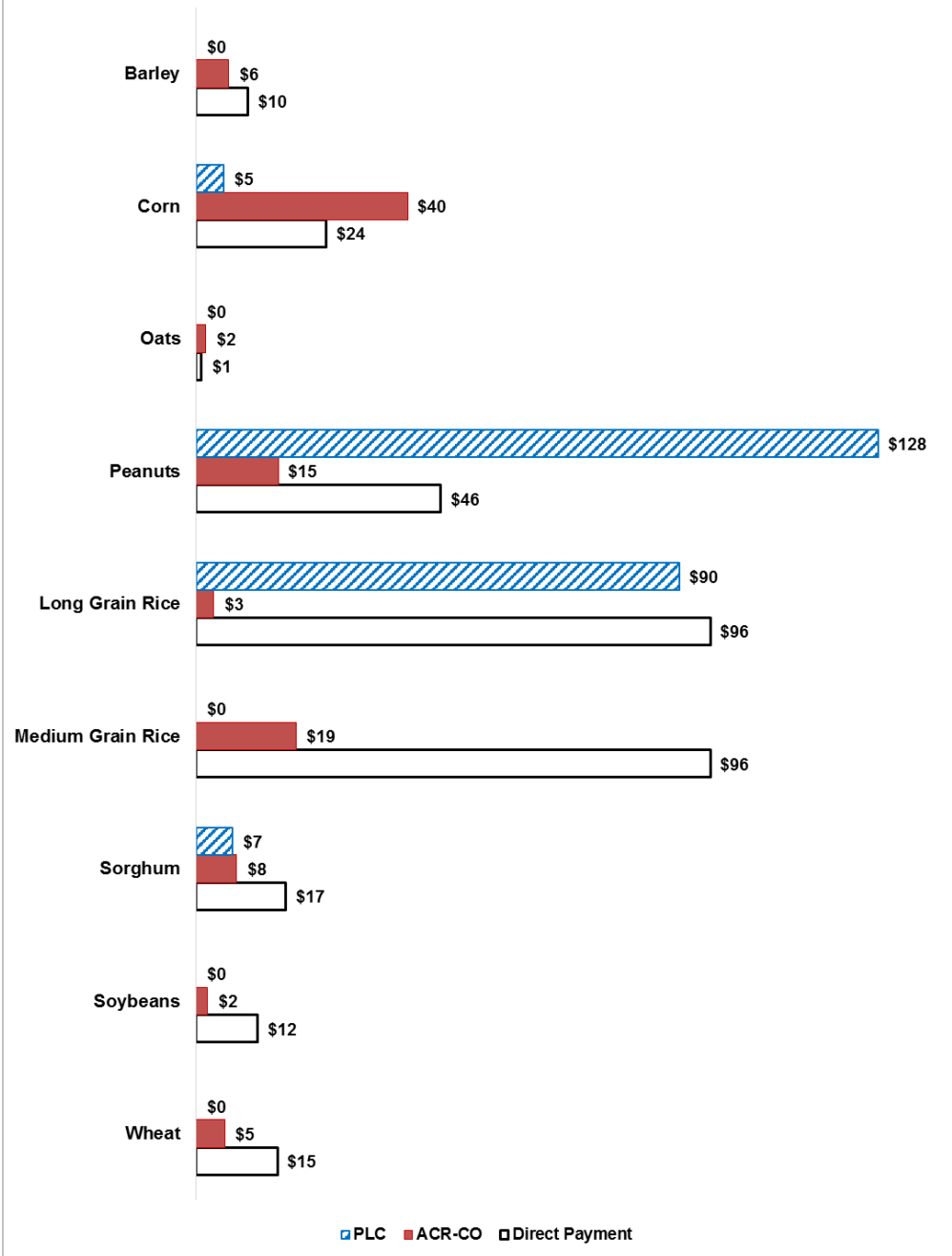


Figure 2. Average Indicated State ARC-CO and PLC Payment per base acre, 2014 Crop Year, and Average Direct Payment per base acre



IMPORTANT CAVEAT: The discussion in this section may change when payments for the entire 2014 farm bill period are known. The discussion can even change for the 2014 crop year as considerable uncertainty remains over 2014 crop year payments. A key reason is that considerable uncertainty remains over U.S. 2014 crop year price. For a more extensive discussion of this topic, see the [January 8, 2015 farmdoc daily article](#).

Summary Observations

- ARC-CO and PLC have different payment structures. Payment entities either receive or do not receive a PLC payment because payment is based on U.S. crop year price being less than a U.S. reference price. ARC-CO payments vary more widely by payment entity because, as a revenue program, its payments depend on yield as well as price. Yield rarely is uniform across the U.S. Some areas have higher than normal yields; other areas have lower than normal yields. For example, PLC currently is indicated to make higher payments than ARC-CO for corn in 24% of states due to high yields in these states relative to yields for the preceding 5 crop years. The *farmdoc daily* article of [January 22, 2015](#) contains state specific indicated per acre payments for corn (and soybeans and wheat).
- Corn is the key crop for program cost for the 2014 crop year. It will have the highest number of base acres, and for many areas, indicated ARC-CO payment per acre will be close to its maximum. However, ARC-CO cost for 2014 corn (and other crops) will be tempered by (1) low payments for states with higher than normal yields, (2) the likelihood that not all farms will elect ARC-CO – considerable uncertainty surrounds this factor, and (3) the \$125,000 payment limit.
- Based on currently indicated payments for the 2014 crop year, peanuts appears to be the crop that will benefit most on a per acre basis from the elimination of direct payments and creation of ARC and PLC, specifically PLC. Corn also appears likely to be a beneficiary of this policy change for the 2014 crop year, although this will not be true for all states since its highest payments are in the ARC-CO program.
- These last two conclusions are subject to change as more information is revealed about 2014 county yields, 2014 crop year prices, and operator's program choices.

References

USDA Office of the Chief Economist. "World Agricultural Supply and Demand Estimates (WASDE)." Released January 12, 2015. <http://www.usda.gov/oce/commodity/wasde/index.htm>

Zulauf, C., S. Kim, and G. Schnitkey. "Indicated ARC-CO and PLC Payment for 2014 Crop Year Corn, Soybeans, and Wheat by State: January 2014." *farmdoc daily* (5):12, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 22, 2015.

Zulauf, C., and A. Hershey. "2014 Crop Program Decision: March WASDE Price Uncertainty." *farmdoc daily* (5):3, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 8, 2015.

Zulauf, C. and G. Schnitkey. "ARC-CO and PLC Payment Indicator for 2014 Crop Year: December 2014 WASDE U.S. Yield and Price." *farmdoc daily* (4):242, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, December 18, 2014.

Zulauf, C., and G. Schnitkey. "ARC-CO and PLC Payment Indicator for 2014 Crop Year: October 2014 WASDE U.S. Yield and Price." *farmdoc daily* (4):198, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 14, 2014.

Zulauf, C., and G. Schnitkey. "ARC-CO and PLC Payment Indicator for 2014 Crop Year: September 2014 WASDE U.S. Yield and Price." *farmdoc daily* (4):180, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 18, 2014.

Zulauf, C., and G. Schnitkey. "ARC-CO and PLC Payment Indicator Using August WASDE U.S. Yield and Price." *farmdoc daily* (4):151, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 13, 2014.

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