



## **ARC-CO and PLC Payment Indicator for 2014 Crop Year: December 2014 WASDE U.S. Yield and Price**

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This article provides payment indicators for ARC-CO and PLC based on the December 10, 2014 WASDE U.S. yield and U.S. price projections for barley, corn, oats, long grain rice, medium (and short) grain rice, sorghum, soybeans, and wheat. Previous estimates were made using the August, September, and October WASDEs (*World Agricultural Supply and Demand Estimates*). Peanuts is added in this article. The term, payment indicator, is used because the estimates use U.S. yield not the county yield used by ARC-CO or farm payment yield used by PLC. Thus, the indicators are not estimates of payments an individual FSA farm will receive. Nevertheless, they should help frame perspectives and questions regarding crop program choices.

**Calculation of Estimated Payment Indicators:** ARC-CO makes a payment if county revenue is below 86% of the county's benchmark revenue. Benchmark revenue is obtained by multiplying 5-year Olympic moving averages (removes high and low values) of county yield and U.S. crop year price. ARC-CO payments are capped at 10% of the benchmark revenue. PLC makes payments when U.S. crop year average price is less than the crop's reference price. Congress specified the reference price in the 2014 farm bill.

This article adds payment indicators for peanuts. Peanuts are not reported in WASDE. The U.S. yield estimate for peanuts is from the U.S. Department of Agriculture's November Crop Production report. Estimates for 2014 crop year low, mid, and high prices are obtained using the average of the prices reported by the National Agricultural Statistics Service for the first 4 months of the peanut crop year, which begins August 1; the crop year average price reported for peanuts, and regression analysis. The period of analysis is the 2004 - 2013 crop years. The regression equation is used to estimate a projected 2014 crop year price. The low and high price is minus and plus one standard error of the regression equation. Explanatory power of the regression equation is 83%.

Last, the estimated per acre payment are adjusted for the program parameter that ARC-CO and PLC payments are made on 85%, not 100%, of program base acres (ARC-IC pays on 65% of base acres). Please note, this adjustment is new to the December estimates and was not made in the August, September, and October estimates.

**U.S. per acre Payment Indicator for 2014 Crop Year – December WASDE Mid-Price:** Table 1 contains the December 2014 WASDE price projections for the 2014 crop year. The mid-price projections indicate payments by ARC-CO for corn, sorghum, and wheat and by PLC for corn, long grain rice, and sorghum (see Figure 1). PLC payment is also indicated for peanuts, which has the highest indicated payment at \$125 per acre. The next two highest are PLC for long rice at \$76 per acre and ARC-CO for corn at \$67 per acre. In general, payment indicators have changed relatively little since the September estimates. Remember, actual payments depend upon county yield for ARC-CO and FSA payment yield for PLC.

**U.S. per acre Payment Indicator for 2014 Crop Year – December WASDE Low Price:** In addition to the payments indicated at the December WASDE mid-price, payments are indicated for barley (both programs) and soybeans (ARC-CO) at the WASDE low price projections (see Figure 2).

Also, ARC-CO is estimated to make payments for peanuts. They only crops with no payment indicated are oats and medium / short grain rice.

At a \$3.20 crop year price (low price estimate), payment for corn from ARC-CO and PLC are reasonably close. They equal if price is \$3.10. Similar payments using U.S. yield means relative payments by ARC-CO and PLC will depend importantly on the relationship between the yields that affect payment: farm program yield for PLC and actual and benchmark county yield for ARC-CO. Moreover, as crop year price increases above (decreases below) \$3.10 for corn, the higher paying program for 2014 will tend toward ARC-CO (PLC), especially as price moves further from \$3.10.

Note, payment per acre by ARC-CO for corn is \$67 per acre for both the WASDE low price and mid-price. The reason is that, even though price is lower, ARC-CO's payment is capped at 10% of ARC benchmark revenue. In contrast, PLC has a much higher cap, which is determined by the difference between the reference price and loan rate. Again, remember, actual payments depend upon county yield for ARC-CO and FSA farm payment yield for PLC, and payment is made on only 85% of base acres (65% for ARC-IC).

**U.S. per acre Payment Indicator for 2014 Crop Year – December WASDE High Price:** Payments are indicated for only 4 crop-program combinations: corn – ARC-CO; long grain rice, peanuts, and sorghum – PLC (see Figure 3). Because payment is indicated at the WASDE high price, likelihood of payment for these crop-program combinations is higher. However, payment is not 100% certain as U.S. crop year price can end up higher and, for ARC-CO, high county yields can offset low prices.

**Potential Total 2014 Crop Year Payments:** In policy it is important to think at both the micro (individual farm or acre) level and macro (national) level. However, given the uncertainty surrounding 2014 crop year price (and to some degree yield) and the critical unknown issue of which program farms will choose, we think it is too early to provide estimates of total farm program payments. However, simple sensitivity assessments suggest total payments could exceed or be less than the \$4 billion plus in direct payments that farmers gave up in the 2014 farm bill. Based on current information, corn is likely to account for the bulk of payments due to its large program base acres and a 2014 mid-price estimate that is 36% below the Olympic average price for the 2009-2013 crop years.

### **Summary Observations**

- ▶ Whether or not ARC-CO or PLC is likely to make a payment for the 2014 crop year varies by crop.
- ▶ As of December 10, 2014, the crops most likely to receive a payment by either ARC-CO or PLC are corn, peanuts, long grain rice, and sorghum.
- ▶ Lower prices increase the probability and size of payments; however, because of the 10% cap on ARC-CO's payment, lower prices will increase payments by ARC-CO for corn only slightly.
- ▶ Sizeable differences in estimated indicator payments at the low and high WASDE price projections needs to be underscored. The current range on U.S. crop year price projections bracket both high payments and no payments. Simply put, it is too early in the 2014 crop year to talk with much certainty about the size of payments. It is reasonable to say that 2014 crop year payments may occur, that they may be large if the right combination of price and yield materializes, that they will likely vary by crop, and that they will likely vary by program for a given crop.

- ▶ Sizeable differences in estimated indicator payments at low and high WASDE prices mean that yield will be an important factor impacting 2014 payments. County yield is a factor in determining 2014 payments by ARC-CO while payment yield is a factor in determining 2014 payments by PLC.
- ▶ Comparison of payments under the current low, mid, and high prices in the December 2014 WASDE illustrate two of the important tradeoffs that need to be considered when choosing between ARC-CO and PLC. PLC pays if price is below the reference price. ARC-CO pays on price and yield declines relative to a benchmark revenue that can occur from any level of revenue. Thus, for PLC to pay more than ARC-CO, U.S. crop year price must be below the reference price. Moreover, U.S. crop year price will have to be below the reference price for more than one year and likely more than two years because of the high revenues of the last 5 years, which means that the ARC benchmark revenue starts from a relatively high level. The second tradeoff is that the cap on payments is smaller for ARC-CO than for PLC. Thus, potential payment by PLC is higher, although actual payment may be smaller because crop year average price is not below or only slightly below the reference price. Preferences among these two tradeoffs are important considerations in determining which program to choose.

This publication is also available at <http://aede.osu.edu/publications>.

**Table 1. Crop Year Price Estimates in December 2014 WASDE**

	Unit	Low	Mid	High
Barley	price/bushel	\$4.85	\$5.15	\$5.45
Corn	price/bushel	\$3.20	\$3.50	\$3.80
Oats	price/bushel	\$3.05	\$3.25	\$3.45
Long grain rice	price/100 pounds	\$12.00	\$12.50	\$13.00
Short/Medium grain rice	price/100 pounds	\$18.50	\$19.00	\$19.50
Sorghum	price/bushel	\$3.20	\$3.50	\$3.80
Soybeans	price/bushel	\$9.00	\$10.00	\$11.00
Wheat	price/bushel	\$5.80	\$6.00	\$6.20
Peanuts (estimated - see text)	\$ / pound	\$0.1985	\$0.2201	\$0.2417

Figure 1. Estimated ARC-CO and PLC Indicator Payment Per Acre (includes 85% payment factor), 2014 Crop, December 2014 WASDE U.S. Yield and Mid-Price

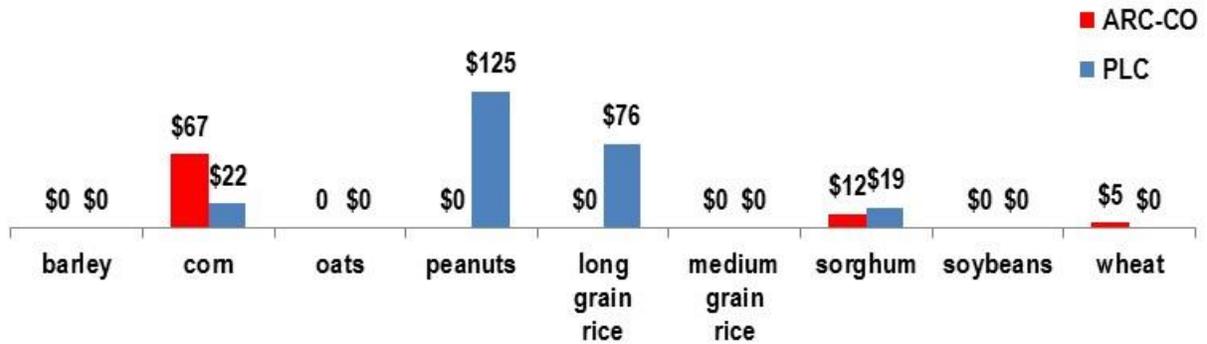


Figure 2. Estimated ARC-CO and PLC Indicator Payment Per Acre (includes 85% payment factor), 2014 Crop, December 2014 WASDE U.S. Yield and Low Price

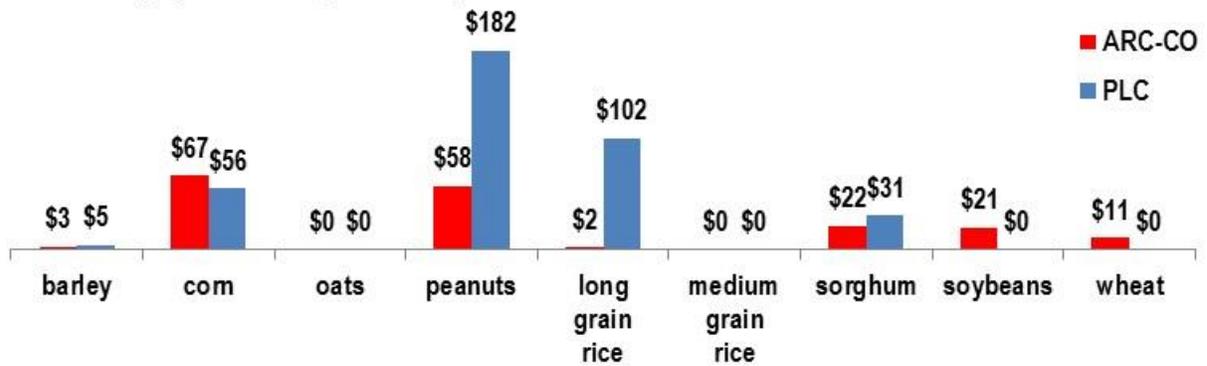


Figure 3. Estimated ARC-CO and PLC Indicator Payment Per Acre (includes 85% payment factor), 2014 Crop, December 2014 WASDE U.S. Yield and High Price

