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## Expected Payments from ARC-CO and PLC

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Differences in expected payments between Agricultural Risk Coverage – County Coverage (ARC-CO) and Price Loss Coverage (PLC) will be an important factor when making the program choice decisions offered under the 2014 Farm Bill. (See Step 4 on [Farm Bill Toolbox](#) for other factors – type of risk covered and availability of SCO --that influence the ARC-CO and PC decision). Realization of Market Year Average (MYA) prices and county yields from 2014 through 2018 will affect differences in payments. Much of the focus will be on price levels. General rules of thumb are:

1. Corn: ARC-CO has higher expected payments when MYA corn prices exceed \$3.30 per bushel from 2014 through 2018.
2. Soybeans: ARC-CO has higher expected payments than PLC when prices exceed \$7.80 per bushel.
3. Wheat: ARC-CO has higher expected payments than PLC when prices exceed \$5.50 per bushel.

These break-even prices vary across counties and also will be influenced by 2014 county yields, which have not been released yet. Break-even prices can be fine-tuned after release of 2014 yields in late February. On average, break-even prices likely will be close to those given above.

### ARC-CO versus PLC

ARC-CO is a county-level revenue program whose guarantee equals 86% times a benchmark yield times a benchmark price. The benchmark price is an Olympic average of the five-previous MYA prices, with MYA prices below the reference price being replaced by the reference price in benchmark calculations. The

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benchmark price will change in 2015 through 2018 as realized 2015 through 2018 MYA prices come into benchmark calculations.

Table 1 shows 2014 ARC-CO benchmark prices. Given relatively high prices for the past several years, these benchmark prices will likely decrease over the next several years. This decrease likely will begin after 2015. For example, corn's 2014 benchmark price is \$5.29 per bushel. The benchmark price in 2015 also will be \$5.29, as the Olympic averaging process rolls off a 2009 price of \$3.55 and brings on a the 2014 price. The 2014 price likely will be the low and eliminated from the 2015 benchmark calculation. After 2015, benchmark prices will decrease if MYA prices are below \$5.00 per bushel.

**Table 1. ARC-CO 2014 Benchmark Price, PLC Reference Price, and FAPRI Price Projections for 2014 through 2018.**

Program Crop	Unit	ARC_CO Benchmark Price <sup>1</sup>	PLC Reference Price <sup>2</sup>	FAPRI Market Year Projections <sup>3</sup>					
				Avg	2014	2015	2016	2017	2018
<b>Barley</b>	<b>Bu.</b>	<b>5.45</b>	<b>4.95</b>	<b>4.76</b>	<b>5.30</b>	<b>4.71</b>	<b>4.52</b>	<b>4.58</b>	<b>4.68</b>
<b>Canola</b>	<b>lb.</b>	<b>0.22</b>	<b>0.20</b>	<b>0.16</b>	<b>0.17</b>	<b>0.16</b>	<b>0.16</b>	<b>0.17</b>	<b>0.17</b>
Corn	Bu.	5.29	3.70	3.81	3.63	3.81	3.83	3.84	3.92
Dry Peas	lb.	0.14	0.11	0.12	0.12	0.11	0.12	0.12	0.12
Flax	Bu.	13.27	11.28	11.48	11.96	11.01	11.23	11.45	11.73
<b>Grain Sorghum</b>	<b>Bu.</b>	<b>5.10</b>	<b>3.95</b>	<b>3.69</b>	<b>3.80</b>	<b>3.58</b>	<b>3.55</b>	<b>3.69</b>	<b>3.81</b>
Lentils	lb.	0.24	0.20	0.20	0.22	0.19	0.20	0.20	0.21
Oats	Bu.	3.25	2.40	3.19	3.26	3.18	3.15	3.15	3.19
<b>Peanuts</b>	<b>lb.</b>	<b>0.28</b>	<b>0.27</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>
<b>Rice -- Long G.</b>	<b>lb.</b>	<b>0.14</b>	<b>0.14</b>	<b>0.12</b>	<b>0.12</b>	<b>0.13</b>	<b>0.12</b>	<b>0.12</b>	<b>0.13</b>
Rice -- Medium G.	lb.	0.15	0.14	0.14	0.15	0.14	0.14	0.14	0.14
Soybeans	Bu.	12.27	8.40	9.42	10.02	8.76	9.11	9.41	9.79
<b>Sunflowers</b>	<b>lb.</b>	<b>0.23</b>	<b>0.20</b>	<b>0.20</b>	<b>0.21</b>	<b>0.19</b>	<b>0.20</b>	<b>0.20</b>	<b>0.21</b>
<b>Wheat</b>	<b>Bu.</b>	<b>6.60</b>	<b>5.50</b>	<b>5.49</b>	<b>6.13</b>	<b>5.14</b>	<b>5.19</b>	<b>5.38</b>	<b>5.63</b>

<sup>1</sup> The 2014 Benchmark Price is the Olympic average of five previous prices.

<sup>2</sup> Set by Congress.

<sup>3</sup> FAPRI, January 2015 U.S. Crop Price Update, FAPRI-MU Bulletin #02-15, January 15, 2015, [http://www.fapri.missouri.edu/outreach/publications/2015/FAPRI\\_MU\\_Bulletin\\_02\\_15.pdf](http://www.fapri.missouri.edu/outreach/publications/2015/FAPRI_MU_Bulletin_02_15.pdf)

PLC will make payments when MYA price is below a reference price. Reference prices are set by Congress in the 2014 Farm Bill and will not vary over time. Table 1 shows reference prices. In most cases, reference prices are below 2014 benchmark prices. For example, corn's 2014 benchmark price is \$5.29 per bushel, and the reference price is \$3.70 per bushel. This could cause ARC-CO to pay at prices above \$3.70 while PLC will not. County yields also will influence payments.

Relative payments from ARC-CO and PLC will be influenced by MYA realizations in 2014 through 2018. Table 1 also shows expected prices for 2014 through 2018 produced by FAPRI in January 2015. FAPRI's

price projections for corn are \$3.63 for 2014, \$3.81 for 2015, \$3.83 for 2016, \$3.84 for 2017, and \$3.94 for 2018. The average for the five-year projection period is \$3.81 per bushel.

In Table 1, a crop is bolded when FAPRI's average MYA price for 2014 through 2018 is below the reference price. These crops include barley, canola, grain sorghum, peanuts, rice – long grain, sunflowers, and wheat. In these cases, PLC often has higher expected payments than ARC-CO.

On the other hand, those crops whose reference price is below the FAPRI expected price typically have higher expected payments for ARC-CO than for PLC. These crops include corn, dry peas, flax, lentils, oats, rice – medium grain, and soybeans. ARC-CO often has higher expected payments than PC for these crops.

### Expected Payments and Prices

The Sample Farms section of [Agricultural Price Analysis System](#) shows expected payments for ARC-CO and PLC for program crops. These are county specific. A user can select a county and then see expected payments for three price series. One of those is the FAPRI series shown above. Expected payments in APAS are generated by a stochastic process that varies prices and yields (see *farmdoc daily* [October 16, 2014](#) for more detail). Yearly prices will equal the expected prices from FAPRI.

The “expected payments” column in Table 2 shows average expected payments from 2014 through 2018 across counties. In producing these averages, the program with the highest expected payments is selected for each county. In Table 2, program crops are ordered by size of payment. Peanuts, for example, have the highest expected payments of \$140 per base acre. Corn has expected payments of \$32 per base acre.

These rankings are useful for choosing between the two choices for base acre allocations. Many landowners will wish to choose the allocation with the majority of the acres in program crops with the higher expected payments (see *farmdoc daily* [January 21, 2015](#) for more detail).

Table 1 contains three columns listing percentages of counties for which ARC-CO makes higher expected payments than PLC. A 0% means that PLC has higher expected payments than ARC-CO in all counties. Conversely, a 100% means that ARC-CO has higher expected payments than PLC in all counties.

These percentages are shown for three price series: CBO, FAPRI, and USDA. FAPRI prices are shown in Table 1. For most crops, CBO has higher prices than FAPRI, and FAPRI has higher than USDA. For corn, ARC-CO makes higher payments than PLC in 99% of counties under CBO prices, 92% under FAPRI, and 75% under USDA. These percentages are explainable based on expected prices in those series. CBO prices have average expected prices above \$4.00, resulting in few payments to PLC. FAPRI prices are near \$4.00, still leading to ARC-CO having higher payments. USDA prices are lower and below the reference price. PLC payments increase in these scenarios.

PLC is expected to have higher payments in most counties for many of the crops in all three price scenarios. These crops are peanuts, rice, canola, grain sorghum, sunflowers, and flax. PLC likely will be the preferred choice in these cases. Crops where ARC-CO often has higher expected payments are corn, soybeans, lentils, wheat, dry peas, and oats. Here price expectations influence which program will have the higher payments.

**Table 2. Expected Payments and Times ARC-CO Exceeds PLC under Differing Price Series, APAS Sample Farms.**

Crop	Expected Payments <sup>2</sup>	Counties Where ARC-CO Exceeds PLC		
		Price Series <sup>2</sup>		
		CBO	FAPRI	USDA
	\$/base acre			
Peanuts	140	0%	0%	0%
Canola	51	0%	0%	0%
Barley	35	0%	1%	0%
Flax	34	0%	0%	0%
Corn	32	99%	92%	75%
Sunflowers	27	0%	0%	0%
Grain Sorghum	24	0%	0%	0%
Soybeans	20	100%	100%	100%
Wheat	20	62%	39%	0%
Lentils	19	100%	25%	0%
Dry Peas	18	0%	90%	0%
Oats	8	79%	92%	0%

<sup>1</sup> Expected yearly payments for 2014 through 2018 averaged across all counties in Sample Farms of APAS ([www.fsa.usapas.com](http://www.fsa.usapas.com)) under FAPRI series as of January 27, 2014. For each county, the highest ARC-CO and PLC payment is used in the average. See individual county results.

<sup>2</sup> Percent of counties where expected payment under ARC-CO exceeds PLC for different price series.

### Expected Payments for Corn

For corn, ARC-CO usually will have higher expected payments than PLC when the 2014-2018 prices are above \$3.30 per bushel. In 2014, ARC-CO likely will pay more than PLC in many counties, except for those counties with exceptionally high yields. Many high-yielding counties will be located in central Illinois and Missouri (see Figure 1 in *farmdoc daily* [January 22, 2015](#) for state estimates).

### Expected Payments for Soybeans

For soybeans, ARC-CO usually will have higher expected payments than PLC when 2014-2018 prices are above \$7.80 per bushel. For 2014, most areas as are projected to have low ARC-CO payments and no PLC payments (see Figure 2 in *farmdoc daily* [January 22, 2015](#)).

### Expected Payments for Wheat

For wheat, ARC-CO usually will have higher expected payments than PLC when 2014-2018 prices are above \$5.50 per bushel. The \$5.50 break-even point is close to where both CBO and FAPRI are projecting

prices. For 2014, ARC-CO is projected to make payments in many areas because of low yields (see Figure 3 in *farmdoc daily* [January 22, 2015](#)). PLC is not projected to have payments

## Other Tools

Besides APAS, a FAST spreadsheet called the ARC-CO PLC tool (available [here](#)) can be used to compare payments under differing MYA prices and county yields. A comparison of APAS and the spreadsheet is given in *farmdoc daily* [October 16, 2014](#).

## Summary

Expected payments are one factor for choosing between ARC-CO and PLC. Expectations are coming into clearer focus. More guidance will be available in early March after release of 2014 county yield estimates.

## References

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