

## Estimates for Agricultural Risk Coverage and Price Loss Coverage Payments for Program Year 2017

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The Agricultural Adjustment Act of 2014 ushered in two programs to the safety net for producers in Ohio and across the country: Agricultural Risk Coverage (ARC-CO) and Price Loss Coverage (PLC). Both programs serve as shallow loss programs protecting against large variations in revenue and price respectively. The two programs operate differently and should not be compared as substitute programs. However, producers were allowed a one time choice at the beginning of the farm bill to enroll each commodity in either ARC-CO or PLC. Participation rates in Ohio largely followed the national participation rates for corn and soybeans but differed for wheat. The national participation rate for wheat favored PLC, whereas in Ohio, producers favored heavily toward ARC-CO. Nonetheless there are producers in Ohio that are enrolled in ARC-CO and PLC for corn, soybeans, and wheat. This report looks toward the end of the marketing year to estimate county level payments for ARC-CO and PLC in Ohio. As a reminder, payments finalized in October 2018 will be for program year 2017. This information will be important for producers and lenders wishing to estimate their autumn cash flow.

In October of 2017, the majority of producers in Ohio received some form of commodity program payment for the program year 2016. In fact, every county across Ohio triggered a corn ARC-CO payment except Ashtabula county. Soybean ARC-CO payments for Ohio in program year 2016 were smaller and sparser compared to corn. The majority of Ohio counties triggered a wheat ARC-CO payment, but smaller base acres of wheat exist. In program year 2017, it is estimated fourteen counties triggered corn payments while nearly half triggered soybean payments and two thirds triggered wheat payments.

### Data Source and Calculation:

ARC-CO payments are based on a formula separated into two parts: historical revenue benchmark and actual year revenue. The historical revenue benchmark is the Olympic average of yields and prices for the five previous cropping years at 86% of the total. The actual year revenue is the current year yields multiplied by the Marketing Year Average (MYA) price for each commodity. In the case where the current year revenue falls below the historical revenue benchmark, a payment is triggered up to a 10% cap. If the current year revenue is higher than historical revenue then no payment is triggered.

As a reminder both ARC-CO and PLC payments are calculated from a formula using Farm Service Agency (FSA) yields and marketing year average prices. The estimations for this report use National Agricultural Statistic Service (NASS) yields for 2017. It should be noted that FSA yields are historically lower than NASS yields and should be treated as a lower bound for possible payments. NASS does not provide county yields for all counties, partially due to a low survey response rate. Counties with a NASS yield are included.

The corn and soybean marketing year is September 1<sup>st</sup> to August 31<sup>st</sup> meaning that final prices won't be known for several more months. Using World Agricultural Supply and Demand Estimates (WASDE) average prices from February, MYA prices of \$3.30 for corn, \$9.30 for soybeans, and \$4.60 for wheat are applied. As the marketing year progresses, it is likely that these estimates will fluctuate with price. Higher price results in a smaller payment, similarly, a lower price results in a larger payment.

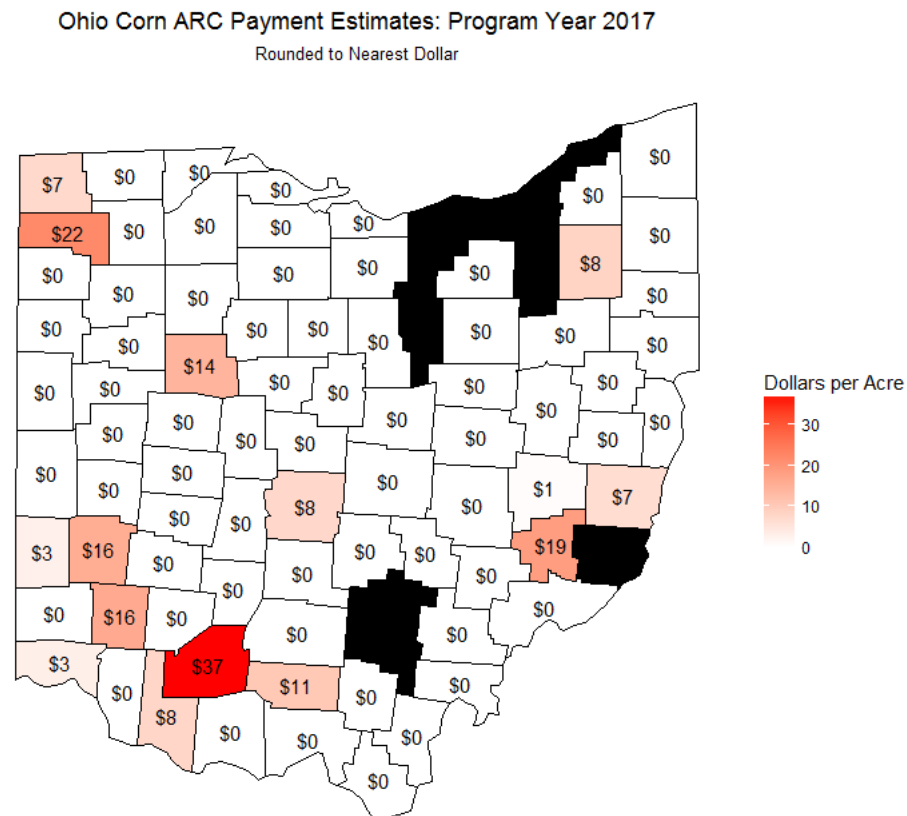
MYA prices used in the historical calucation are as followed:

	MYA 2012/13	MYA 2013/14	MYA 2014/15	MYA 2015/16	MYA 2016/17
Corn	<del>\$6.89</del>	\$4.46	\$3.70	<b>\$3.70</b>	<del><b>\$3.70</b></del>
Soybeans	<del>\$14.40</del>	\$13.00	\$10.10	<del>\$8.95</del>	\$9.50
Wheat	<del>\$7.77</del>	\$6.87	\$5.99	<b>\$5.50</b>	<del><b>\$5.50</b></del>

Years where the MYA price finished below the fixed reference price are replaced with the respective value and represented in bold above. Payments would be lower if the actual MYA price was used in the calculation. Soybeans have never finished below the reference price. Crossed out prices represent the highest and lowest values; these are thrown out in the Olympic average.

Established in the program payment calculations is a limit for payments on 85% of base acres. For simplicity purposes, these figures are adjusted to rates that represent the payment on 100% of enrolled acres. Because of the Budget Control Act of 2011, a 6.8% government sequester has been applied similar to payments made in program years 2014, 2015 and 2016. There is uncertainty as to how the Tax Cuts and Jobs Act of 2017 will impact the sequestration level.

## Corn Estimates



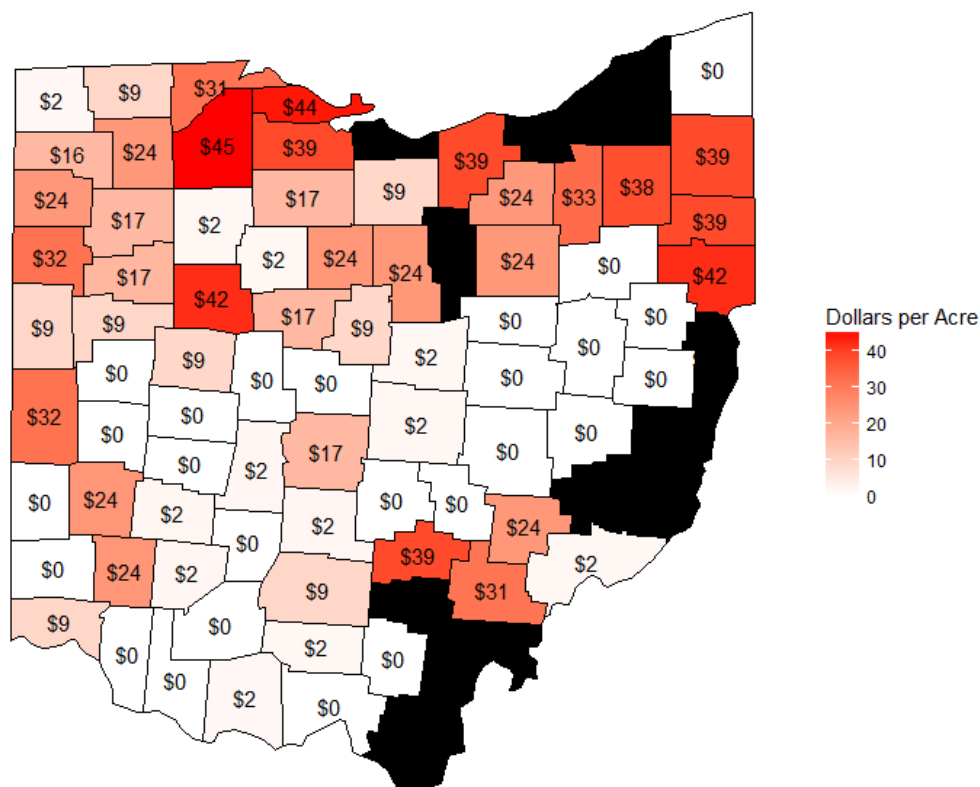
Data Source: Author Calculation

Expectations for program year 2017 corn ARC-CO payments will be smaller and rare across much of Ohio. This is largely because of the formula benchmark lowering each year as a result of lower prices. In previous years the historical five year revenue included high prices from MYA 2011/12 and 2012/13. Those have been worked out of the formula and the probability of triggering a payment has lowered. The 5 year olympic average price in 2016 was \$4.79 compared to a price of \$3.95 in 2017. Payment variations across counties happen due to variations in yields. Highland County triggers the largest estimated payment at \$37 per acre as a result of a 2017 yield of 167 bu/acre compared to a 2016 yield of 176. The average payment in 2016 was \$57 whereas in 2017 it is estimated at \$12. Fewer counties are expected to receive a payment with a smaller average payment in comparison from 2016.

#### Soybean Estimates

##### Ohio Soybean ARC Payment Estimates: Program Year 2017

Rounded to Nearest Dollar



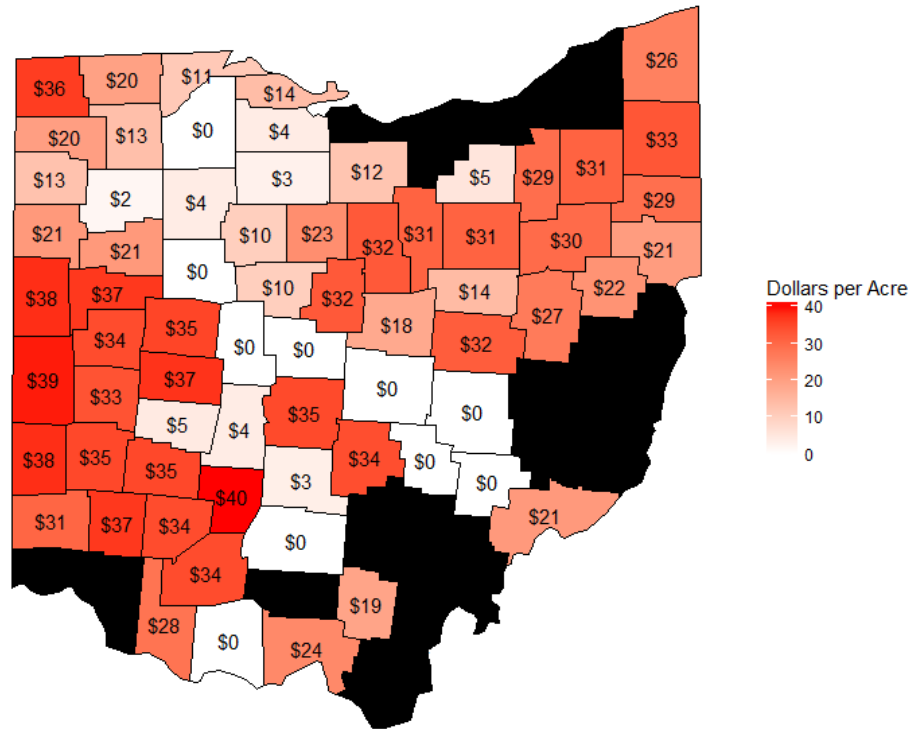
Data Source: Author Calculation

In a complete reverse of 2016, the majority of counties in Ohio are expected to trigger a soybean ARC-CO payment due to smaller county soybean yields and a lower historical revenue benchmark. County yields across Ohio were closer to historical trend than previous years and the five year MYA price was \$10.86 in 2017 compared to \$11.86 in 2016. Payments are projected larger in the northern part of the state where soybean acres are more prevalent. In 2016, 29 Ohio counties triggered an ARC-CO payment whereas in 2017, 49 counties are expected to trigger a payment. The average payment in 2016 was \$23, whereas in 2017 the average payment is projected at \$19. In difference to corn more counties are expected to trigger a payment, but similar to corn the payments are expected to be smaller in 2017.

## Wheat Estimates

Ohio Wheat ARC Payment Estimates: Program Year 2017

Rounded to Nearest Dollar



Data Source: Author Calculation

Corn and soybeans represent the majority of commodity base acres in Ohio with over 4 million base acres of corn and over 3 million base acres of soybeans. Wheat has just over 800 thousand base acres enrolled in ARC-CO or PLC. However, 82% of wheat base acres have ARC-CO enrollment. In 2016, all but four Ohio counties triggered an ARC-CO payment with an average payment rate of \$32. In 2017, the estimated average payment rate is \$24 in roughly two-thirds of Ohio's counties. The lower rate is a product of a higher expected MYA price for the current year of 2017/18. The largest payments are located along the Indiana/Ohio boarder.

## PLC Payments

PLC county payments estimates can be made at this time, but with less certainty. Largely because the PLC program has a higher focus on the current MYA price, which is being replaced with the WASDE estimated average price. In Ohio, 3% of soybean base acres, 7% of corn acres and 18% of wheat acres are enrolled in the PLC program. PLC calculation includes taking the positive difference of the fixed reference price minus the current MYA price. Fixed reference prices are as followed: corn- \$3.70, soybeans- \$8.40, and wheat- \$5.50. Given current WASDE projections for a high, low and average MYA price, a PLC payment is triggered at all three levels for corn and wheat with differing levels of size while soybeans do not trigger a payment at any level. PLC payments are expected to be larger for corn than last year while smaller for wheat. Soybeans have never triggered a PLC payment since the creation of the farm bill.

## Summary

Payments for ARC-CO and PLC will not be made until later in the calendar year, but for cash flow, planning an estimate can be seen as important. Estimates for program year 2017 include fewer counties in Ohio triggering a corn ARC-CO payment in 2017 compared to 2016 with a smaller average payment of \$12. This is due to a lower historical benchmark after high prices were removed from the five year Olympic average. In relation to 2016, more Ohio counties are expected to trigger a soybean ARC-CO payment with a smaller per acre average payment rate. Yields closer to a historical trend line have created a higher probability of a soybean payment for half of Ohio's 88 counties. Like corn, a similar story exists for wheat where fewer counties are expected to receive a payment with a lower average per acre payment rate compared to 2016. A higher expected current year marketing year average brings the current year revenue above the historical benchmark for a third of Ohio's counties. PLC payment rates are expected to be higher for corn and lower for wheat in 2017 than 2016, but applies to a small percentage of Ohio base acres. Soybeans are not expected to trigger a PLC payment. Estimates for ARC-CO and PLC for each county are included in the appendix.

These are estimates of what payment rates could look like in the majority of Ohio's 88 counties. Yields and prices will be finalized by the Farm Service Agency later in the calendar year.

## Data Sources:

United State Department of Agriculture- Farm Service Agency. *ARC/PLC Program*. Washington, D.C.: United States Department of Agriculture, 2018.

United States Department of Agriculture- National Agricultural Statistics Service. *County Yields*. Washington, D.C.: United States Department of Agriculture, 2018

United States Department of Agriculture- World Agricultural Outlook Board. *World Agricultural Supply and Demand Estimates, WASDE-574*, February 8, 2018.



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## Ohio ARC-CO Payments Estimates Per Base Acre- Program Year 2017\*

\*Payments are Adjusted for 85% base acre limit

\*A 6.8% sequester was also added in regards to The Budget Control Act of 2011

	Corn	Soy	Wheat		Corn	Soy	Wheat		Corn	Soy	Wheat
Adams	\$0	\$2	\$0	Hamilton	\$3	\$9	N/A	Muskingum	\$0	\$0	\$0
Allen	\$0	\$17	\$21	Hancock	\$0	\$2	\$4	Noble	\$19	N/A	N/A
Ashland	N/A	N/A	\$31	Hardin	\$14	\$42	\$0	Ottawa	\$0	\$44	\$14
Ashtabula	\$0	\$0	\$26	Harrison	\$0	\$0	N/A	Paulding	\$0	\$24	\$13
Athens	\$0	\$31	N/A	Henry	\$0	\$24	\$13	Perry	\$0	\$0	\$0
Auglaize	\$0	\$9	\$37	Highland	\$37	\$0	\$34	Pickaway	\$0	\$2	\$3
Belmont	\$7	\$0	N/A	Hocking	N/A	\$39	N/A	Pike	\$11	\$2	N/A
Brown	\$8	\$0	\$28	Holmes	\$0	\$0	\$14	Portage	\$8	\$38	\$31
Butler	\$0	\$0	\$31	Huron	\$0	\$9	\$12	Preble	\$3	\$0	\$38
Carroll	\$0	\$0	\$22	Jackson	\$0	\$0	\$19	Putnam	\$0	\$17	\$2
Champaign	\$0	\$0	\$37	Jefferson	\$0	N/A	N/A	Richland	\$0	\$24	\$32
Clark	\$0	\$0	\$5	Knox	\$0	\$2	\$18	Ross	\$0	\$9	\$0
Clermont	\$0	\$0	N/A	Lake	N/A	N/A	N/A	Sandusky	\$0	\$39	\$4
Clinton	\$0	\$2	\$34	Lawrence	\$0	N/A	N/A	Scioto	\$0	\$0	\$24
Columbiana	\$0	\$42	\$21	Licking	\$0	\$2	\$0	Seneca	\$0	\$17	\$3
Coshocton	\$0	\$0	\$32	Logan	\$0	\$9	\$35	Shelby	\$0	\$0	\$34
Crawford	\$0	\$24	\$24	Lorain	N/A	\$39	N/A	Stark	\$0	\$0	\$30
Cuyahoga	N/A	N/A	N/A	East Lucas	\$0	\$31	\$11	Summit	N/A	\$33	\$29
Darke	\$0	\$31	\$39	West Lucas	\$0	\$31	\$11	Trumbull	\$0	\$39	\$33
Defiance	\$22	\$16	\$20	Madison	\$0	\$0	\$4	Tuscarawas	\$0	\$0	\$27
Delaware	\$0	\$0	\$0	Mahoning	\$0	\$39	\$29	Union	\$0	\$0	\$0
Erie	\$0	N/A	N/A	Marion	\$0	\$17	\$10	Van Wert	\$0	\$32	\$21
Fairfield	\$0	\$0	\$34	Medina	\$0	\$24	\$5	Vinton	N/A	N/A	N/A
Fayette	\$0	\$0	\$40	Meigs	\$0	N/A	N/A	Warren	\$16	\$24	\$37
Franklin	\$8	\$17	\$35	Mercer	\$0	\$9	\$38	Washington	\$0	\$2	\$21
Fulton	\$0	\$9	\$20	Miami	\$0	\$0	\$33	Wayne	\$0	\$24	\$31
Gallia	\$0	N/A	N/A	Monroe	N/A	\$24	N/A	Williams	\$7	\$2	\$36
Geauga	\$0	N/A	N/A	Montgomery	\$16	\$24	\$35	Wood	\$0	\$45	\$0
Greene	\$0	\$2	\$35	Morgan	\$0	\$9	\$0	Wyandot	\$0	\$2	\$10
Guernsey	\$1	\$0	N/A	Morrow	\$0	\$0	\$32				

## Ohio PLC Payment Estimates Per Base Acre- Program Year 2017\*

\*Payments are Adjusted for 85% base acre limit

\*A 6.8% sequester was also added in regards to The Budget Control Act of 2011

	Corn	Soy	Wheat		Corn	Soy	Wheat		Corn	Soy	Wheat
Adams	\$31	\$0	\$22	Hamilton	\$35	\$0	\$30	Muskingum	\$34	\$0	\$26
Allen	\$41	\$0	\$42	Hancock	\$40	\$0	\$39	Noble	\$28	\$0	\$22
Ashland	\$34	\$0	\$31	Hardin	\$40	\$0	\$40	Ottawa	\$36	\$0	\$36
Ashtabula	\$33	\$0	\$32	Harrison	\$31	\$0	\$26	Paulding	\$37	\$0	\$37
Athens	\$30	\$0	\$25	Henry	\$41	\$0	\$41	Perry	\$37	\$0	\$31
Auglaize	\$41	\$0	\$44	Highland	\$34	\$0	\$29	Pickaway	\$36	\$0	\$38
Belmont	\$29	\$0	\$28	Hocking	\$31	\$0	\$26	Pike	\$30	\$0	\$24
Brown	\$32	\$0	\$24	Holmes	\$34	\$0	\$26	Portage	\$31	\$0	\$28
Butler	\$35	\$0	\$32	Huron	\$39	\$0	\$39	Preble	\$40	\$0	\$38
Carroll	\$30	\$0	\$26	Jackson	\$31	\$0	\$24	Putnam	\$42	\$0	\$43
Champaign	\$39	\$0	\$37	Jefferson	\$31	\$0	\$29	Richland	\$37	\$0	\$37
Clark	\$38	\$0	\$38	Knox	\$35	\$0	\$29	Ross	\$35	\$0	\$33
Clermont	\$34	\$0	\$34	Lake	\$28	\$0	\$26	Sandusky	\$41	\$0	\$40
Clinton	\$38	\$0	\$34	Lawrence	\$30	\$0	\$24	Scioto	\$32	\$0	\$28
Columbiana	\$34	\$0	\$31	Licking	\$35	\$0	\$30	Seneca	\$40	\$0	\$40
Coshocton	\$36	\$0	\$26	Logan	\$39	\$0	\$39	Shelby	\$41	\$0	\$42
Crawford	\$43	\$0	\$43	Lorain	\$35	\$0	\$31	Stark	\$33	\$0	\$29
Cuyahoga	\$32	\$0	\$26	East Lucas	\$38	\$0	\$38	Summit	\$30	\$0	\$27
Darke	\$42	\$0	\$43	West Lucas	\$41	\$0	\$41	Trumbull	\$33	\$0	\$35
Defiance	\$38	\$0	\$34	Madison	\$39	\$0	\$39	Tuscarawas	\$33	\$0	\$27
Delaware	\$36	\$0	\$35	Mahoning	\$33	\$0	\$29	Union	\$37	\$0	\$36
Erie	\$40	\$0	\$38	Marion	\$39	\$0	\$40	Van Wert	\$41	\$0	\$42
Fairfield	\$36	\$0	\$34	Medina	\$33	\$0	\$28	Vinton	\$32	\$0	\$25
Fayette	\$38	\$0	\$36	Meigs	\$31	\$0	\$24	Warren	\$35	\$0	\$32
Franklin	\$36	\$0	\$34	Mercer	\$41	\$0	\$44	Washington	\$33	\$0	\$24
Fulton	\$38	\$0	\$41	Miami	\$42	\$0	\$41	Wayne	\$35	\$0	\$31
Gallia	\$29	\$0	\$26	Monroe	\$28	\$0	\$23	Williams	\$35	\$0	\$35
Geauga	\$33	\$0	\$30	Montgomery	\$38	\$0	\$37	Wood	\$40	\$0	\$42
Greene	\$38	\$0	\$35	Morgan	\$33	\$0	\$25	Wyandot	\$40	\$0	\$39
Guernsey	\$29	\$0	\$22	Morrow	\$36	\$0	\$36				