

# Farm Bill Payments in Iowa

by Alejandro Plastina, Chad Hart, and Christopher Anderson

plastina@iastate.edu; chart@iastate.edu; cjames@iastate.edu

**I**N THE first half of 2015, crop producers could elect each farm into one of the two new commodity programs introduced by the 2014 Farm Bill: Price Loss Coverage (PLC) or Agricultural Risk Coverage (ARC); the latter at the individual farm level (ARC-IC), or at the county level (ARC-CO). Producers who wanted to participate in the commodity programs for the 2014 marketing year had to enroll their farms in the elected programs during the summer of 2015.

A total of 22,528,220 base acres of covered commodities were enrolled in the new programs in Iowa. Corn and soybeans accounted, respectively, for 69 percent and 30 percent of those base acres. Ninety-seven percent of all base acres were enrolled in ARC-CO. ARC-IC is excluded from this analysis due to lack of data.

## Payments in 2015

In 2015, total ARC-CO payments in Iowa amounted to \$908,914,323. The average ARC-CO payment per corn and soybean base acre amounted to \$48

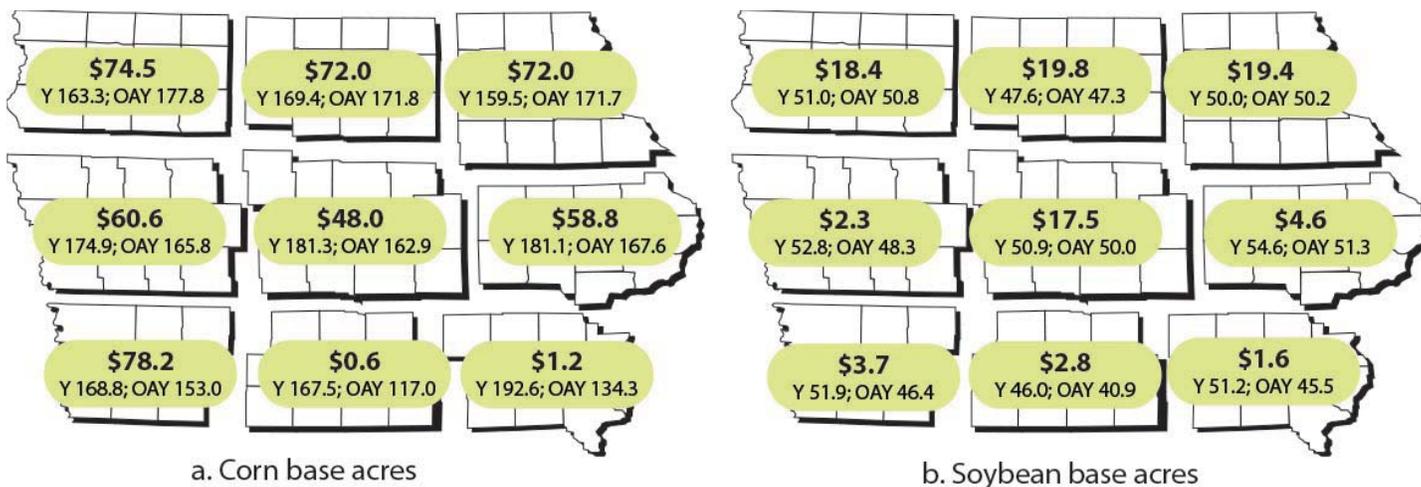
and \$10, respectively, after 6.8 percent sequestration. The payment per base acre was calculated as 85 percent of the difference between the county crop revenue and the ARC-CO guarantee revenue in 2014. The county crop revenue is the product of county yield times the national marketing year average price (\$3.70 for corn and \$10.10 for soybeans). The ARC-CO guarantee revenue in 2014 was calculated as 86 percent of the product of the guaranteed price and the five-year Olympic average of the county yields in 2009–2013. (The Olympic average is calculated as the simple average of the remaining numbers after eliminating the highest and the lowest from the calculation.) The guaranteed price in 2014 was calculated as the five-year Olympic average of the national marketing year average prices in 2009–2013, and amounted to \$5.29 per bushel of corn and \$12.27 per bushel of soybeans (see Ag Decision Maker File A1-32 for further details: <http://bit.ly/ADMA132>).

ARC-CO payments per corn base acre ranged from \$0 to \$78.79 (after

sequestration) across counties (Figure 1, panel a). ARC-CO payments for soybean base acres ranged from \$0 to \$51.71 (after sequestration) across counties (Figure 1, panel b). Although the marketing year average price for soybeans was \$2.17 lower than the Olympic average price, most counties received very low payments due to record yields in 2014.

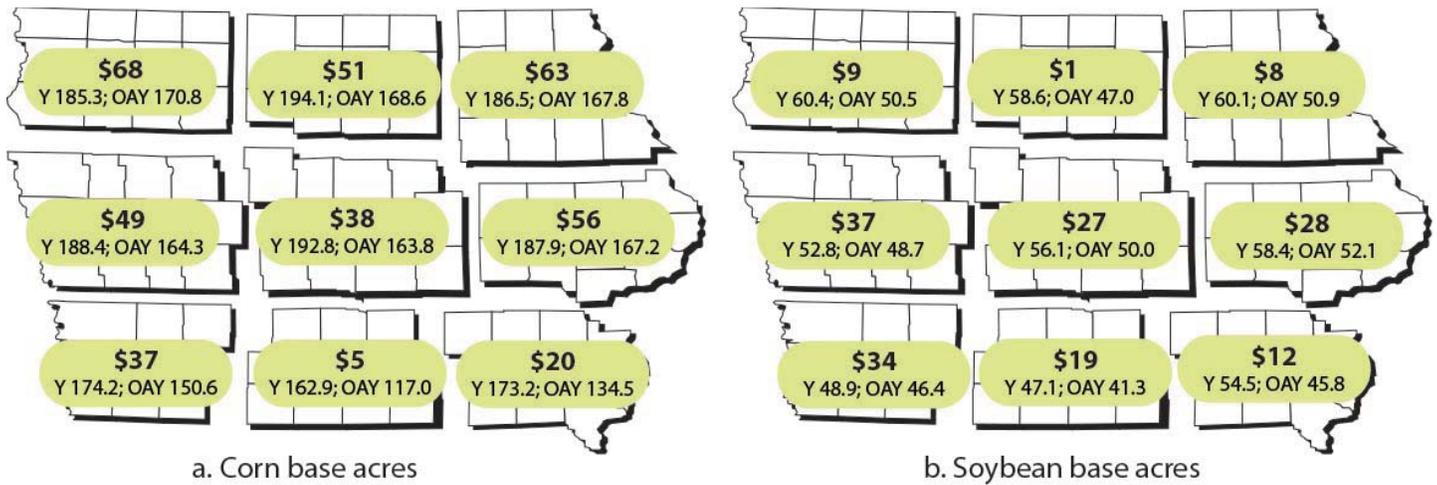
No PLC payments were triggered in 2015, since the 2014 marketing year average prices were equal to or higher than the reference prices established in the Farm Bill: \$3.70 per bushel of corn and \$8.40 per bushel of soybeans.

The projected gross margins (i.e., the difference between crop revenue and total costs) per *rented* acre using state average data for 2015 compute to negative \$211 for corn following corn, negative \$104 for corn following soybeans, and negative \$103 for soybeans (Plastina 2016). Even the highest ARC-CO payment, \$78.79 (O'Brien County), falls short of covering the negative margins on *rented* acres in 2015.



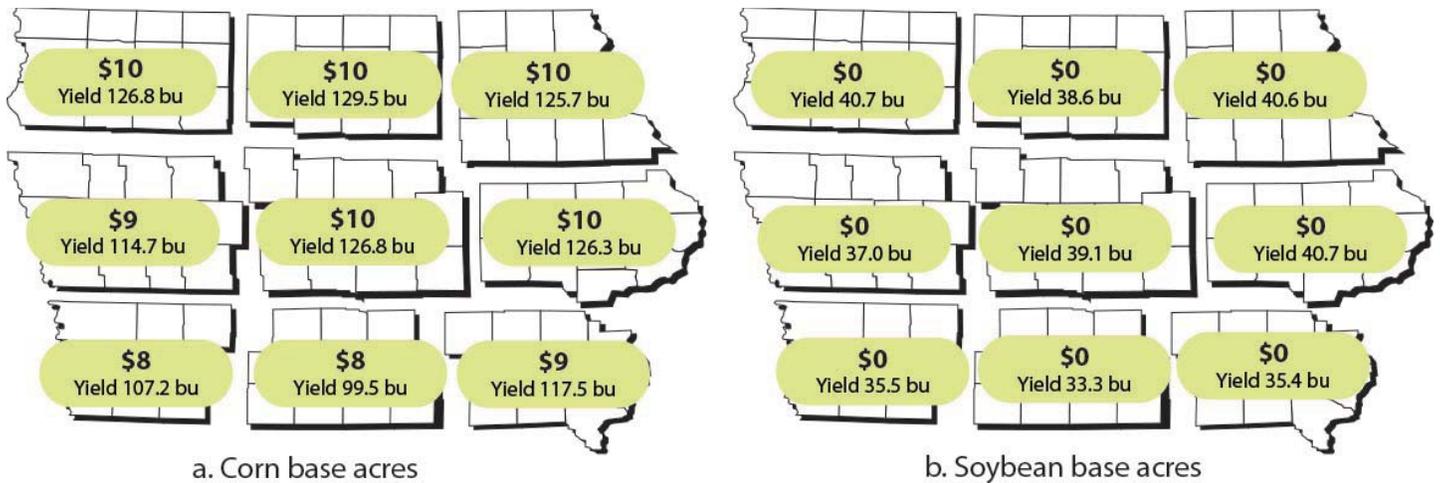
Notes: Y = average 2014 yields  
OAY = Olympic average yields in 2009-2013

Figure 1. Average ARC-CO payments for the 2014/15 marketing year by crop reporting district



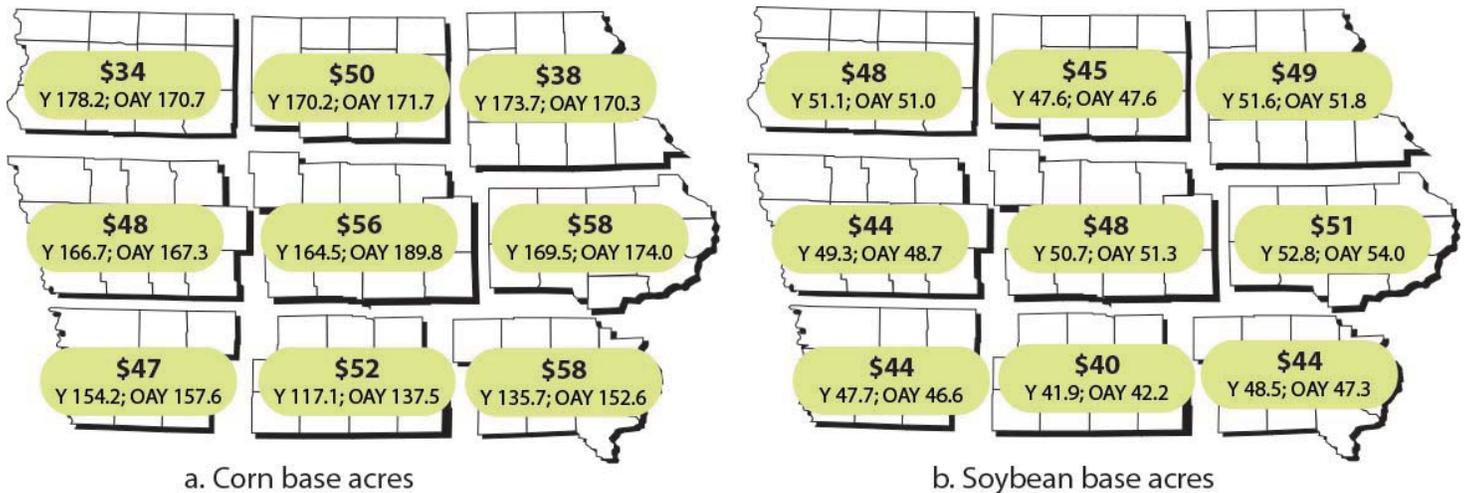
Notes: Y = average 2015 yields  
OAY = Olympic average yields in 2010-2014

Figure 2. Average ARC-CO payments projected for the 2015/16 marketing year by crop reporting district



Notes: Yields are average Counter-Cyclical Payment yields

Figure 3. Average PLC payments for the 2015/16 marketing year by crop reporting district



Notes: Y = average 2016 yields  
OAY = Olympic average yields in 2011-2015

Figure 4. Average ARC-CO payments projected for the 2016/17 marketing year by crop reporting district



## Projected Payments in 2016

USDA will issue ARC/PLC payments associated with the 2015/16 marketing year in October 2016. As of January 2016, two critical variables for the calculation of ARC/PLC payments are still unknown: the 2015 marketing year average price and the 2015 county yields. However, payments can be projected using USDA price projections and extrapolating county yields using official USDA state and regional yield estimates.

The current USDA price projections for corn and soybean in 2015 are, respectively, \$3.60 and \$8.80 per bushel. County yields are projected by multiplying 2014 county yields by the ratio of 2015 to 2014 yields in the corresponding crop reporting district (CRD). For example, the 2014 corn yield for Adair County was 164 bushels; the corn yields for CRD 7 were 175.4 bushels in 2014 and are projected at 181.0 bushels in 2015; and the 2015 corn yield for Adair County is projected at 169 bushels ( $=164 \times 181.0 / 175.4$ ).

The 2015 ARC-CO guaranteed prices are unchanged from 2014, since the 2014 prices that are incorporated into the calculation of the rolling five-year Olympic average are the lowest prices in 2010–2014 and therefore do not affect the resulting average, just as 2009 prices did not affect the 2014 ARC-CO guaranteed prices.

Under the described assumptions, Iowa farmers would receive, on average, ARC-CO payments for \$43 per corn base acre and \$19 per soybean base acre in 2016. Projected yields in 2015 are higher than the Olympic average yields over 2010–2014 for all counties but Adams (soybeans), Lyon (corn), and east and west Pottawattamie (corn and soybeans). However, the projected prices would drive crop revenues below the ARC-CO guarantee revenues for corn and soybean base acres in 79 and 69 counties, respectively.

PLC payments in Iowa would average \$9.50 per corn base acre, but would be zero for soybean base acres (Figure 3). PLC payments are calculated as 85 percent of the difference between the marketing year average price and the reference price times the PLC payment yields for each farm. By default, PLC payment yields are the old Counter-Cyclical Payment Yields (CCPY). However, in the first semester of 2015 producers had a one-time opportunity to update their payment yields to reflect their recent production history (2008–2013). At the national level, 31 percent of the farms electing PLC on corn base acres (accounting for 48 percent of the corn base acres in PLC) and 45 percent of the farms electing PLC on soybean base acres (accounting for 60 percent of the soybean base acres in PLC) updated their yields. The new yields for corn and soybeans were, on average, 28.3 percent and 31.5 percent higher than the CCPY, respectively. However, updated yields are not publicly available, so all calculations in this article are based on CCPY.

The projected gross margins per *rented* acre in 2016 compute to negative \$151 for corn following corn, negative \$51 for corn following soybeans, and negative \$115 for soybeans (Plastina 2016). There are 51 counties where projected ARC-CO payments exceed \$51 per corn or soybean base acre, but the highest projected payment (corresponding to O'Brien County), amounts to \$75.85.

## Projected Payments for 2017

If 2015/16 USDA price projections materialize, 2014/15 prices will replace 2010/11 prices in the five-year Olympic average calculation, and the ARC-CO guarantee prices for 2016/17 will be 9 percent and 3 percent lower for corn and soybeans, respectively, than in the previous two years: \$4.79 and \$11.87 per bushel. As a result, the 2016/17 ARC-CO guarantee revenue for corn and soybean

base acres would be \$37 and \$8 lower, on average, than in 2015/16. However, 19 counties would see their ARC-CO guarantee revenue go up on corn base acres (mostly in CRDs 8 and 9), and 26 counties would benefit from higher ARC-CO guarantee revenue on soybean base acres (concentrated in CRDs 5, 6, and 9).

County yield forecasts for 2016 were provided by the Iowa State University Climate Science Program, based on an index of El Niño strength as of October–December 2015. Projected yields are lower than the five-year Olympic average yields in 61 counties for corn base acres and 39 counties for soybean base acres.

The 2016/17 marketing year average price is projected using futures market prices (Hart 2014) at \$3.76 per bushel of corn and \$8.53 per bushel of soybeans (as of January 14, 2016). The difference between the projected price and the ARC-CO guarantee price, after 6.8 percent sequestration would be \$0.96 per corn base acre and \$3.34 per soybean base acre.

ARC-CO payments in Iowa would average \$49 per corn base acre and \$46 per soybean base acre in 2017 (Figure 4). All counties would receive payments for soybean base acres, and all but Lyon and Sioux Counties (due to high projected yields) would receive payments for corn base acres.

Since the projected marketing year average prices for 2016/17 exceed the reference prices for PLC, no PLC payments are expected in 2017.

## References

- Hart, Chad. 2014. "USDA's Season-Average Commodity Prices." *Ag Decision Maker*. File A2-15.
- Plastina, Alejandro 2016. "2016 Gross Crop Margins Negative despite Lower Costs." *Ag Decision Maker Newsletter*. Vol 20, no. 3. ■