AGRICULTURAL ECONOMICS

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Cornhusker Economics

# Farm Program Payments and Projections

| Market Report | Year Ago | 4 Wks Ago | 11-25-16 |
|---|---|---|---|
| **Livestock and Products, Weekly Average** | | | |
| Nebraska Slaughter Steers, 35-65% Choice, Live Weight. . . . . . . | 127.00 | 101.56 | 111.14 |
| Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb. . . . . | 196.97 | 130.50 | 149.09 |
| Nebraska Feeder Steers, Med. & Large Frame 750-800 lb. . .. . | 180.95 | 125.17 | 138.12 |
| Choice Boxed Beef, 600-750 lb. Carcass. . . . . . . . . . . . . . | 203.77 | 179.99 | 186.30 |
| Western Corn Belt Base Hog Price Carcass, Negotiated . . . . . . . . . . . . . .. | 51.38 | 45.70 | 42.23 |
| Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean. . . . . . . . . . . . . . . . . . . | 72.05 | 71.98 | 72.87 |
| Slaughter Lambs, wooled and shorn, 135-165 lb. National. . . . . . . | * | 145.41 | NA |
| National Carcass Lamb Cutout FOB. . . . . . . . . . . . . . . . . . . . . . . . . . | 362.45 | 353.59 | 357.09 |
| **Crops, Daily Spot Prices** | | | |
| Wheat, No. 1, H.W. Imperial, bu. . . . . . . . . . . . . . . . . . . . | 3.85 | 2.72 | 2.81 |
| Corn, No. 2, Yellow **Columbus**, bu. . . . . . . . . . . . . . . . | 3.44 | NA | 3.08 |
| Soybeans, No. 1, Yellow **Columbus,** bu. . . . . . . . . . . . . . .. . . | 8.14 | NA | 9.43 |
| Grain Sorghum, No.2, Yellow Dorchester, cwt. . . . . . . . . . . . . . . . . | 5.61 | 4.70 | 4.78 |
| Oats, No. 2, Heavy Minneapolis, Mn, bu. . . . . . . . . . . . . . | 2.77 | 2.76 | 2.76 |
| **Feed** | | | |
| Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton. . . . . . . . . . | 182.50 | 160.00 | NA |
| Alfalfa, Large Rounds, Good Platte Valley, ton. . . . . . . . . . . . . . . . | 75.00 | 67.50 | 70.00 |
| Grass Hay, Large Rounds, Good Nebraska, ton. . . . . . . . . . . . . . .. . . . | 80.00 | 67.50 | 65.00 |
| Dried Distillers Grains, 10% Moisture Nebraska Average. . . . . . . . . . . . . . . | 130.00 | 109.25 | 107.50 |
| Wet Distillers Grains, 65-70% Moisture Nebraska Average. . . . . . . . . . . . . . . | 50.00 | 42.00 | 42.75 |
| *** No Market** | | | |

Farmers and ranchers in Nebraska and elsewhere are currently facing a difficult period of tight operating margins and financial conditions. Commodity prices have fallen substantially since 2012 while production costs have been slower to adjust, leaving producers to manage tighter margins and greater financial risks. Federal farm programs have provided some protection and support to producers against these lower prices and margins, but an analysis of programs and projected payments suggests producers will need to quickly adapt to market conditions as program support falls over time.

The federal farm program support comes from commodity programs created in the 2014 Farm Bill. The legislation gave producers a choice of enrollment by commodity and by county in either a price-based program called Price Loss Coverage (PLC) or a revenue-based program called Agriculture Risk Coverage (ARC) at either the county level (ARC-CO) or the farm level called ARC-IC for "individual coverage". As commodity prices have declined, both ARC and PLC have become important components of the farm income safety net and also substantial infusions of cash flow for producers. An analysis of programs and payments provides insight on the protection offered to producers and the outlook ahead.

### Program Payments

The ARC program incorporates both national price and county or individual farm yield results from each crop year into the calculation of payments while the PLC program incorporates only national price results. Any payments are due to producers in October of the year following harvest after the marketing year is complete. Thus, program payments for the

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2014 crop year were paid to producers in late 2015, 2015 crop year payments were paid to producers in late 2016, any payments on the 2016 crop will be due in late 2017, and so on. ARC and PLC payments received on the 2015 crop have amounted to more than $7.6 billion nationally and more than $665 million in Nebraska to date, a substantial infusion of cash flow and contribution to statewide net farm income. Current projections suggest similarly large payments for the 2016 crop due in late 2017 before payments dramatically decline or disappear. Analysis below helps explain the payments and outlook for program support.

Both the PLC and ARC programs rely on national marketing year average prices. Thus, a look at past, current, and projected prices in Table 1 helps set the stage for analysis. National marketing year average prices for the 2015 crop were finalized in late 2016 while prices for 2016 through 2018 are projected for analysis purposes from USDA and Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU) price projections.

The multi-year decline in prices has translated into substantial increases in farm program payments and projected payments. However, the differing objectives and mechanics of ARC and PLC create very different payment levels and projections.

PLC payment rates are directly tied to the difference between the legislated reference price and the national marketing year average price for each commodity, with a maximum payment rate equal to the difference between the reference price and the national average marketing loan rate. PLC payments for each crop are based on the calculated payment rate multiplied by the producer's program yield and 85% of the producer's base acreage. The total payment is limited by producer payment limit and eligibility rules and is reduced according to the rules of budget sequestration. From a timing standpoint, PLC payments were negligible in Nebraska for the 2014 crop year, but have quickly become important as prices for wheat, grain sorghum, and even corn dropped below reference price levels. PLC payments thus far on the 2015 crop have amounted to more than $31 million. Based on current price projections for 2016-2018, PLC payments could expand greatly. While Table 1 provides the reference prices and market price projections, Table 2 provides the resulting PLC payment rates and projected payment rates through the 2018 crop year.

When the 2014 Farm Bill was developed and then implemented, the PLC program was not projected to provide much support or payments to producers given that commodity prices were substantially above reference price levels. That held true for most commodities in 2014, but the continued decline in market prices has moved most commodities below reference price levels, generating substantial PLC payments. With price projections through 2018 keeping prices below or near reference price levels, the PLC is expected to provide even more support going forward.

While the PLC program started small, it is becoming more significant over the life of the 2014 Farm Bill. Conversely, the ARC program started off with substantial payments to producers, but is expected to shrink quickly through 2018. Unlike PLC payments that are tied to a fixed reference price set in legislation, ARC-CO payments are tied to revenue (price times yield) results for the crop year compared to a benchmark revenue based on the five-year Olympic average price and yield for each crop by county and by practice for those crops where county-level irrigated and nonirrigated yields are calculated separately. ARC-IC is calculated similarly, but on farm-level yield averages and results. The ARC program protects producers when revenue drops below a guarantee equal to 86% of the benchmark revenue based on the average prices and yields.

ARC payments are based on the same national marketing year average prices as used with PLC. ARC-CO payments are additionally based on county-level crop yields per harvested acre estimated by the USDA National Agricultural Statistics Service (NASS) and adjusted by the USDA Farm Service Agency for unharvested acreage to generate yields per planted acre. ARC-IC payments are based on actual farm-level yields per planted acre and add to total ARC payments, but are an insignificant part of the total payment amounts due to limited enrollment.

Table 3 shows the ARC-CO payment rates for the 2014 and 2015 crop years for major Nebraska crops along with projections for the 2016 through 2018 crop years.

The payment rates in Table 3 were calculated per base acre, taking into account that payments are made on only 85% of base acres. The payment rates also represent a simple average of all calculated payment rates in Nebraska for each crop, including all irrigated, nonirrigated, and blended practices by county. Thus, the rates do not reflect any single payment rate and do not illustrate the wide variability in payment rates due to variable yield results, but they do demonstrate the general level of payments for each crop for 2014-2015 and projected for 2016-2018.

As the table illustrates, ARC payment rates were large in the first years of the 2014 Farm Bill as the 5-year Olympic average prices carried into the program incorporated the recent high price years prior to 2014. For example, the ARC benchmark price was $5.29 for both the 2014 and 2015 crop for corn, as shown in Table 1. With actual national marketing year average prices for corn falling substantially below those benchmarks at

$3.70 and $3.61 per bushel in 2014 and 2015, ARC payments were large, even with above average yield results. For the 2016 crop, the benchmark price had fallen to $4.79 per bushel as multiple lower-price years worked into the 5-year Olympic average. But, the market price has fallen as well down to a current projection of $3.30 per bushel. As a result, ARC payments are still projected to be substantial for the 2016 crop. However, as even more lower-price years work into the Olympic average, the benchmark falls, the guarantee falls, and the projected payment disappear (if yields achieve Olympic-average levels and prices reach projections as shown in Table 1). While the numbers differ for all crops, the general direction is the same as large early payments move toward $0 by the 2018 crop year.

Detailed payment estimates and analysis are available on the Nebraska Extension farm bill website at http://farmbill.unl.edu. Full tables of all counties, crops, and practices under the ARC-CO program in Nebraska are posted online for the 2014 and 2015 crop years along with current projections for the 2016 crop year based only on the state-level yield estimates available to date. As yield data for 2016 becomes available by county and practice, projected payments will continue to be updated until final results and payment rates are calculated and payments made to producers in late 2017.

**Summary**

With lower crop prices and lower farm income projections, cash flow is an important consideration for producers now and in the coming year. Farm program payments on the 2016 crop will be substantial in Nebraska under both the ARC and PLC programs. But, as noted, ARC support is projected to drop substantially through the 2018 crop year. More than 95% of corn and soybean base acreage in the state was enrolled in ARC, and payments on those crops are projected to drop accordingly. A larger percentage of grain sorghum and wheat base acres were enrolled in PLC (40% and 50% respectively) and stand to earn bigger PLC payments going forward, but the relative base acres and payments are smaller, meaning total farm program payments will drop substantially.

While total farm program payments in Nebraska exceeded $600 million per year for the 2014 and 2015 crops and are expected to still be large for the 2016 crop, they are also projected to fall to less than $200 million for the 2018 crop as ARC payments all but disappear. Farm program payments have helped crop producers withstand the dramatic drop in prices thus far and are expected to still provide substantial cash flow in 2017 (for the 2016 crop), but the support will trend down and push producers under ARC to adapt to market conditions by 2018. Even recognizing the limitations, it is obvious that the PLC and ARC are important parts of a producer's risk management strategy and bottom line. It is just as important to remember that the bottom line is also affected by all of the other risk management decisions, including production, insurance, and marketing decisions that all contribute to a portfolio approach to risk management.

**Table 1. National Marketing Year Average Prices and Projections and 5-Year Olympic Average Agricultural Risk Coverage (ARC) Benchmark Prices***

| Commodity | Reference Price ($/bushel) | Prices (ARC Benchmark Prices) ($/bushel) | | | | |
|---|---|---|---|---|---|---|
| | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Corn | 3.70 | 3.70 (5.29) | 3.61 (5.29) | 3.30 (4.79) | 3.57 (3.95) | 3.80 (3.70) |
| Grain Sorghum | 3.95 | 4.03 (5.10) | 3.31 (5.10) | 3.10 (4.77) | 3.26 (4.09) | 3.49 (3.98) |
| Soybeans | 8.40 | 10.10 (12.27) | 8.95 (12.27) | 9.20 (11.87) | 9.44 (10.77) | 9.64 (9.58) |
| Wheat | 5.50 | 5.99 (6.60) | 4.89 (6.70) | 3.70 (6.70) | 4.52 (6.12) | 5.02 (5.66) |

* Price and ARC benchmark price projections based on price projections for 2016 from USDA-WAOB and USDA-FSA as of November 2016 and price projections for 2017-2018 from FAPRI-MU as of August 2016.

Sources: USDA-FSA, USDA-NASS, USDA-WAOB and FAPRI-MU.

**Table 2. Price Loss Coverage (PLC) Payment Rates and Projected Payment Rates***

| Commodity | Reference Price ($/bushel) | PLC Payment Rates ($/bushel) | | | | |
|---|---|---|---|---|---|---|
| | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Corn | 3.70 | 0.00 | 0.09 | 0.40 | 0.13 | 0.00 |
| Grain Sorghum | 3.95 | 0.00 | 0.64 | 0.85 | 0.69 | 0.46 |
| Soybeans | 8.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wheat | 5.50 | 0.00 | 0.61 | 1.80 | 0.98 | 0.48 |

* PLC payment projections based on price projections for 2016 from USDA-WAOB and USDA-FSA as of November 2016 and price projections for 2017-2018 from FAPRI-MU as of August 2016.

Sources: USDA-FSA, USDA-NASS, USDA-WAOB and FAPRI-MU.

**Table 3. Agriculture Risk Coverage (ARC) Payment Rates and Projected Payment Rates***

| Commodity | County/Practice Combinations | Average ARC-CO Payment Rates ($/base acre) | | | | |
|---|---|---|---|---|---|---|
| | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Corn | 131 | 52.87 | 52.36 | 62.75 | 0.00 | 0.00 |
| Grain Sorghum | 103 | 18.59 | 21.67 | 33.90 | 18.73 | 0.00 |
| Soybeans | 112 | 15.47 | 28.45 | 0.00 | 0.00 | 0.00 |
| Wheat | 113 | 9.11 | 24.30 | 24.07 | 23.17 | 0.00 |

* ARC-CO payment projections based on yield and price projections for 2016 from USDA-NASS, USDA-WAOB, and USDA-FSA as of November 2016. ARC-CO payment projections based on Olympic average yields and price projections for 2017-2018 from FAPRI-MU as of August 2016.

Sources: USDA-FSA, USDA-NASS, USDA-WAOB and FAPRI-MU.

Endnote: Updated information, detail, and analysis is available at http://farmbill.unl.edu

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