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ARC/PLC payments in 2016 and 2017

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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.

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).

The 2015 ARC-CO guaranteed prices are unchanged from 2014. The 2014 prices that are incorporated into the calculation of the rolling five-year Olympic average are the lowest prices in 2010–2014. Therefore, the 2014 prices 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

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Handbook updates

For those of you subscribing to the handbook, the following new updates are included.

Historical Corn Yields by County – A1-12 (10 pages)

Historical Soybean Yields by County – A1-13 (10 pages)

Corn and Soybean County Yields – A1-14 (4 pages)

2016 Iowa Farm Custom Rate Survey – A3-10 (5 pages)

Monthly Swine Feeding Returns – B1-31 (5 pages)

Monthly Cattle Feeding Returns – B1-36 (2 pages)

Please add these files to your handbook and remove the out-of-date material.

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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.

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 payment rate, or 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. The 2016/17 corn and bean payment rates are 62 cents and 13 cents lower, respectively, than in 2015/16.

ARC-CO payments in Iowa would average \$49 per corn base acre and \$46 per soybean base acre in 2017 (Figure 3). 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 (Plastina, Hart, and Anderson 2016).

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

A detailed report of ARC/PLC payments by crop and county is available in *Decision Tool A1-33, Farm Bill Payments in Iowa*.

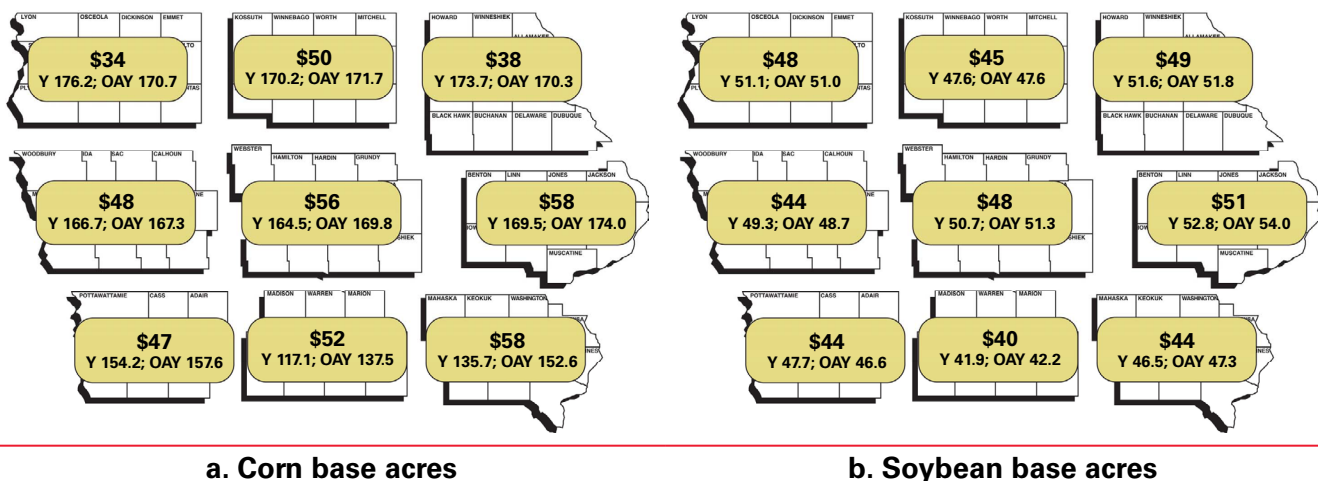
References:

Hart, Chad. 2014. "[USDA Season-Average Price Calculator](#)." 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.

Plastina, A., C. Hart, and C. Anderson. 2016. "[Farm Bill Payments in Iowa](#)." [Agricultural Policy Review](#), Center for Agricultural and Rural Development, Iowa State University, Ames, IA.

Figure 3. Average ARC-CO payments projected for the 2016/17 marketing year by crop reporting district



Notes: Y stands for average 2016 yields; OAY stands for Olympic average yields in 2011-2015.



Iowa farm custom rate survey provides guidance for hiring

By Alejandro Plastina, extension economist and assistant professor in economics, 515-294-6160, plastina@iastate.edu; Ann Johanns, extension program specialist, 641-732-5574, aholste@iastate.edu

Hiring others to do custom machine work is a common practice for farmers across Iowa. The [2016 Iowa Farm Custom Rate Survey](#) canvassed 182 farmers, custom operators and farm managers from the state, putting together a guide for pricing custom machine work.

The publication, which can be found online at the Iowa State University Extension and Outreach Store ([FM 1698](#)) or on the Ag Decision Maker website as [Information File A3-10](#), provides rates for custom work in the following categories: tillage, planting, drilling, seeding, fertilizer application, harvesting, drying and hauling grain, harvesting forages, complete custom farming, labor, and both bin and machine rental.

The survey found there was a 2 percent price decline across all surveyed categories. When the categories with the 5 percent highest and lowest change were removed, the average decline in rate became 2.6 percent. Table 1 shows historic rates for a sample of operations from the survey.

“This change is tied to lower crop prices,” said Alejandro Plastina, assistant professor and extension economist with ISU Extension and

Outreach. “The bad news is the decline in price for those who hire custom work is dwarfed by the overall decline in crop prices.”

The average rate and range for each machine work function were compiled into the survey as usual, but this year the median charge and number of responses for each category were added to provide additional context to the findings.



There are many reasons why the rate charged in a particular situation should be above or below the average.

Table 1. Average farm custom rates reported for Iowa

Operation	1978	1988	1998	2008	2014	2015	2016
Chisel plowing, per acre	\$6.00	\$8.40	\$9.65	\$13.70	\$16.15	\$16.90	\$16.45
Planting, per acre	\$4.40	\$6.80	\$8.85	\$13.20	\$17.85	\$18.50	\$18.55
Spraying, per acre	\$2.40	\$3.50	\$4.00	\$5.60	\$6.90	\$7.40	\$6.80
Combining corn, per acre	\$16.20	\$22.00	\$23.40	\$28.10	\$34.15	\$35.35	\$34.75
Combining soybeans, per acre	\$14.00	\$20.60	\$22.55	\$27.10	\$34.15	\$34.75	\$34.05
Baling square bales, per bale	\$.21	\$.29	\$.36	\$.48	\$.65	\$.72	\$.66
Custom farming, corn, per acre	\$58.00	\$71.00	\$75.80	\$94.10	\$136.10	\$136.50	\$129.95
Custom farming, soybeans, per acre	\$50.00	\$65.00	\$70.65	\$83.00	\$121.00	\$125.35	\$116.15
Machinery operating wage, per hour	\$3.50	\$5.10	\$7.20	\$11.70	\$13.90	\$14.20	\$15.05

Source: Iowa State University, Iowa Farm Custom Rate Surveys, FM 1698.

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The additions were included to make the publication more user-friendly, providing clarity on how far apart the average and median charge were. Another addition to the 2016 survey are responses for scouting crops with a drone.

For the survey, the average is calculated as the simple average of all responses. The median is the response that splits all the ordered responses (from smallest to largest) in half. The range consists of the second-lowest value and the second-highest value in the sample.

The values presented in the survey are intended only as a guide. There are many reasons why the rate charged in a particular situation should be

above or below the average. These include the timeliness with which operations are performed, quality and special features of the machine, operator skill, size and shape of fields, number of acres contracted, and the condition of the crop for harvesting. The availability of custom operators in a given area will also affect rates.

The Ag Decision Maker website offers a [Decision Tool](#) to help custom operators and other farmers estimate their own costs for specific machinery operations. Plastina and Ann Johanns, program specialist in economics with ISU Extension and Outreach, authored the publication.



Updated tools for calculating net present value of beef replacement females

By Lee Schulz, extension livestock economist, 515-294-3356, lschulz@iastate.edu;
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Before decisions regarding purchasing or retaining replacement females are made, producers should consider the economic value of replacements entering the herd. Just like any other capital investment, replacement females are only worth the sum of all the cash they can earn over their lifetime, which includes their salvage value as cull cows, less all the expenses they create. The net cash flows the replacement females can generate over their life time depend on the future prices of calves, cost structure, and the eventual salvage value of the cull cows. Not only do the size of the cash flows impact the value of the replacement females, the timing of when the replacements generate income and expenses is important in determining the replacements' value because money has earning power of its own. Information on the components for analyzing economic feasibility can be found in AgDM Information File B1-74, [Net Present Value of Beef Replacement Females](#)

Decision aides

Two Ag Decision Maker Decision tools have been developed to aid in calculating payback period, internal rate of return, net present value, and maximum bid price of potential purchased or retained replacement females. The first spreadsheet, B1-74, [Net Present Value of Beef Replacement Females \(single replacement\)](#), specifies input and output variables outlined above on a per-head basis over the period of time between the decision to purchase or retain a replacement female and when the replacement female is projected to be culled from the herd. The second spreadsheet, B1-74, [Net Present Value of Beef Replacement Females \(group of replacements\)](#), specifies input and output variables on a group of replacements over the period of time between the decision to purchase or retain replacement females and when the last replacement female(s) from the group is projected to be culled from the herd.

Updated tools for calculating net present value of beef replacement females, continued from page 5

These two decision tools differ in the number of inputs required and complexity of the models. The single replacement decision tool works off of a greater number of assumptions, primarily impacted by the user needing to project the number of calving opportunities and marketable calves for a single replacement. This model is useful for analyzing the single replacement case.

Many times replacement females are purchased or retained as a group. As such, accounting for the biological production realities associated with the particular group of replacements is important to the investment decision. The group of replacements decision tool allows users to input more management variables, such as cow death loss and cow culling rate, allowing the model to account for fall-out of animals from a contemporary group over time.

The key aspect of this model is that the productive life of replacement females, resulting from the user inputted magnitude and timing of death loss and culling, influences the investment decision.

Summary

Using capital budgeting analysis to determine the value offered by purchased or retained replacement females allows producers to properly reflect upon the economic opportunity presented by alternative investments in replacement females. Due to differences in enterprise goals and, perhaps most importantly their own costs, management practices, and expectations about future market prices, each producer should make this decision independent of other local operations.

Updates, continued from page 1

Internet Updates

The following Information Files and Decision Tools have been updated on www.extension.iastate.edu/agdm.

Farm Bill Payments in Iowa – A1-33 (Decision Tool)

Net Present Value of Beef Replacement Females – B1-74 (3 pages)

Net Present Value of Beef Replacement Females (single replacement) – B1-74 (Decision Tool)

Net Present Value of Beef Replacement Females (group of replacements) – B1-74 (Decision Tool)

Current Profitability

The following tools have been updated on www.extension.iastate.edu/agdm/info/outlook.html.

Corn Profitability – A1-85

Soybean Profitability – A1-86

Iowa Cash Corn and Soybean Prices – A2-11

Season Average Price Calculator – A2-15

Ethanol Profitability – D1-10

Biodiesel Profitability – D1-15

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