



# Ag Decision Maker



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## 2015 crop cost estimates released

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Iowa State University Extension and Outreach released its annual publication titled [Estimated Costs of Crop Production in Iowa - 2015](#). The publication is intended to help farmers determine their own potential 2015 crop costs per acre and per bushel for various crop costs considering rotations, tillage practices, machinery, inputs, labor, land and yield expectations.

### Slight decline in costs expected

Crop cost estimates for 2015 for both corn and soybean production in Iowa are expected to drop slightly from 2014. The ISU estimates show the total cost per acre and per bushel using a variety of assumptions. Figure 1 indicates the 2015 cost estimates for three different crop rotations assuming conventional tillage practices and medium yield expectations.

Total costs for a Soybeans after Corn rotation is expected to decline by 2 percent with a cost per bushel projection of \$10.96 per bushel. Total costs for both Corn after Soybeans and Corn after Corn rotations are expected to drop by 1 percent. The cost per bushel is projected at \$4.23 per bushel and \$4.93 per bushel, respectively.

Cash rent equivalent estimates for medium- and high-grade land are estimated to decline by 5 percent in 2015, while rents for lower-grade land are projected to drop 7 percent. Machinery operating costs are estimated to decline by 7 percent, driven by an expected 17 percent decline in diesel fuel prices and a 9 percent drop in LP gas. Lower crop futures prices will result in lower crop insurance revenue guarantees and therefore lower insurance premiums.

The cost of seed corn is estimated to be 2 percent higher, while the cost of fertilizer and lime for corn production is estimated to increase by 6 percent.

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### Handbook updates

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

**Estimated Costs of Crop Production in Iowa - 2015 - A1-20** (13 pages)

**Livestock Planning Prices - B1-10** (1 page)

**Suggested Closing Inventory Prices - C1-40** (2 pages)

**2014 Farmland Value Survey - C2-70** (6 pages)

Please add these files to your handbook and remove the out-of-date material.

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Herbicide costs are up slightly from the 2014 projections.

The cost of soybean seed in 2015 is projected 8 percent higher for the GMO varieties, at \$55 per acre, but 2 percent lower for non-GMO varieties, at \$41.80. Fertilizer and lime costs for soybean production are expected to rise by 4 percent for both type of seed varieties. However, herbicide costs for the GMO varieties are projected to increase more than for the non-GMO varieties.

The publication for Estimated Costs of Crop Production in Iowa - 2015 is FM-1712 or the online version is file [A1-20 - Estimated Costs of Crop Production - 2015](#).

Both versions have blanks where farmers can insert "Your Estimate" to help with estimates reflecting different costs related to crop rotations, tillage practices, machinery, inputs, labor, land as well as various yield expectations.

**Figure 1. 2015 Iowa Crop Cost Estimates**



|                     | Total Cost | Expected Yield bu/A | Cost Per Bushel |
|---------------------|------------|---------------------|-----------------|
| Soybeans after Corn | \$548      | 50                  | \$10.96         |
| Corn after Soybeans | \$761      | 180                 | \$4.23          |
| Corn after Corn     | \$813      | 165                 | \$4.93          |

Source: Plastina, ISU Extension Economist, January 2015



## Iowa land values survey - results and outlook

By Mike Duffy, retired extension economist

The Iowa Land Value Survey was initiated in 1941 and is sponsored annually by Iowa State University. Only the state average and the district averages are based directly on the ISU survey data. The county estimates are derived using a procedure that combines the ISU survey results with data from the U.S. Census of Agriculture. Beginning in 2014 the survey is being conducted by the Center for Agriculture and Rural Development (CARD) in the Economics Department at Iowa State University.

The survey is intended to provide information on general land value trends, geographical land price relationships and factors influencing the Iowa land market. The survey is not intended to provide an estimate for any particular piece of property.

### Interpretation of the survey results

The ISU land value survey reported an 8.9 percent decrease in farmland values, with the state average being \$7,943. As shown in Figure 1, this is the largest percentage decrease in land values since 1986. In spite of the decrease 2014, Iowa farmland values are more than double what they were 10 years ago, 81 percent higher than 2009 values and 18 percent higher than they were in 2011.

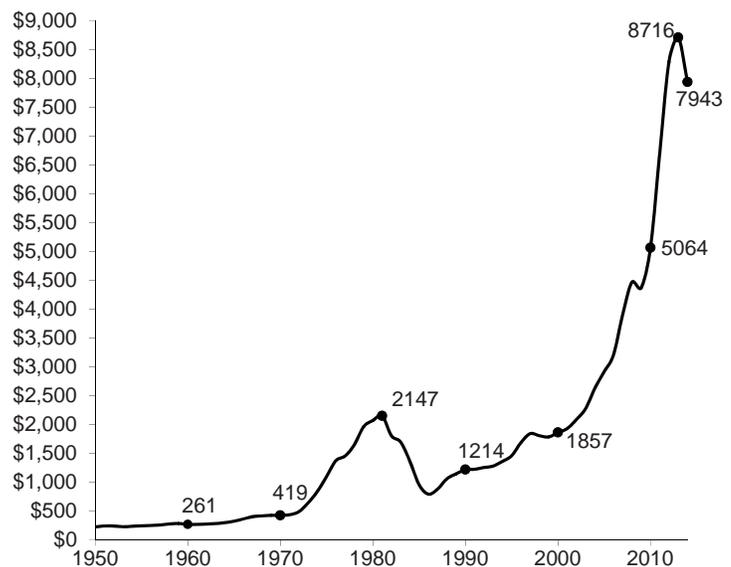
The 2014 survey revealed different conditions within the state. One crop reporting district, southeast, reported an increase in land values, (3.2 percent). Additionally, 7 counties reported higher land values in 2014 relative to 2013. Values for 2013 and 2014 by County are shown in Figure 2.

The results from the ISU land value survey match results from other surveys.

The Realtors Land Institute reported land values down 5.4 percent from September 2013 to March 2014 and down an additional 3.4 percent from March 2014 to September 2014. The Federal Reserve Bank of Chicago reported Iowa land values down 4 percent from October 2013 to October 2014. The same survey reported Iowa land values decreased by 4 percent from July to October, 2014. The USDA reported Iowa farmland values up 10.4 percent from January 2013 to January 2014. The reason for the discrepancy between USDA's estimate is the time period covered.

The ISU survey also shows changing situations with respect to the Iowa farmland market. The percent of respondents who reported fewer sales is the second highest recorded to date. Conversely, with the exception of 2009, the percent of respondents who reported an increase in sales was the lowest it has ever been.

Figure 1. Average value per acre of Iowa farmland.



Source: ISU Center for Agricultural and Rural Development Land Value Survey

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It is important to remember that the ISU survey is an opinion survey covering the time period from November 2013 to November 2014. When comparing surveys be sure to consider the time period covered. This can be especially relevant in times when the land values are not exhibiting a uniform change.

An opinion survey is just that. It represents the collective opinion of the survey respondents. Most of the respondents will use actual sales to formulate their opinions but each person can choose to weight or discount particular sales as they deem necessary. A study comparing the Iowa State University opinion survey and actual sales data in Iowa showed that differences were not statistically significant. Some years the opinion was higher and vice versa. For some counties the differences were greater in one year and less in another. So, even though the opinion survey averaged higher than the sales the difference was not statistically significant.

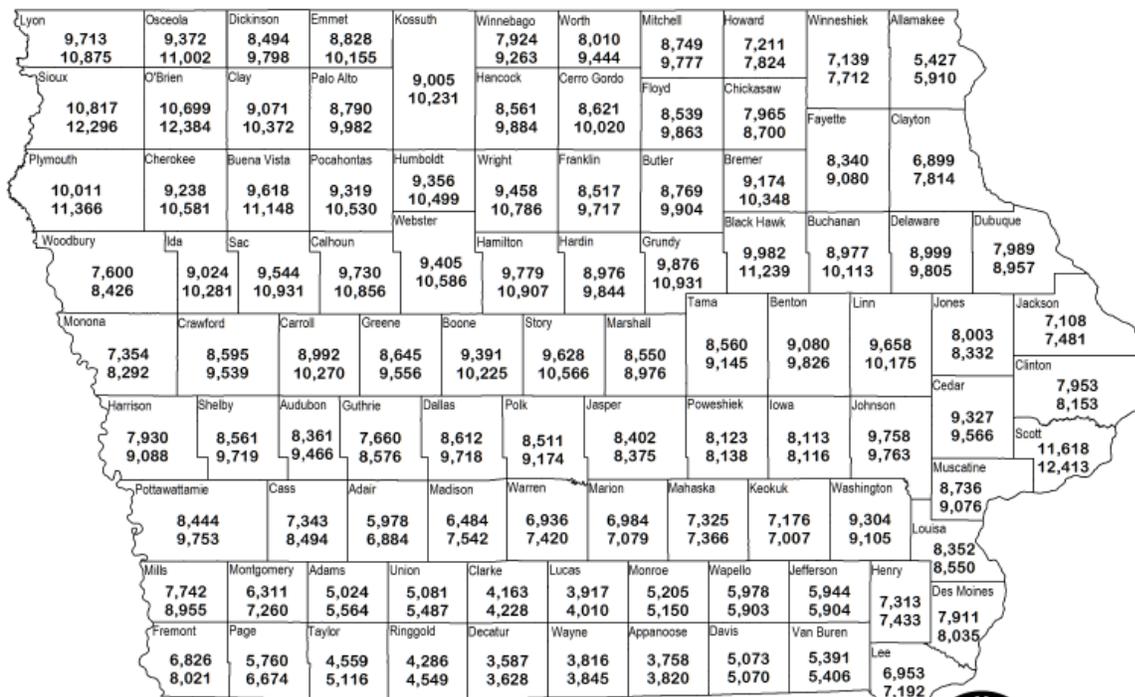
## Outlook for land values

The results of the 2014 Iowa State University farmland value survey are not surprising. Land values are determined by the income and the interest (discount) rate used. Net farm income has been at record high levels the past few years and interest rates have been at record low levels. This combination produced record high farmland values.

Corn and soybean prices started falling in 2013. As a result farm income dropped. The most recent USDA net farm income estimate was record high income in 2013 but a 23 percent drop in net farm income for 2014.

A simple regression analysis with farmland values as a function of net farm income shows a 1 percent decrease in income will produce approximately a one-half percent decrease in farmland values. This relationship is not exact or immediate but there is an extremely strong relationship which indicates what will happen to land values with a change in income.

**Figure 2. 2014 Land values by county.**



County estimates of average dollar value per acre for Iowa farmland based on U.S. Census of Agriculture estimates and the Nov. 1, 2014, Iowa Land Value Survey conducted by Center for Agricultural and Rural Development, Iowa State University. The top figure is the estimated Nov. 1, 2014, value; the bottom figure is the estimated Nov. 1, 2013, value.



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Interest rates are also an important determinant of farmland values. Some people feel that interest rates are more important than net income. Such arguments aside, today there are relatively constant, low interest rates and declining net farm income. The indications from the Federal Reserve Board are that interest rates are not likely to rise until at least mid-2015. They also will likely raise at a slower rate as opposed to an immediate increase.

It appears prices will stabilize somewhere in the mid to upper \$3 per bushel range for corn and the lower \$10 per bushel range for soybeans. Obviously the prices will move with supply and demand changes but, based on current futures prices, these appear to be the likely long-term ranges. Unfortunately, the current projections show a loss at these prices. Preliminary Iowa State University cost of production estimates for 2015 indicate a loss of over a \$1 per bushel for soybeans and \$.50 per bushel for corn with average costs and yields. Costs of production, especially rents, have increased considerably over the past several years. Higher commodity prices led to higher incomes which led to increases in rents. Rents will change with income but they will decline slower as incomes drop. How long it will take for the rents to adjust to the lower commodity prices remains to be seen. But, until they adjust profitable production is unlikely and land values will continue to be under downward pressure.

In the 2014 Iowa State University farmland survey 94 percent of the respondents identified lower commodity prices as a major negative factor on farmland values. This is the highest percentage ever recorded where respondents listed a particular negative factor. Another 20 percent of the respondents identified higher input costs as a major negative factor on farmland prices. Where these two components of farmland value reach an equilibrium will significantly influence how much more land values will adjust.

Iowa farmers made record income over the past several years. A major question is what they did with that income. Some farmers appear to have saved it or paid down existing debt but other farmers appear to have parlayed the income into more debt with additional land, new machinery, buildings and so forth. Many people are concerned there has been a significant amount of debt incurred over the past several years. This debt is not so much the traditional bank debt but borrowing from other sources.

Some of the survey respondents reported strong auction sales where existing farmers were aggressively bidding for neighboring properties or some other particularly desirable parcel. These buyers appeared to have the money and to that extent they will provide support for the land market. But, as the survey indicated, land sales in general are down possibly reflecting an uncertain attitude or lack of credit.

The Iowa farmland market appears to have peaked for the foreseeable future. Land values in southeast Iowa are still increasing but this could be due to relatively favorable weather in 2014. In addition, during 2012 southeast Iowa experienced a drought and farmland price increases that year were considerably less than the rest of the state.

Commodity prices appear to have moved to a new plateau. The exact level isn't known but in all likelihood it will be higher than a decade ago. The new plateau is due in part to a demand shift to use agricultural commodities for energy and due to increased demand for feed grains worldwide.

Iowa farmland values increased rapidly as net farm income increased and with historically low interest rates. It appears the level of net farm income was over estimated and farmland values are adjusting to these new expectations.

It is not possible to say where the farmland values will stabilize. But, the odds of commodity

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prices collapsing, interest rates rapidly increasing and/or land values collapsing are not high. The odds are not zero but it doesn't appear these events will occur for the foreseeable future.

A more likely scenario is that farmland values will return to more normal changes experienced over the past century. Since 1910 Iowa farmland values have averaged a 5 percent increase per year. Farmland values have increased 73 percent of the years, decreased 24 percent of the years

and remained unchanged for 3 years between 1910 and 2014.

There have been three 'golden' eras for Iowa land values over the past 100 years. The first one ended in a long, drawn out decline in land values from 1921 to 1933, the second golden era ended with a sudden collapse from 1981 to 1986. The third golden era appears to be ending with an orderly adjustment as opposed to a sudden collapse.

*Updates, continued from page 1*

### **Internet Updates**

The following Decision Tools have been updated on [www.extension.iastate.edu/agdm](http://www.extension.iastate.edu/agdm).

**Estimated Costs of Crop Production in Iowa - 2015** - A1-20 (Decision Tools)

**Buying heifers for beef cow replacement (one replacement unit)** - B1-73 (Decision Tool)

**Raising heifers for beef cow replacement (one replacement unit)** - B1-73 (Decision Tool)

**Net Present Value of Beef Replacement Females** - B1-74 (Decision Tool)

### **Current Profitability**

The following tools have been updated on [www.extension.iastate.edu/agdm/info/outlook.html](http://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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