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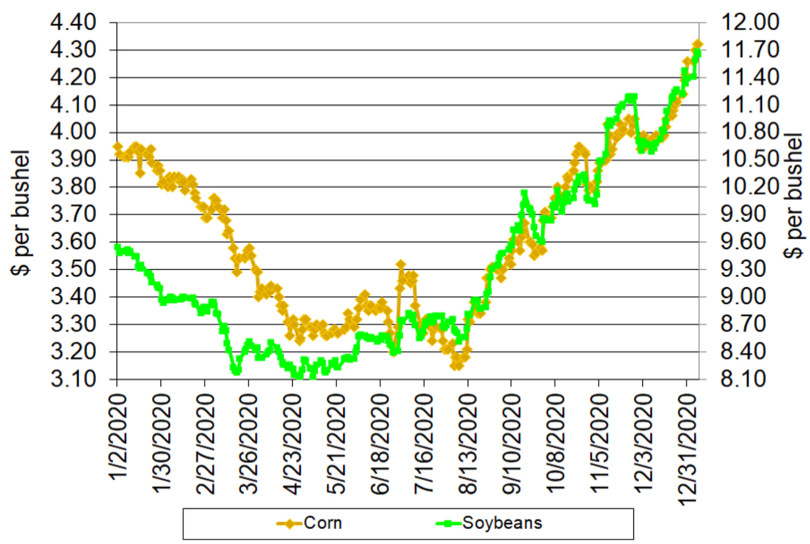
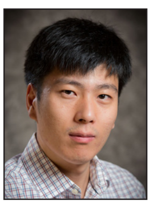
The question going forward is, can these factors continue to shove prices higher. At some point, the price increases will start to limit export desires. That may already be happening with soybeans, given the data from the last few weeks. And speculators will be quick to liquidate if they sense any weakness in the markets. For example, look back at the corn price run in May and June of 2019 and the quick turnaround in July that same year. Enjoy the run while it lasts. Luckily, for both of these factors, we get weekly updates on export sales and futures trading to monitor the situation.

Figure 5. 2020/21 projected season-average prices (derived from futures)





Outlook for land values in 2021 and beyond: results from the 2020 Iowa land value survey

By Wendong Zhang, extension economist, 515-294-2536, wdzhang@iastate.edu

The Iowa farmland market saw its third, albeit modest, increase in the past six years. The estimated $7,559 per acre statewide average for all qualities of land in Iowa represents a 1.7% increase in nominal land values from November 2019. If we examine the inflation-adjusted land values, this would represent a $59 per acre, or 0.9%, increase from one year ago. In nominal terms, the $7,559 per acre value in 2020 represents a 13% loss off the peak land value of $8,716 in 2013. After adjusting for inflation with the Consumer Price Index (CPI), it represents a 22% decline from the 2013 peak.

The increase is likely a result of record-level federal ad hoc payments, drastic cuts in interest rates by the Federal Reserve, recent surges in agricultural exports and commodity prices, and limited land supply. Although this recent rise is very modest in magnitude, the farmland market in Iowa and across the Midwest is holding up remarkably well despite significant uncertainty due to the COVID-19 pandemic and the devastating derecho.

According to the USDA Economic Research Service's December 2020 farm income forecast, www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast, US net farm income is forecast to increase $36.0 billion (43.1%) from 2019 levels to $119.6 billion in 2020 (in inflation-adjusted terms, a 41.3% rise). Notably, this increase is largely due to a record-level $46.5 billion in direct government payments, which are largely the supplemental and ad hoc disaster assistance for COVID-19 relief. In other words, the growth in farm income is almost entirely driven by the substantial COVID-19-related government payments such as CFAP (Coronavirus Food Assistance Program). Despite the recent commodity price rallies due to stronger exports, the economic fundamentals of the US farm economy have not substantially improved yet. In these trying times with significant uncertainty, the strong federal government payments and drastic cuts in interest rates by the Federal Reserve have injected stability into the farmland market.

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Put simply, land value is the net present value of all discounted future income flows. With certain assumptions imposed, one could think of land value being net income divided by interest (discount) rate. To understand the changes in land value over time and across space, it is useful to examine how net income and interest rates will change over the next few years. Improving commodity prices, rising farm income, and lower interest rates tend to exert upward pressures on land values.

From this perspective, the recent modest increase and overall stabilization of the farmland market is consistent with reports on rising farm income as well as several other underlying supply and demand factors. First, the surges in international sales, www.extension.iastate.edu/agdm/articles/hart/HartDec20.html, especially to China, have led to projected record-high corn exports this marketing year, and a doubling of soybean sales compared to this time last year. Due to the Phase 1 trade deal and China's hog recovery effort, China also bought record levels of US beef and pork. Our research, www.card.iastate.edu/products/publications/synopsis/?p=1303, shows that China is projected to import a record-level $31 billion in US agricultural products in 2020. The major upward swings in exports led to rosier price outlooks: USDA forecasts the 2020 season-average corn and soybean prices at $4 per bushel and $10.40 per bushel, respectively, the highest levels since 2013. As a result, both crops now offer comfortable profit margins based on the 2020 Iowa Cost of Production estimates, www.extension.iastate.edu/agdm/crops/pdf/a1-21.pdf. Second, the Federal Reserve drastically cut the federal funds rate to near-zero levels to combat COVID-19, www.chicagofed.org/research/dual-mandate/the-federal-funds-rate. Many respondents to the 2020 survey reported much lower rates for 20-year farmland mortgage and operating loans when compared to estimates one year ago. Lower interest rates kept the increase in interest expenses at modest levels and supported farm profitability. Third, the farmland market has always been a thin market with few farmland sales; however, in the past six years, the farmland market has been extremely tight. In this year's survey, only 38% of respondents reported more sales activity, while 19% and 43% reported less or similar sales activities, respectively. The percent of respondents reporting more sales is higher than recent years, but it is still fairly low. The limited farmland supply helped buoy market prices in many areas across the state. Fourth, despite the devastating derecho that caused heavy damage in the central and east central districts, the Iowa corn and soybean yields remain decent and stronger than expected. In November 2020, USDA forecasted corn yields of 184 bushel per acre and soybean yields of 52 bushel per acre for Iowa. Nationally, we will see the third-largest corn crop and the fourth-largest soybean crop on record.

Table 1. Iowa farmland values and percentage change by district and land quality, November 2020

District	Average Value	% Change	High Quality	% Change	Medium Quality	% Change	Low Quality	% Change
Northwest	$9,536	2.0%	$10,780	0.2%	$8,993	4.2%	$6,486	6.4%
North Central	$7,927	0.2%	$8,889	0.3%	$7,350	1.4%	$5,297	-0.5%
Northeast	$7,525	2.7%	$9,182	1.5%	$6,980	2.2%	$5,213	8.5%
West Central	$7,859	3.9%	$9,159	1.6%	$7,433	5.0%	$5,492	11.0%
Central	$8,485	1.8%	$9,800	0.5%	$7,883	3.1%	$5,793	6.0%
East Central	$8,524	0.6%	$10,199	-2.1%	$7,959	1.7%	$5,599	6.1%
Southwest	$6,112	-0.9%	$7,484	-3.7%	$5,843	0.0%	$4,055	5.5%
South Central	$4,658	3.8%	$6,408	-0.1%	$4,563	4.4%	$3,262	10.4%
Southeast	$6,935	1.0%	$9,299	-0.4%	$6,639	0.3%	$4,134	9.1%
STATE (average)	$7,559	1.7%	$9,068	-0.1%	$7,119	2.6%	$5,078	6.7%

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Table 1 shows that across the nine crop reporting districts and 99 counties, land value patterns were localized and mixed, driven by changes in local land supply and demand. While land values could be thought of as net income divided by interest rates, net income tends to be localized while interest rates are more universal. All crop reporting districts except for the southwest district reported an increase in land values, and 78 of 99 counties in Iowa reported a rise in land value. While high-quality land in Iowa saw an overall decrease of 0.1%, the value of low-quality land statewide grew 6.7%, with the northeast, west central, south central, and southeast districts all reporting increases of 8% or more. This disparity could be a result of multiple factors: the derecho mainly affected the central and east central districts, where cropland acres are more concentrated, and the initial shocks from the COVID-19 pandemic led to greater loss of livestock and declining ethanol prices. In contrast, strong demand for recreational tracts continues to create a surge in low-quality land values across central Iowa, especially as hunting grounds and other tracts allowing outdoor social-distancing become more appealing. It is also important to note that a relatively small dollar change results in a high percent change for low-quality land values; furthermore, our previous research, www.card.iastate.edu/products/publications/pdf/20wp612.pdf, shows that experts' estimates are less informative and noisier for low-quality land, suggesting that more trust should be put in the Iowa State University Land Value Survey for high-quality land values than for low-quality land values. The 2020 Iowa State University Land Value Survey also shows that 69% of farmland sales were to existing local farmers, and they typically only look for land sales near their farm, or at least in the same county. Due to the limited land supply, this suggests that local conditions of the land market, especially the competitiveness of the land market and desirability of land parcels, explain the variations in land value patterns across districts, counties, and land quality classes.

In general, the results from the 2020 Iowa State University Land Value Survey echo results from other surveys, which all showed relatively stable farmland market trends with recent signs of growth due to recent surging commodity prices and agricultural exports. In November 2020, the Federal Reserve Bank of Chicago, www.chicagofed.org/publications/agletter/2020-2024/november-2020, reported a 1% increase in Iowa's "good" farmland values from October 2019 to October 2020. In September, the REALTORS Land Institute, https://rliiowachapter.com/wp-content/uploads/2020.09-Press-Release-1.pdf, reported an overall 0.1% increase in Iowa cropland values from September 2018 to September 2019. In contrast, USDA June Area Survey, www.nass.usda.gov/Publications/Todays_Reports/reports/land0820.pdf, reported a 1.7% decline in Iowa's agricultural real estate values (land and building) from June 2019 to June 2020, reflecting uncertainty due to the pandemic.

Across the Corn Belt and Great Plains, the land market saw mixed signals, yet remained relatively stable in general. Many neighboring states also experienced stable trends and some also saw recent increases in land values, especially in surveys conducted in recent months in light of commodity market rallies. The Illinois Society of Professional Farm Managers and Rural Appraisers, https://s3-us-west-2.amazonaws.com/clients-ispfmra/wp-content/uploads/2019/07/29164253/2019-lv-book-final-copy.pdf, and University of Illinois reported in March 2020 that Illinois land values have been stable for excellent quality land and lower-quality land declined 1%-3% from January 2019 to January 2020. The March 2020 Nebraska report, https://agecon.unl.edu/research/2020-NE-Farm-Real-Estate-Report.pdf, indicated the average market value of farmland increased by 3% compared to one year earlier. The January 2020 Minnesota report, https://landeconomics.umn.edu/, showed statewide average farmland sales prices declined by 2.5% from 2018 to 2019. The 2020 land value survey conducted by Purdue University, https://ag.purdue.edu/agecon/Documents/PAER/PAER_2020_July.pdf, reported a 1.0% and 1.7% decline for Indiana's statewide top- and medium-quality farmland values, respectively, from December 2019 to June 2020; however, their report also showed overall 3%-6% growth in Indiana land values due to higher land values in late 2019. The quarterly AgLetter report, www.chicagofed.org/publications/agletter/2020-2024/november-2020, by the Chicago Federal Reserve Bank issued in November 2020 indicated a 2% increase in Illinois, a 1% increase in Iowa, and 3% and 6% growth for Wisconsin and Indiana, respectively, for the period of October 1, 2019, to October 1, 2020. It also reported an overall 2% growth over the last quarter for the

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seventh district and a 2%-3% increase for Indiana and Iowa land values. The quarterly [Ag Credit survey](www.kansascityfed.org/en/research/indicatorsdata/agcreditsurvey/articles/2020/11-12-2020/farm-financial-outlook-improves), www.kansascityfed.org/en/research/indicatorsdata/agcreditsurvey/articles/2020/11-12-2020/farm-financial-outlook-improves, conducted by the Kansas City Federal Reserve Bank, published in November 2020, revealed that the values of non-irrigated cropland across the tenth district grew 3% from the previous year.

The stabilization in the land market and recent commodity market rallies offered our respondents' optimism and confidence in the future farmland market, especially in the medium term. Forty-five percent of respondents forecasted an increase in their local land market in one year, while 22% expected a lower land value and 32% forecasted no change. Looking five years ahead, a vast majority of the respondents (83%) expect a higher land value than current levels, with only 6% forecasting a decline. This is consistent with respondents' corn and soybean price forecasts – respondents expect a substantial export-driven hike in both corn and soybean cash crop markets. The [Ag Economy Barometer](https://ag.purdue.edu/commercialag/ageconomybarometer/charts/), https://ag.purdue.edu/commercialag/ageconomybarometer/charts/, led by Purdue University, a nationwide monthly agricultural producer survey, showed the highest farmer ag economy sentiment index reading since 2015. That survey showed that 54% of the surveyed farmers expect higher farmland prices five years from now. These opinions are also consistent with farmers' sentiments about trade with China: although the sentiment has declined in recent months, 50% of farmers still believe that the trade dispute with China will ultimately be resolved in a way that benefits US agriculture.

There are at least two unique factors at play for the current and future land markets. While it is now cliché to call the COVID-19 pandemic unprecedented, it did lead to several new changes: (a) institutional food demand (e.g., schools and catering) and food consumption away from home were decimated due to changes in food demand patterns; (b) demand for ethanol was severely affected due to travel restrictions and consumers being less willing to travel; (c) the COVID-19 pandemic resulted in shifts from face-to-face land auctions to private listings or brokered sales and online auctions; and, (d) the COVID-19 pandemic both triggered [further deterioration in US-China relations](www.extension.iastate.edu/agdm/articles/zhang/ZhaNov20.html), www.extension.iastate.edu/agdm/articles/zhang/ZhaNov20.html, and, at the same time, made the Phase 1 trade deal even more politically significant as other high-level communication channels all vanished. Only time will tell how permanent these factors are, but long-term shifts in farm income will eventually be capitalized in future land values.

At the same time, the Federal Reserve implemented drastic cuts in March 2020 to combat COVID-19 economic uncertainties, which resulted in a near-zero federal funds rate and a further reduction of average farmland loan rates from 5% to 4.5% or lower. In this year's survey, favorable interest rates was the most frequently mentioned factor supporting Iowa farmland values (26% of respondents). In addition, [our recent research](www2.econ.iastate.edu/faculty/zhang/publications/working-papers/2020-Basha-Zhang-Hart-AFR-Interest-Rate-Land-Value.pdf), www2.econ.iastate.edu/faculty/zhang/publications/working-papers/2020-Basha-Zhang-Hart-AFR-Interest-Rate-Land-Value.pdf, also suggests the long-lasting impacts of interest rate changes on farmland values – the large cut in the federal funds rate in 2020 will fully offset the 2015-2018 federal funds rate hikes made by the Federal Reserve, and the 2020 rate cut will dominate the interest rate impact for the foreseeable future.

Farmland has historically been a fairly robust investment that generates relatively stable returns, especially when [compared with other investments, such as stocks](www.extension.iastate.edu/agdm/articles/zhang/ZhaJul19.html), www.extension.iastate.edu/agdm/articles/zhang/ZhaJul19.html. This stability becomes even more appealing in 2020, as the stock and bulk commodity markets exhibited substantial volatility with the unfolding of the COVID-19 pandemic. Since 1941, the nominal and inflation-adjusted Iowa farmland values have averaged a 6.4% and 2.5% increase per year, respectively. Farmland values have increased 72% of years, decreased 26% of years, and remained unchanged for three years between 1910 and 2020. While 29% of farmland in Iowa is primarily owned for family or sentimental reasons, the strong robust returns for farmland have, and will continue to, attract interested farmers and investors to invest in the farmland market.

There are several new uncertainties worth watching over the next year or two. First, several of our respondents mentioned the political uncertainty due to the 2020 presidential and senate races, and

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more broadly, what the agricultural, trade, and conservation policy priorities will be under a Biden administration. Key issues include environmental regulations, possible new trade agreements, and policies related to renewable energies and agricultural-climate policies. Second, even with the availability of vaccines, the pandemic's duration and trajectory are not entirely clear, and the same can be said for the speed of the US and global economic recoveries. Third, China has once again proven itself to be an indispensable trading partner of US agriculture; however, their record level purchases are still projected to fall below the [Phase 1 trade deal target](www.card.iastate.edu/products/publications/synopsis/?p=1303), www.card.iastate.edu/products/publications/synopsis/?p=1303. Trying bilateral relations, negative news about the trade deals, and the possible cancellation of commodity shipments will have significant impacts on farm income and land values. Fourth, it is interesting to see whether the farm policy continues on the path of massive federal ad hoc payments, such as trade aid through the Market Facilitation Program or COVID-19 relief through the CFAP program. Arguably, these represent a major redirection of farm policy away from Congress's decoupling efforts that started with the 1996 Farm Bill. Finally, it is critical to watch for whether the uncertainty posed by the pandemic leads to landowners' growing interest in selling land, or more stressed sales from financially stressed producers.

This recent modest increase in the Iowa farmland market is a result of lower interest rates, substantial government payments, strong demand, and limited land supply. The increase is modest, but indicates the stability of the farmland market. The interest rate cuts and agricultural export surges will have significant implications on commodity prices, farm incomes, and farmland values. While no one can predict the future, it seems that Iowa farmland values have proved resilient during the pandemic.

Virtual farm bill meeting series for 2021 decisions

By Alejandro Plastina, extension economist and assistant professor in economics, 515-294-6160, plastina@iastate.edu; Ann Johanns, extension program specialist, 515-337-2766, aholste@iastate.edu

Iowa producers have until March 15, 2021 to make their annual election for Price Loss Coverage or Agriculture Risk Coverage (at the individual and county levels) under the 2018 farm bill. The 2021 annual decision is unlike the previous Farm Bill when producers made a one-time decision for their operation that was in place for the life of the farm bill.

The basic choices continue to be Price Loss Coverage, and Agriculture Risk Coverage (at the individual and county levels). A farmer's choice will depend on the type of operation, and the county and region where the farm is located. PLC payments are triggered when the marketing year average price falls below the reference prices of $3.70 per bushel for corn and $8.40 per bushel for soybeans. Current USDA projections for 2021 are close to $4 per bushel for corn and $10.55 per bushel for soybeans. Whereas, ARC-CO payments are triggered when actual county revenue for the crop is less than the benchmark guarantee.

In order to help Iowans analyze the options for 2021, Iowa State University Extension and Outreach is offering a series of webinars. The lead webinar on February 19 at 1 p.m. will feature staff from USDA Farm Service Agency (FSA) addressing program logistics, changes for 2021, and how producers can best work with their county FSA staff and offices that may remain closed to the public through the sign-up date. Alejandro Plastina, associate professor in economics and extension economist at Iowa State University, will review the analysis process on February 5 at 1 p.m. The two statewide-focused webinars will be followed by farm management field specialists holding regional webinars February 9-19, going through examples with the most recent price projections, and answering questions on specific concerns by landowners and producers.

"While payments may not have the financial impact we have seen in previous years, producers should still review the decision for this risk management option with benchmark data as well as price projections for the current marketing year," said Ann Johanns, program specialist in economics with ISU Extension and Outreach. "If a producer does not make a change by March 15, the election from the previous sign-up is retained."

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