

# 2022 ISU Land Value Survey

Dr. Wendong Zhang

[wdzhang@iastate.edu](mailto:wdzhang@iastate.edu), 515-294-2536

Associate Professor of Economics and Extension Economist

New email: [wendongz@cornell.edu](mailto:wendongz@cornell.edu)

ISU CARD Farmland Portal: [www.card.iastate.edu/farmland](http://www.card.iastate.edu/farmland)

December 13, 2022

# A Quick Introduction: Dr. Wendong Zhang

- Grew up in a rural county in Shandong Province, China
- Attended college in Shanghai and Hong Kong
- Ph.D. in Ag Econ from Ohio State in 2015
- Worked at Iowa State for 7 years, leading the Iowa Land Value Survey
- Moved to Cornell University Dyson School of Applied Economics & Mgmt in July 2022 (50% extension appointment)
- **2022 Iowa Farmland Ownership and Tenure Survey will be released early June 2023**
- Research and extension interests:
  - land value/ownership** <https://www.card.iastate.edu/farmland>
  - ISU China Ag Center** <https://www.card.iastate.edu/china>
  - Cornell Institute for China Economic Research (CICER) <http://china.dyson.cornell.edu/>
  - Cornell Atkinson Center for Sustainability: <https://www.atkinson.cornell.edu/>

# ISU Land Value Survey – How to Interpret

- It is an opinion survey
- It is an expert opinion survey: respondents are ag professionals
- The first of its sort in the nation, started 1941
- The only survey that offers county-level land value estimates since 1950
- It is not designed to value individual parcels
- The percent change is more important than the actual dollar amount, and when comparing across surveys, compare the percent change
- To value individual parcels, consult appraisers or comparable sales

# Number of Respondents and Responses by District and Mode, 2022

	Responses			Respondents		
	Paper	Online	Total Number	Paper	Online	Total Number
	PERCENT			PERCENT		
<b>Northwest</b>	33	67	107	21	79	63
<b>North Central</b>	27	73	74	24	76	56
<b>Northeast</b>	29	71	87	24	76	60
<b>West Central</b>	33	67	79	24	76	56
<b>Central</b>	28	72	75	15	85	47
<b>East Central</b>	23	77	70	16	84	54
<b>Southwest</b>	30	70	53	23	77	39
<b>South Central</b>	23	77	60	17	83	39
<b>Southeast</b>	35	65	63	10	90	29
<b>STATE</b>	<b>29%</b>	<b>71%</b>	<b>668</b>	<b>19%</b>	<b>81%</b>	<b>443</b>

# Survey Respondents by Occupation, 2022

	Farm manager	Appraiser	Ag lender	Broker/ Realtor	Farmer /Landowner	Government (Assessor + FSA Officers)	Other
	PERCENT						
Northwest	17	8	43	11	5	13	3
North Central	11	2	36	21	16	13	2
Northeast	8	8	40	13	10	17	3
West Central	18	11	36	11	4	16	4
Central	15	11	17	21	15	19	2
East Central	15	13	36	9	11	11	4
Southwest	15	8	38	15	10	10	3
South Central	8	10	26	23	8	21	5
Southeast	14	7	48	10	0	17	3
STATE	14	9	36	15	9	17	1

# STATEWIDE AVERAGE

**\$11,411**  
**Nov 2022**



up 17.0%  
up \$1,660

# HIGH QUALITY LAND

**\$13,817**  
**Nov 2022**

up 16.8%  
up \$1,983



# MEDIUM QUALITY LAND

**\$10,673**  
**Nov 2022**

up 17.7%  
up \$1,602





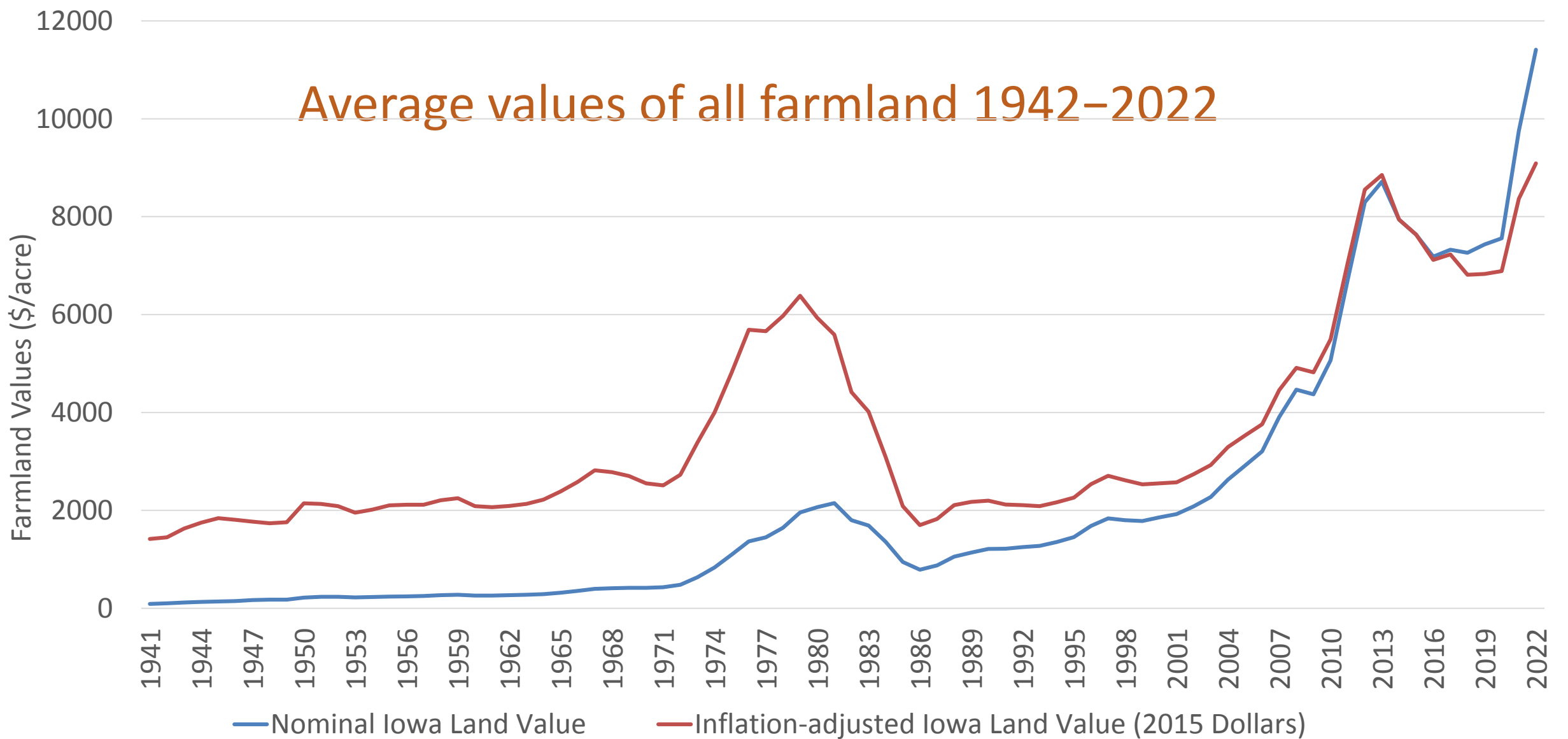
# LOW QUALITY LAND

**\$7,369**  
**Nov 2022**

up 15.2%  
up \$972

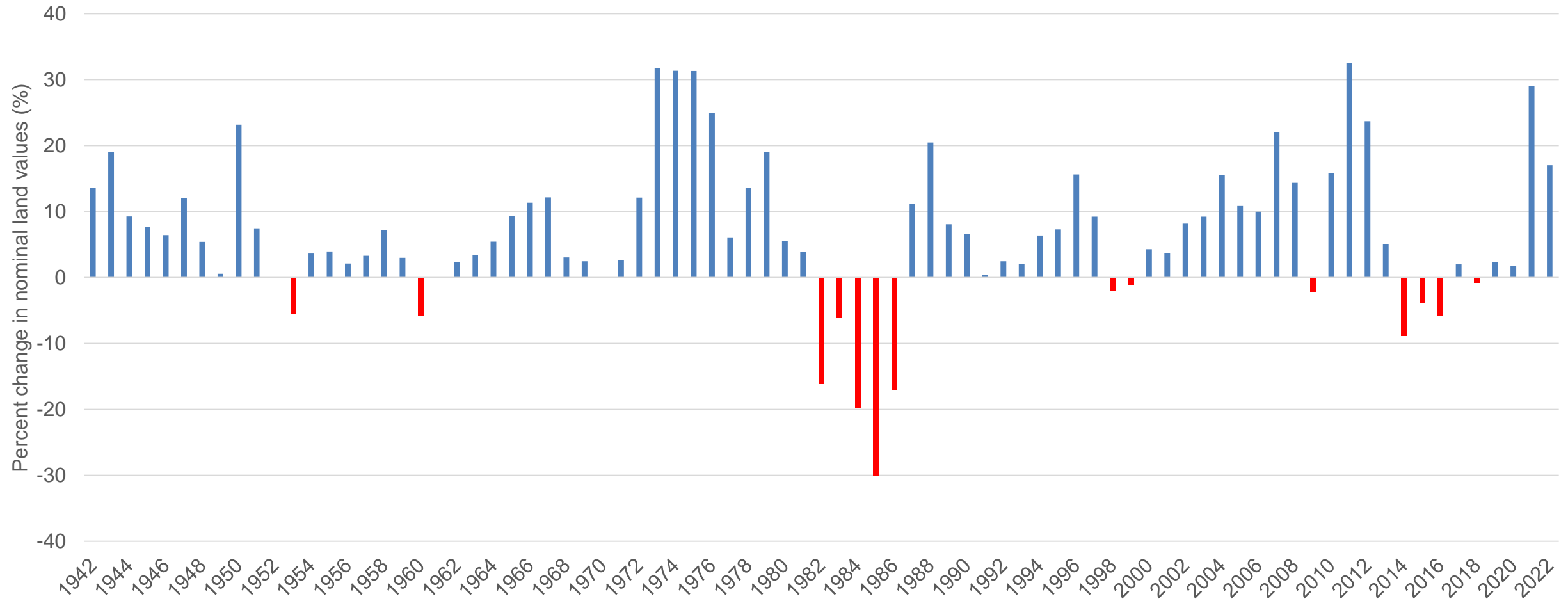


# Nominal and inflation-adjusted land values all reach historic highs (Nominal values +17%; Inflation-adjusted values +8.6%)



# 2022 hike: 17% nominal, 8.6% inflation-adjusted

## % Change in Nominal Iowa Farmland Values 1942–2022



# Land Values by District and Quality, Nov 2022

District	Average Value	% Change	High Quality	% Change	Medium Quality	% Change	Low Quality	% Change
Northwest	\$14,878	22.3%	\$17,121	22.3%	\$13,710	24.2%	\$9,569	18.3%
North Central	\$12,449	16.7%	\$14,271	18.3%	\$11,171	15.9%	\$7,849	12.3%
Northeast	\$11,627	16.8%	\$13,806	12.2%	\$11,122	21.9%	\$8,047	19.8%
West Central	\$12,411	18.6%	\$14,821	20.6%	\$11,654	20.1%	\$8,161	15.9%
Central	\$12,582	17.1%	\$14,720	17.6%	\$11,527	15.5%	\$7,927	11.1%
East Central	\$12,595	14.0%	\$15,097	11.8%	\$11,876	16.7%	\$8,441	17.0%
Southwest	\$9,264	22.2%	\$11,419	21.2%	\$8,769	22.7%	\$6,081	18.0%
South Central	\$6,824	13.1%	\$9,478	15.7%	\$6,872	12.8%	\$4,379	7.9%
Southeast	\$9,276	9.8%	\$12,829	10.3%	\$8,677	6.2%	\$5,406	14.2%
Iowa Avg.	\$11,411	17.0%	\$13,817	16.8%	\$10,673	17.7%	\$7,369	15.2%

## Midwest Farmland Values Continued to Climb in the Third Quarter

According to the most recent *AgLetter*, Seventh District farmland values in the third quarter of 2022 were 20 percent higher than a year ago. Values for “good” agricultural land in the third quarter of 2022 were 4 percent higher than in the second quarter.

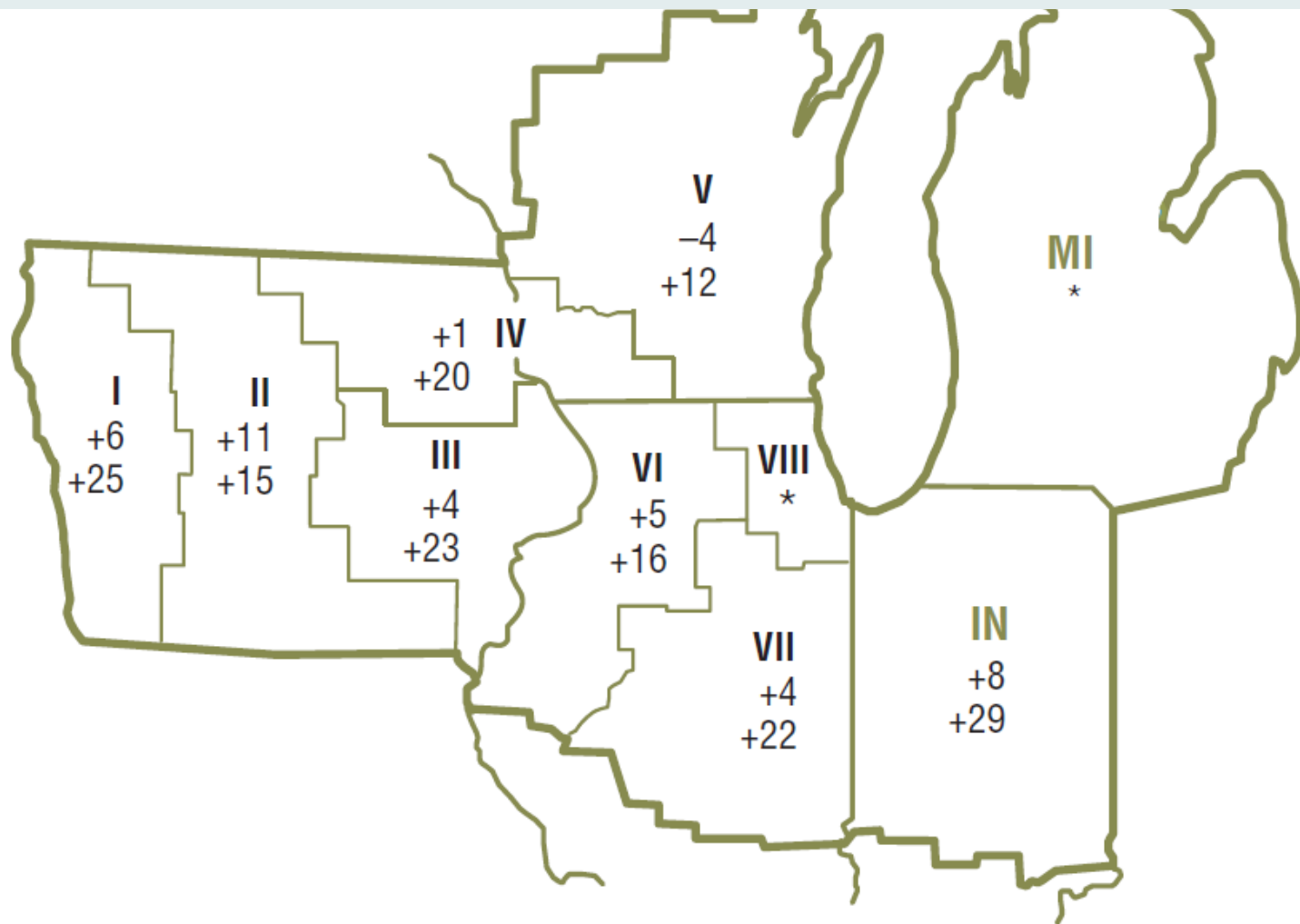
### Percent change in dollar value of “good” farmland

*Top:* July 1, 2022 to October 1, 2022

*Bottom:* October 1, 2021 to October 1, 2022

	July 1, 2022 to October 1, 2022	October 1, 2021 to October 1, 2022
Illinois	+5	+20
Indiana	+8	+29
Iowa	+6	+22
Michigan	*	*
Wisconsin	-3	+12
Seventh District	+4	+20

\*Insufficient response.



# Did ag professionals in May 2022 underestimate the growth?

Avg % Change Since May 2022			Cap Rate (Rent to Value Ratio)
	Land Value	Cash Rent	
Nov 2022	2.8%	5.7%	2.5%
Nov 2023	1.9%	6.8%	2.5%
Nov 2024	-1.7%	4.9%	2.6%
Nov 2025	2.4%	9.9%	2.6%
Nov 2040	37.4%	36.7%	2.5%

ISU 2022 Soil Management Land Valuation (SMLV) Conference  
<https://www2.econ.iastate.edu/faculty/zhang/smlv/2022/>

## Cash Rental Rates for Iowa 2022 Survey

*Ag Decision Maker*

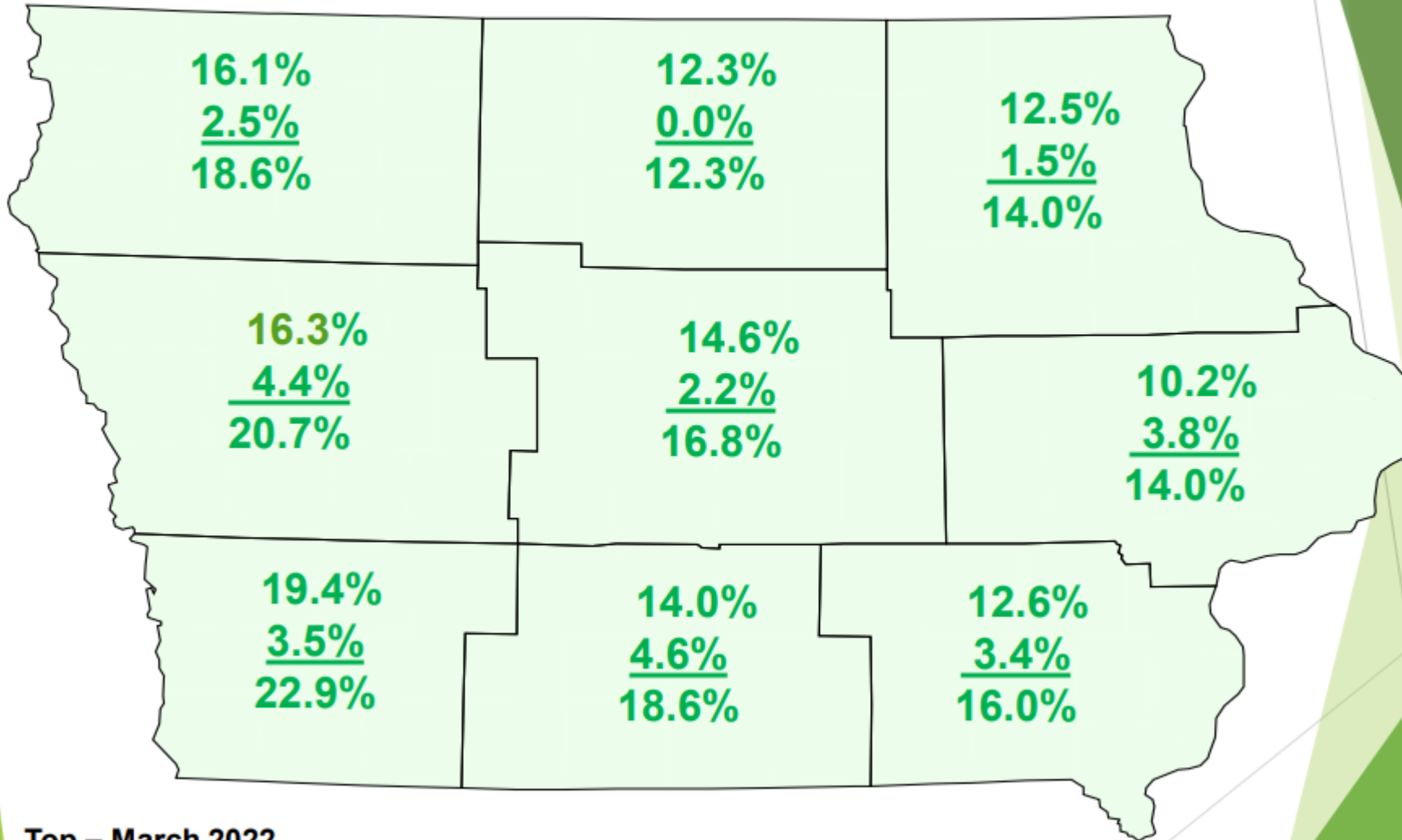
File C2-10

### 2018-2022 Overall Average of Typical Cash Rents for Corn and Soybean Acres by Iowa Crop Reporting District (\$ per tillable acre)

	2018	2019	2020	2021	2022
District 1	\$237	\$231	\$239	\$242	\$270
District 2	225	219	225	238	261
District 3	244	237	248	253	278
District 4	236	235	237	247	276
District 5	237	231	232	245	271
District 6	235	229	232	243	265
District 7	207	207	203	214	243
District 8	174	174	176	188	203
District 9	203	210	205	221	240
<b>State</b>	<b>\$222</b>	<b>\$219</b>	<b>\$222</b>	<b>\$232</b>	<b>\$256</b>

# REALTORS® Land Institute- Iowa Chapter September 1, 2022

September 2021– September 2022

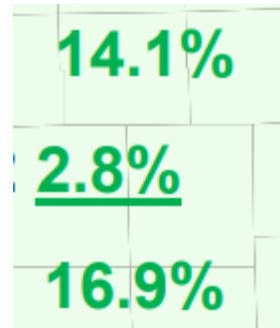


Top – March 2022

Bottom – September 2022

Nine Crop Reporting Districts

Iowa





# Strong Farm Economy, but Interest Expenses and Drought Intensity Pressures

Interest rates on farm loans increased sharply and the acceleration in farm real estate values continued to ease.

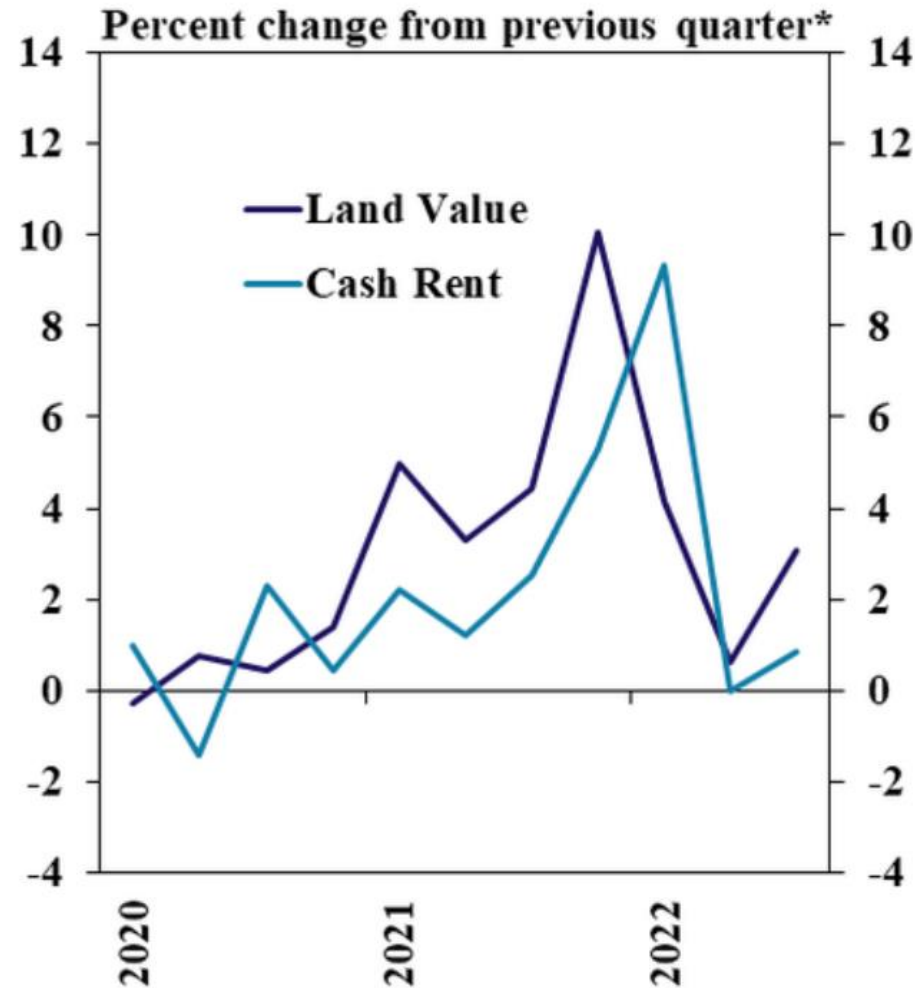
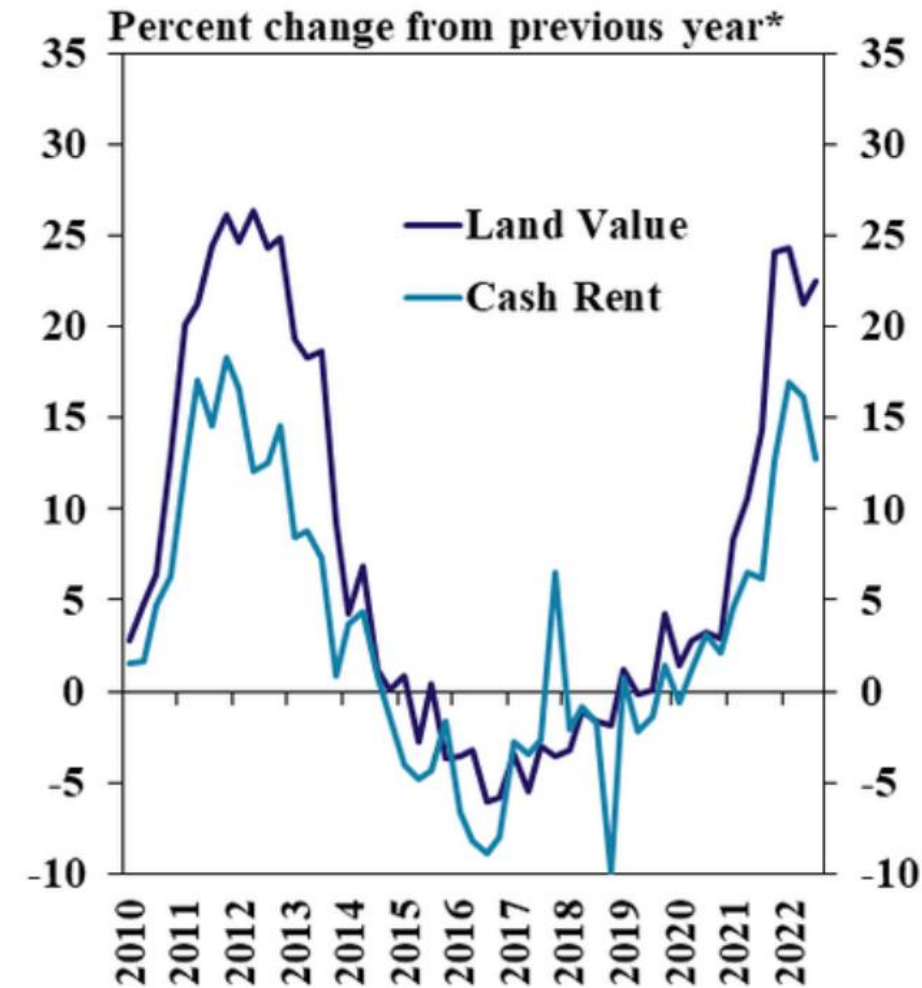
November 10, 2022 | Agriculture | Ag Credit Survey



Federal Reserve Bank of Kansas City  
DENVER / OKLAHOMA CITY / OMAHA

## Annual Change

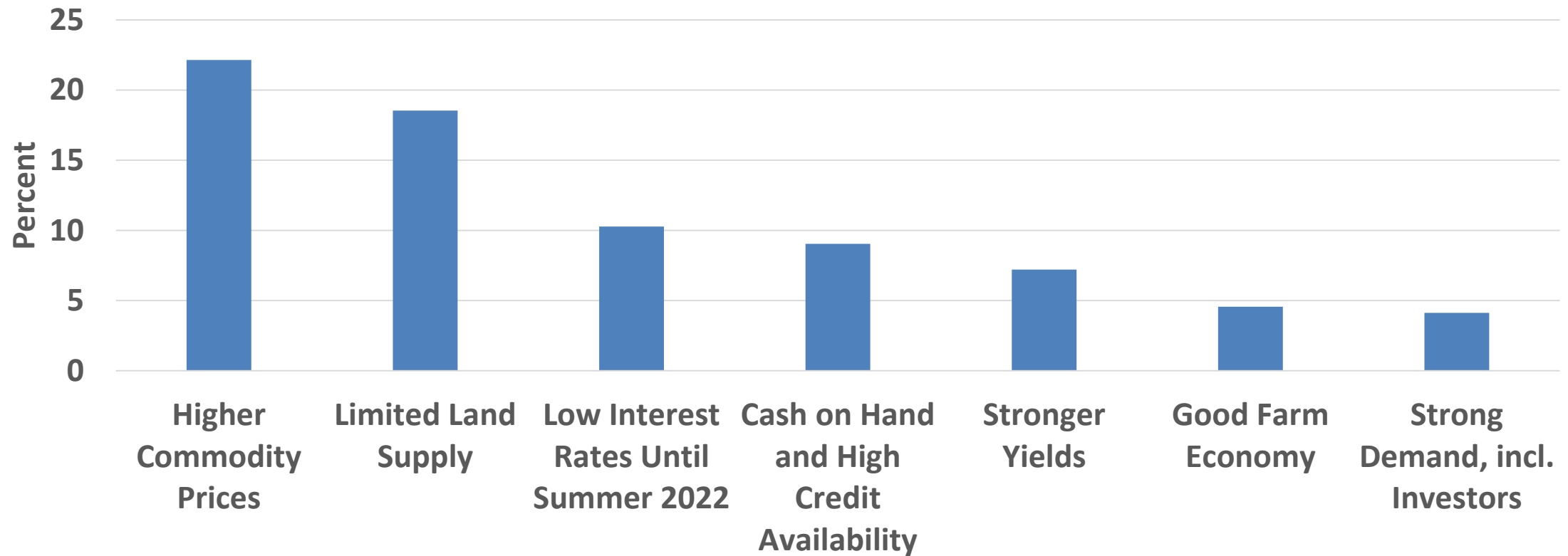
## Quarterly Change





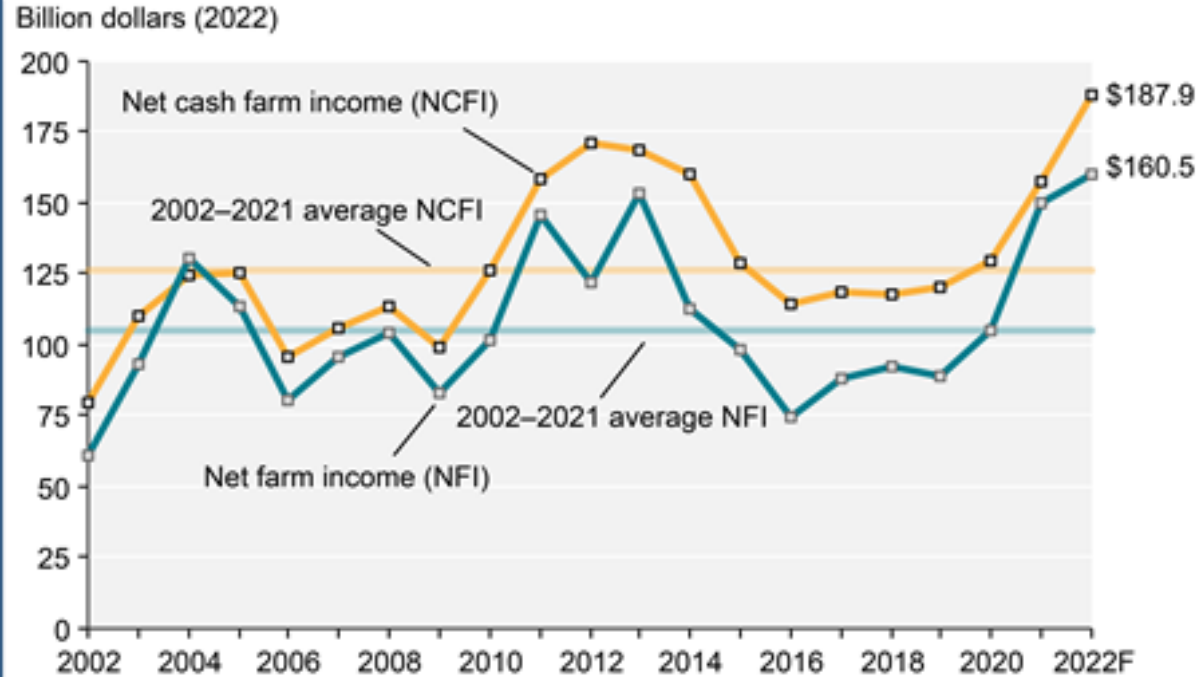
# Major Positive Factors Affecting Iowa Farmland Market, 2022

Positive Factors Affecting 2022 Farmland Market



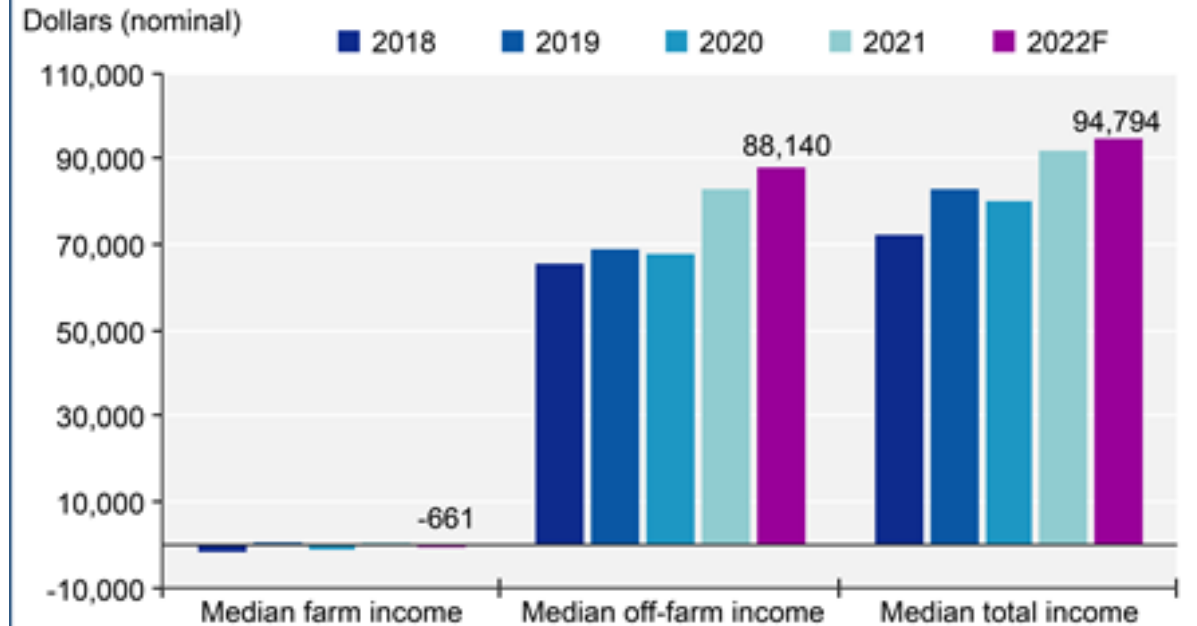
# Record federal ad hoc government payments and lower interest rates provided support for land values

U.S. net farm income and net cash farm income, inflation adjusted, 2002–2022F



Note: F = forecast. Values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as of December 1, 2022.

Median farm income, off-farm income, and total income of farm households, 2018–22F



Note: F = forecast. The median is the income level where half of all households have lower incomes and half have higher incomes. Because farm and off-farm income are not distributed identically for every farm, median total income will generally not equal the sum of median off-farm and median farm income.  
Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of December 1, 2022.



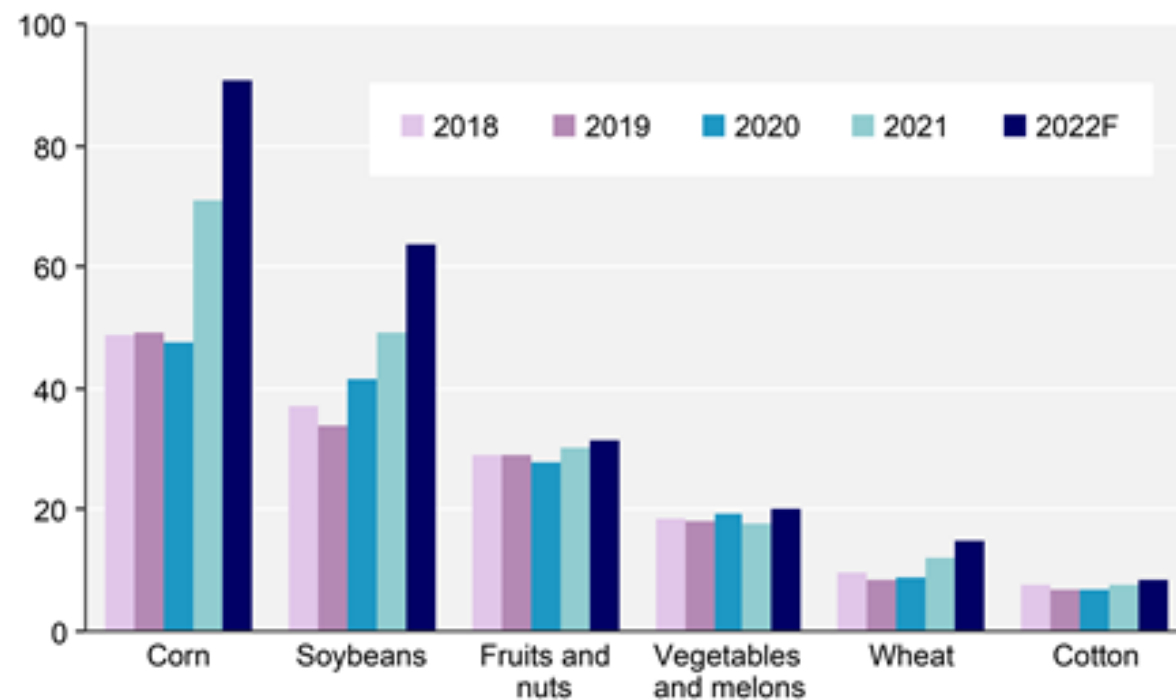
Economic Research Service  
United States Department of Agriculture

			Percent change from		
			Prior period	Year ago	Two years ago
	Latest period	Value			
<b>Prices received by farmers</b> <i>(index, 2011=100)</i>	September	131	-0.2	21	48
<b>Crops</b> <i>(index, 2011=100)</i>	September	127	-1.3	17	36
Corn <i>(\$ per bu.)</i>	September	7.09	-2.1	30	108
Hay <i>(\$ per ton)</i>	September	242.00	-1.6	25	60
Soybeans <i>(\$ per bu.)</i>	September	14.10	-7.8	16	53
Wheat <i>(\$ per bu.)</i>	September	8.85	3.5	14	87
<b>Livestock and products</b> <i>(index, 2011=100)</i>	September	136	1.3	26	62
Barrows & gilts <i>(\$ per cwt.)</i>	September	73.80	-14.2	5	45
Steers & heifers <i>(\$ per cwt.)</i>	September	145.00	0.7	14	38
Milk <i>(\$ per cwt.)</i>	September	24.40	0.4	33	38
Eggs <i>(\$ per doz.)</i>	September	2.65	36.6	157	219
<b>Consumer prices</b> <i>(index, 1982-84=100)</i>	September	297	0.2	8	14
Food	September	313	0.7	11	16

Commodity  
Prices  
Significantly  
Higher

## U.S. cash receipts for selected crops, 2018–22F

Billion dollars (nominal)

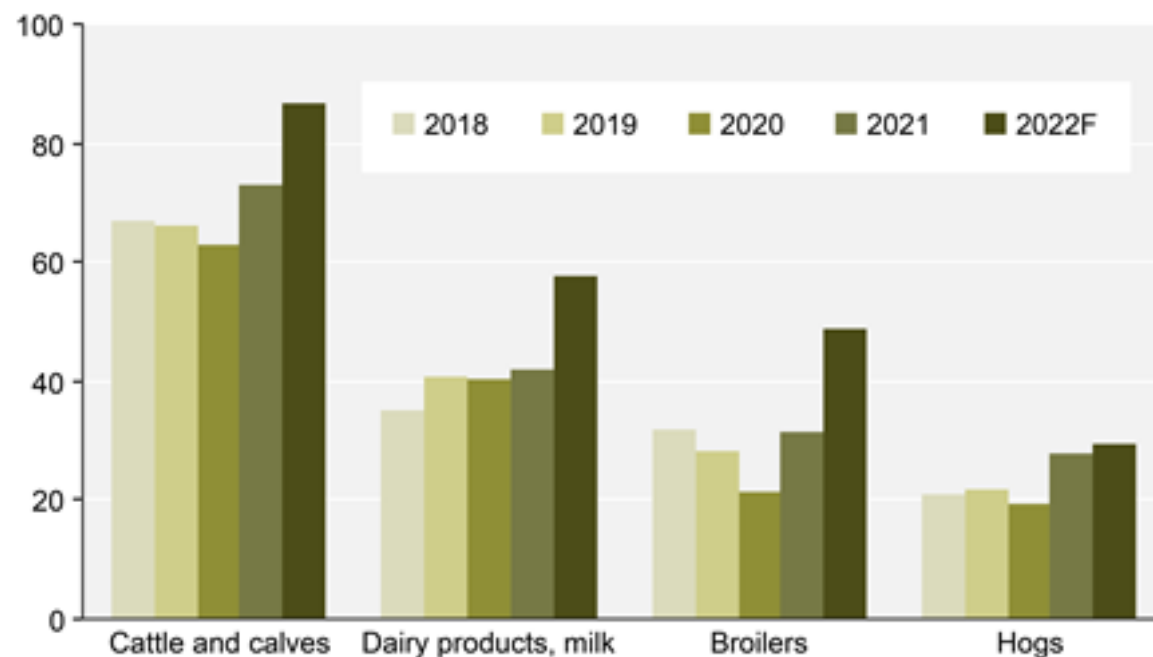


Note: F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as of December 1, 2022.

## U.S. cash receipts for selected animals/products, 2018–22F

Billion dollars (nominal)

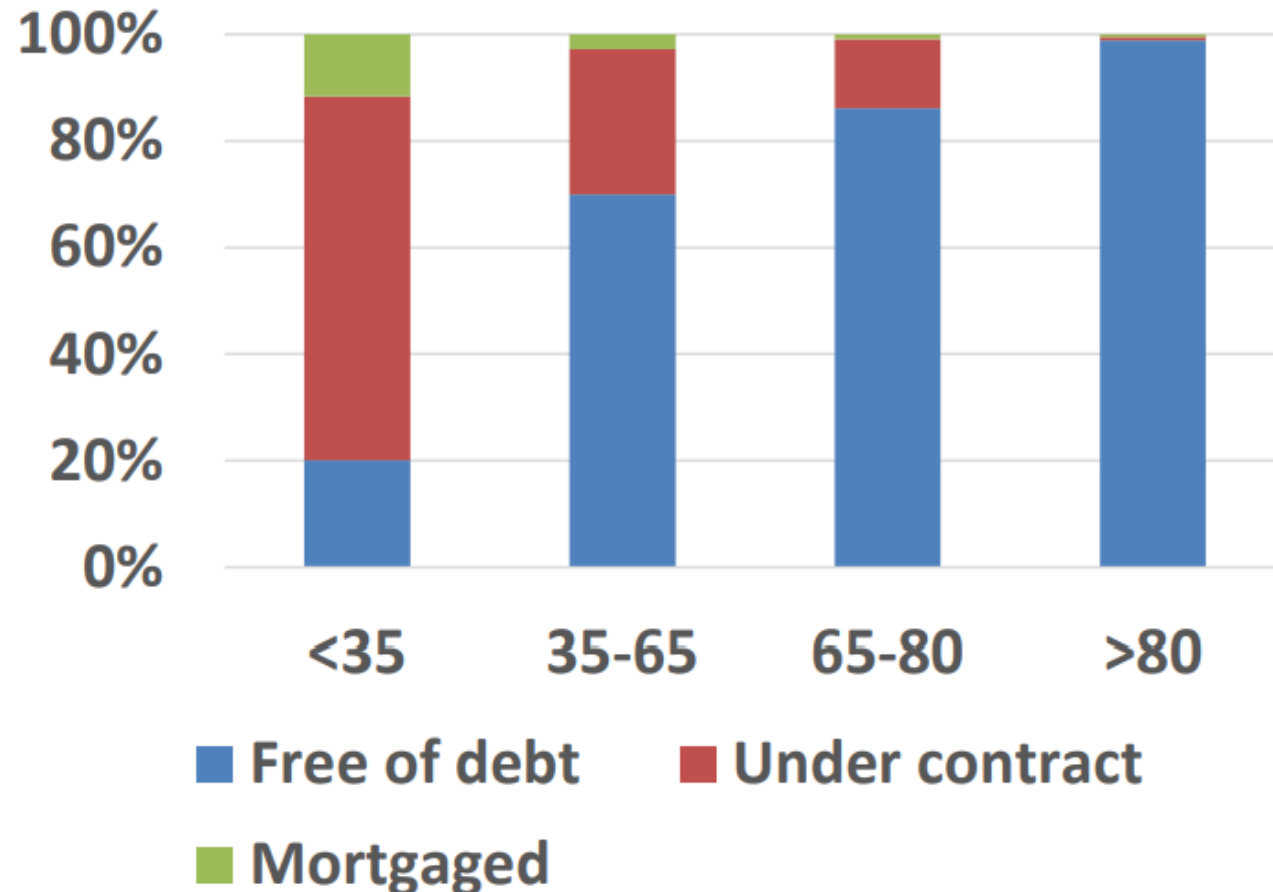


Note: F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as of December 1, 2022.

# 81% of Iowa land is owned debt-free

Percent of Iowa Land by  
Financing and Age of Owner



Years Owned	2017	2012
> 50 Years	8%	20%
40-50 Years	12%	
30-40 Years	13%	15%
20-30 Years	20%	19%
10-20 Years	24%	21%
< 10 Years	24%	24%

# Limited land supply is a key supporting factor, even when half of the respondents reporting more sales



# Why Investors Buy Farmland?

- Beta

- The risk of a well-diversified portfolio depends on the market risk of the investments included in the portfolio
- Beta ( $\beta$ ) measures the sensitivity of an individual investment to market movements (Market: S&P 500)
- Farmland, Indiana: 0.107
- Individual Farms, Kansas: 0.064

## Excess Returns

- Farmland, Indiana:
  - 0.06 to 0.08
- Individual Farms, Kansas:
  - Average = 0.018
  - Top quartile = 0.057

# Farmers cannot easily spend on equipment



World ▾ Business ▾ Legal ▾ Markets ▾ More ▾

5 minute read · September 1, 2022 11:04 AM EDT · Last Updated 3 months ago



## Fewer U.S. tractor dealerships raise costs for farmers as sector consolidates

By Bianca Flowers



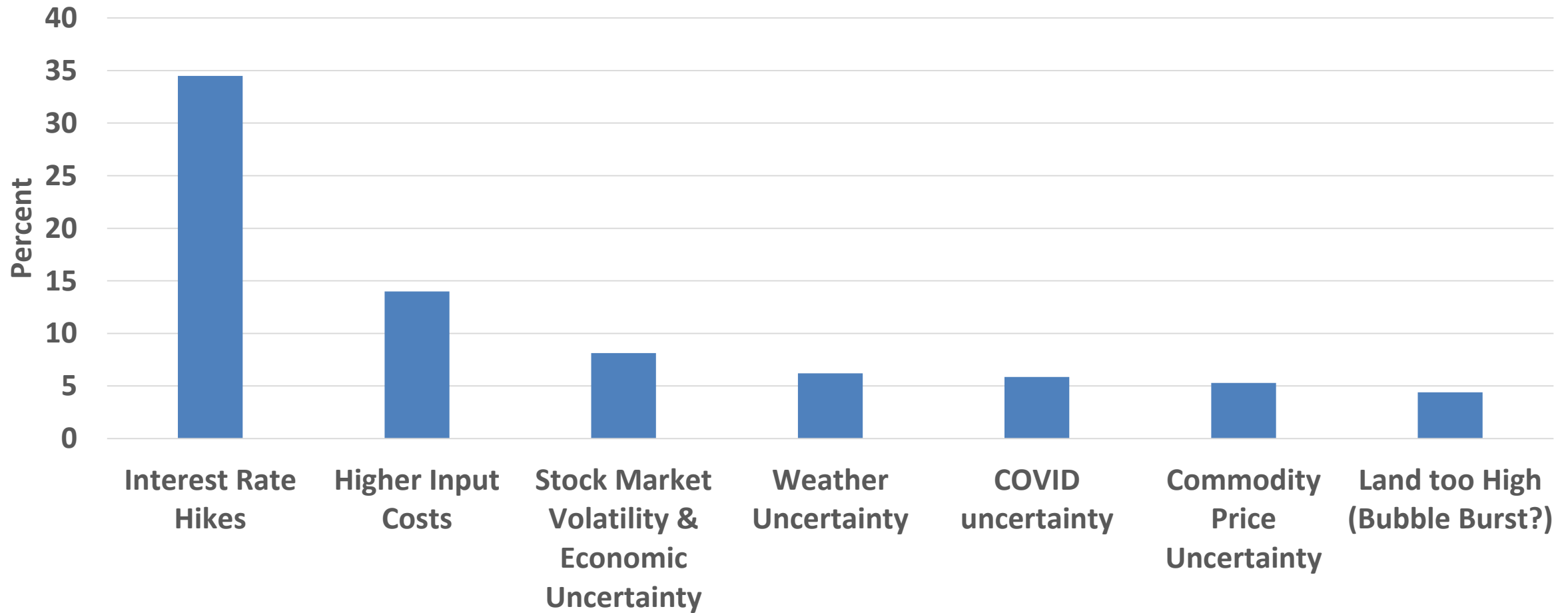
*FarmWeek* **Now**.com

## Supply chain challenges stall ag equipment sales

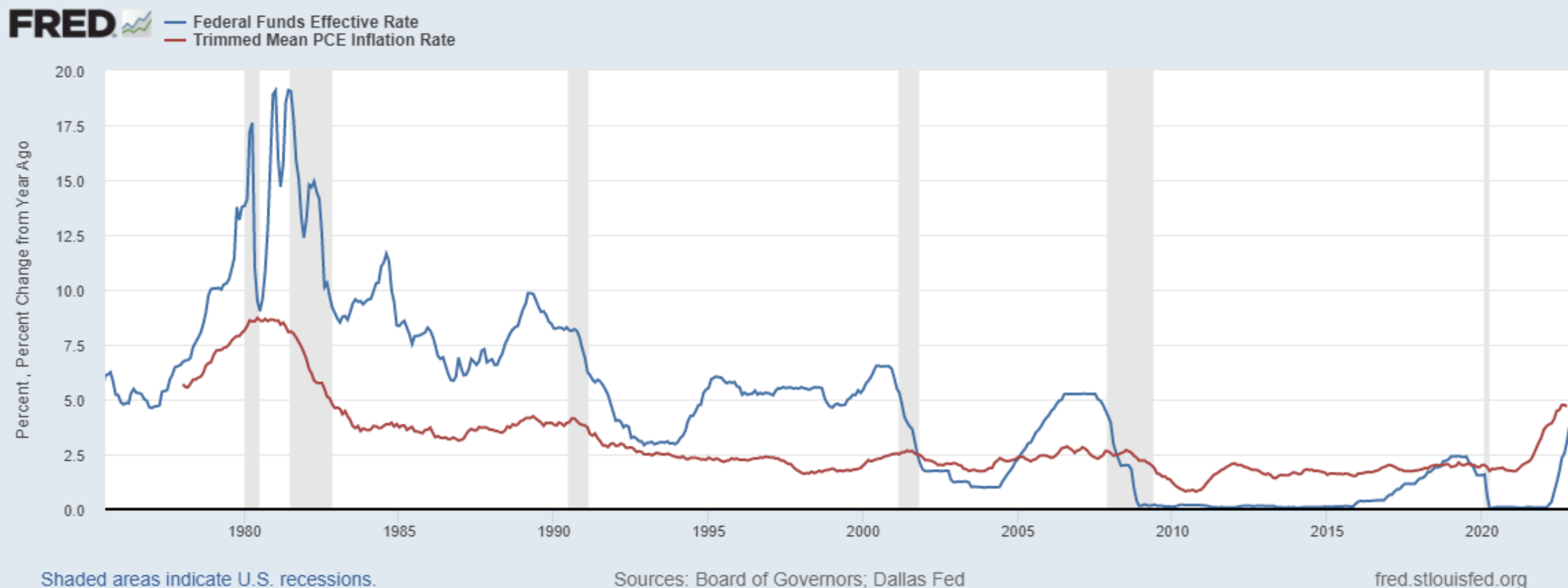
By DANIEL GRANT FarmWeek Jun 27, 2022 Updated Jun 27, 2022



# Major Negative Factors Affecting Iowa Farmland Market, 2022



# Fed Reserve is raising interest rates to curb inflation



# The Fed will raise rates again. But it's playing with fire



By [Paul R. La Monica](#), CNN

Published 7:57 AM EST, Sun December 11, 2022



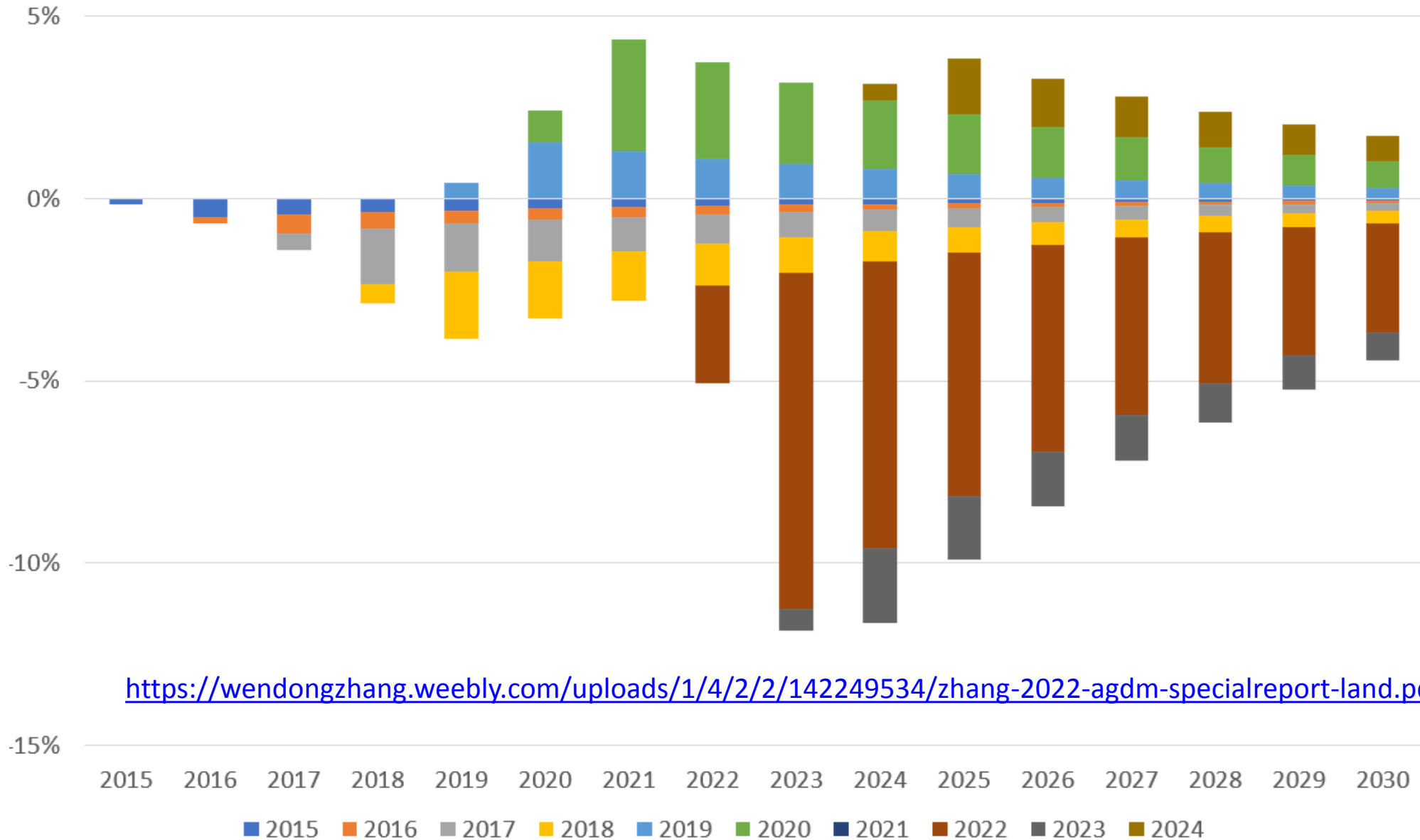
New York (CNN) — The Federal Reserve is all but guaranteed to announce Wednesday that it will once again raise interest rates. But investors are hopeful it will be a smaller increase than the last four hikes.

Traders are betting on just a half-point increase. Federal funds futures on the Chicago Mercantile Exchange show an 80% probability of a half-point hike.

The Fed bumped up rates by three-quarters of a percentage point in the past four meetings (June, July, September and November). That followed two smaller rate hikes earlier this year. The central bank's key short-term interest rate, which sat at zero at the beginning of the year, is now at a range of 3.75% to 4%.

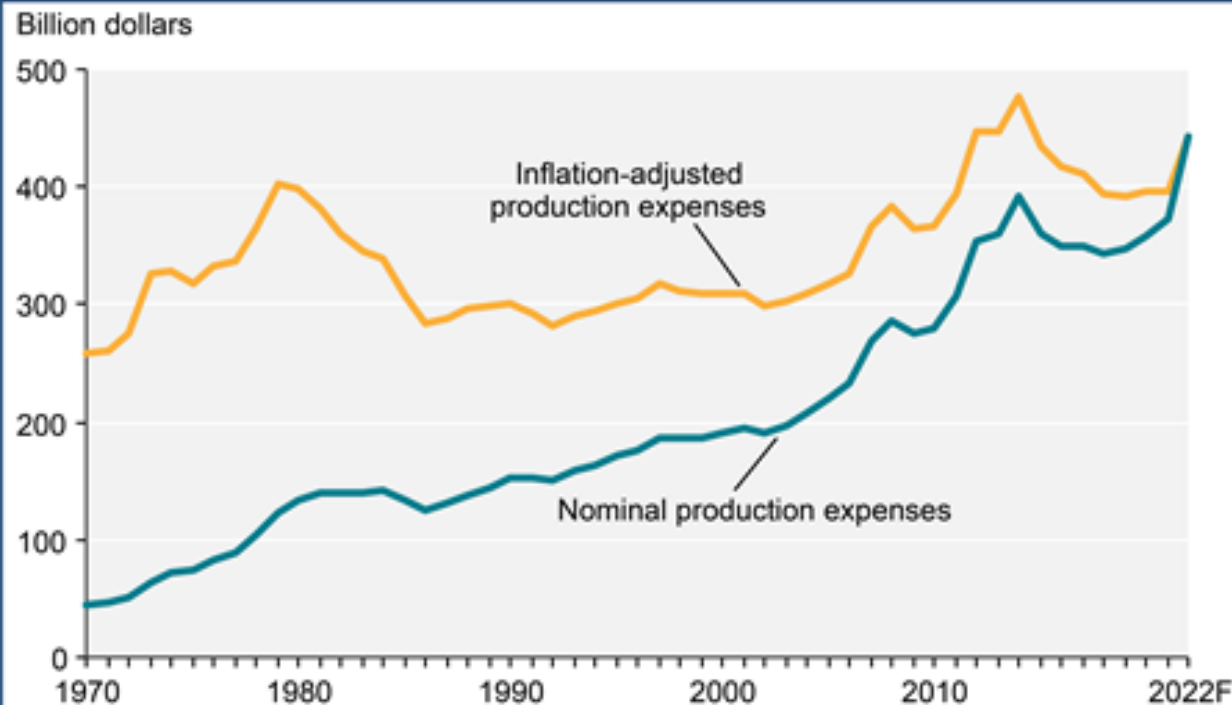
# Fed Reserve Interest Rate Hikes Take a Decade to be Capitalized

the impact of interest rate movements alone on I-states farmland values



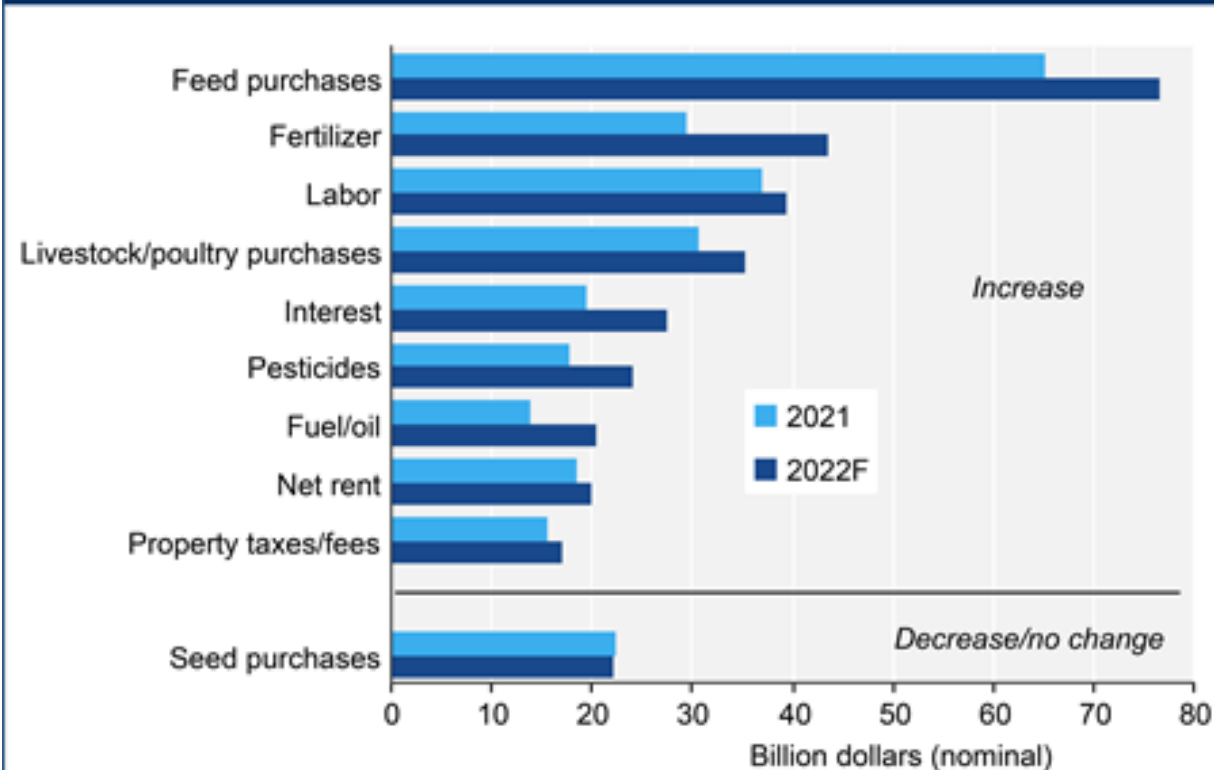
<https://wendongzhang.weebly.com/uploads/1/4/2/2/142249534/zhang-2022-agdm-specialreport-land.pdf>

## Nominal and inflation-adjusted U.S. farm production expenses, 1970–2022F



Note: F = forecast. Real values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as of December 1, 2022.

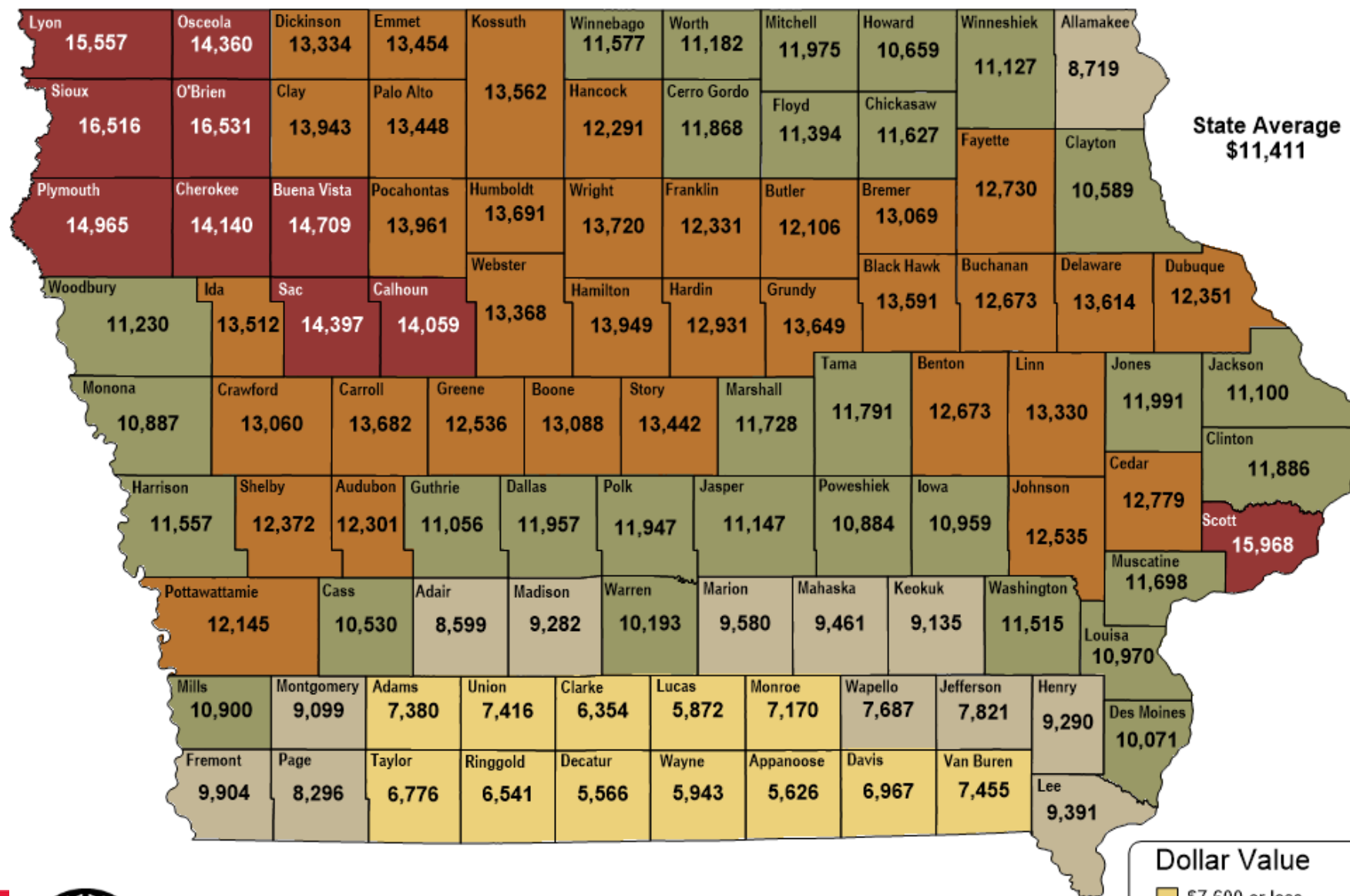
## Selected U.S. farm production expenses, 2021–2022F



Note: F = forecast.  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as of December 1, 2022.

# 2022 Iowa Land Values

## Land Values by County, 2022

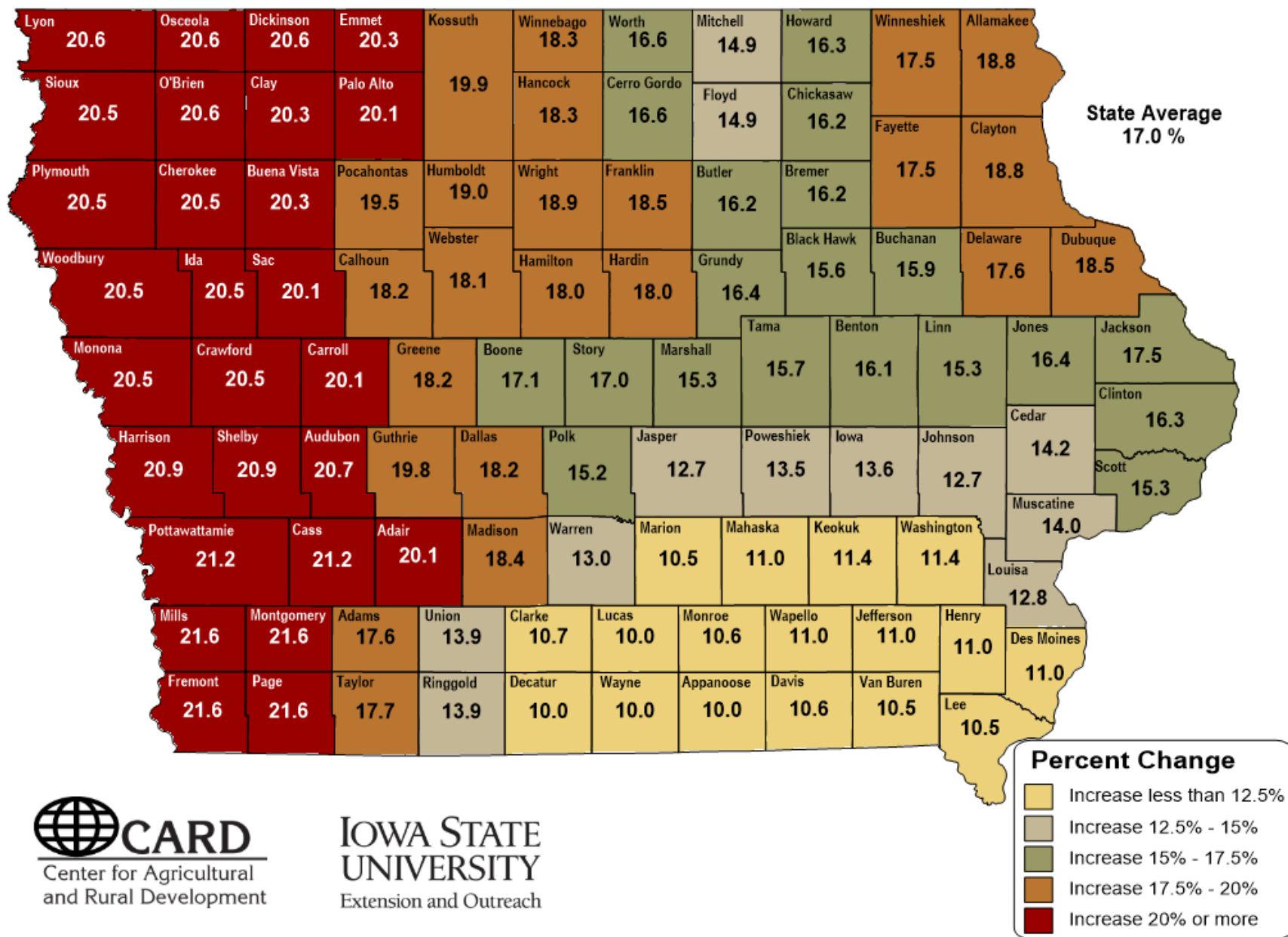


### Dollar Value

- \$7,600 or less
- \$7,600 to \$10,000
- \$10,000 to \$12,000
- \$12,000 to \$14,000
- \$14,000 or more

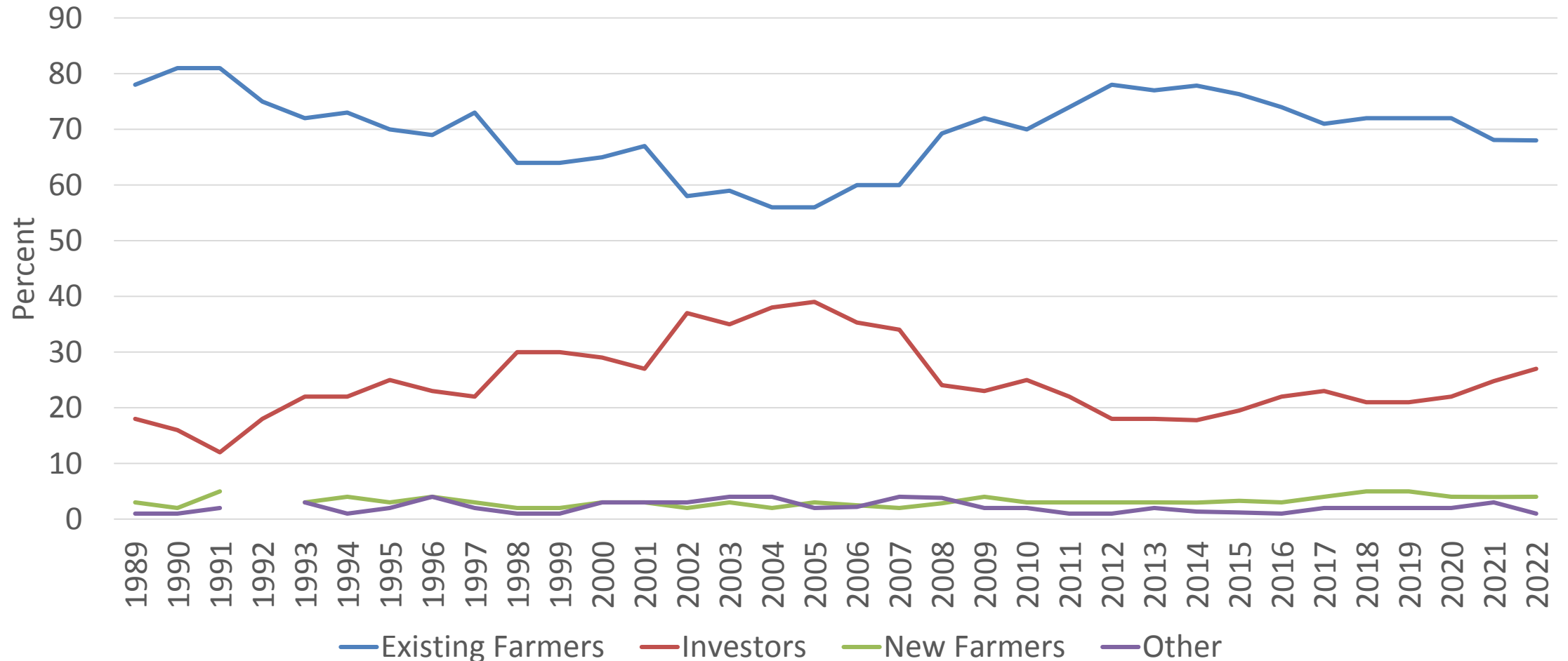


# Percentage Change in Iowa Land Values 2021 to 2022



**Percent  
Changes in  
Land  
Values  
from Nov  
2021**

# Iowa Farmland Purchases by Buyer Types 1989–2022





# Iowa Farmland Purchases by Buyer Types, 2022

	Existing Local Farmers	Existing Relocating Farmers	New Farmers	Local Investors	Non-local Investors	Other
PERCENT						
Northwest	70	1	3	11	12	3
North Central	66	1	2	16	14	1
Northeast	67	2	5	14	11	1
West Central	76	1	1	10	10	2
Central	64	1	2	15	16	2
East Central	70	1	5	14	9	1
Southwest	61	3	3	17	15	1
South Central	52	1	5	19	21	2
Southeast	66	2	6	16	9	1
STATE	66	2	4	14	13	1

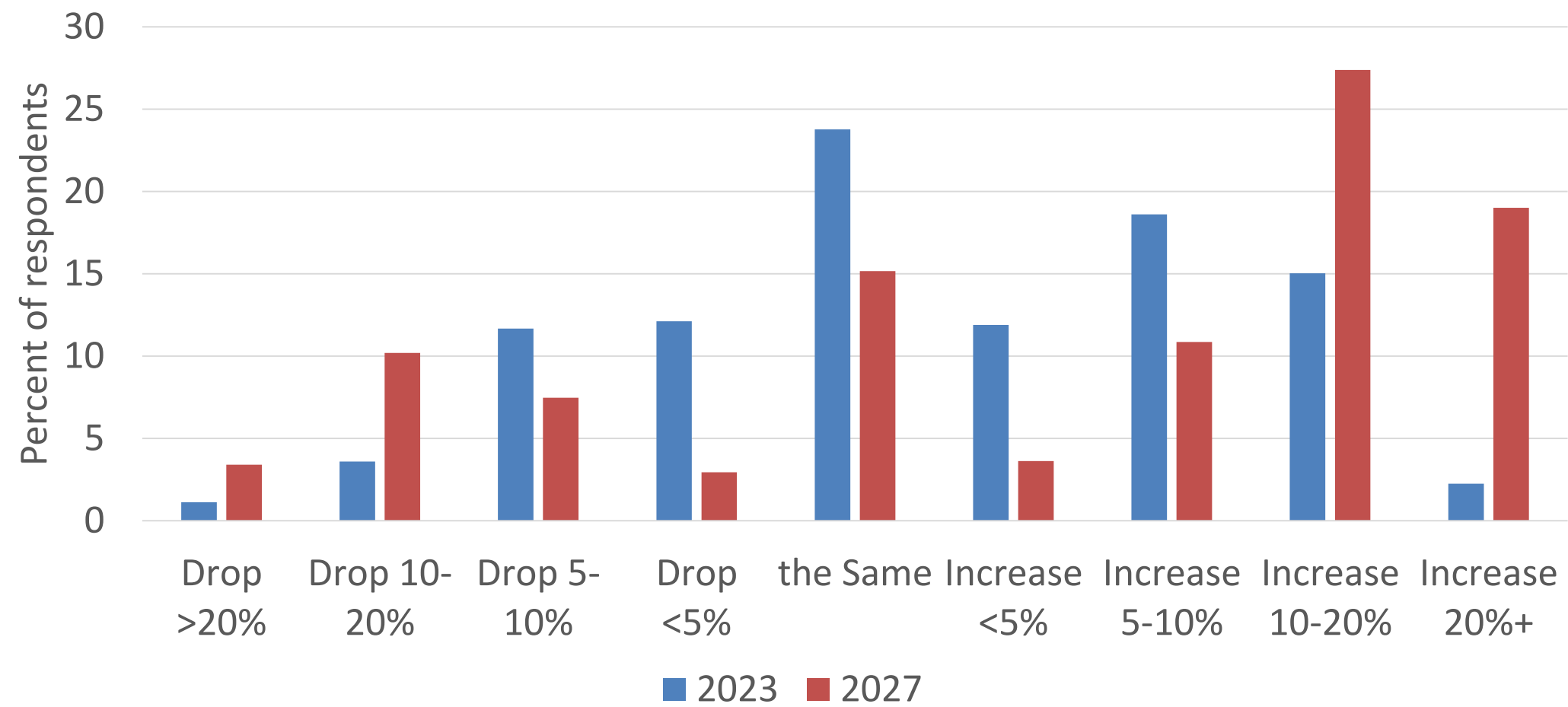
# Iowa Farmland Purchases by Seller Types, 2022

	Active Farmers	Retired Farmers	Estate Sales	Local Investors	Non-local Investors	Other
	PERCENT					
Northwest	5	15	67	4	4	5
North Central	12	18	56	6	7	1
Northeast	10	22	53	6	7	2
West Central	5	20	65	4	3	3
Central	5	31	53	4	5	2
East Central	9	23	59	3	5	1
Southwest	8	20	57	7	7	1
South Central	11	21	41	10	15	2
Southeast	10	22	57	5	4	2
STATE	8	21	57	6	6	2

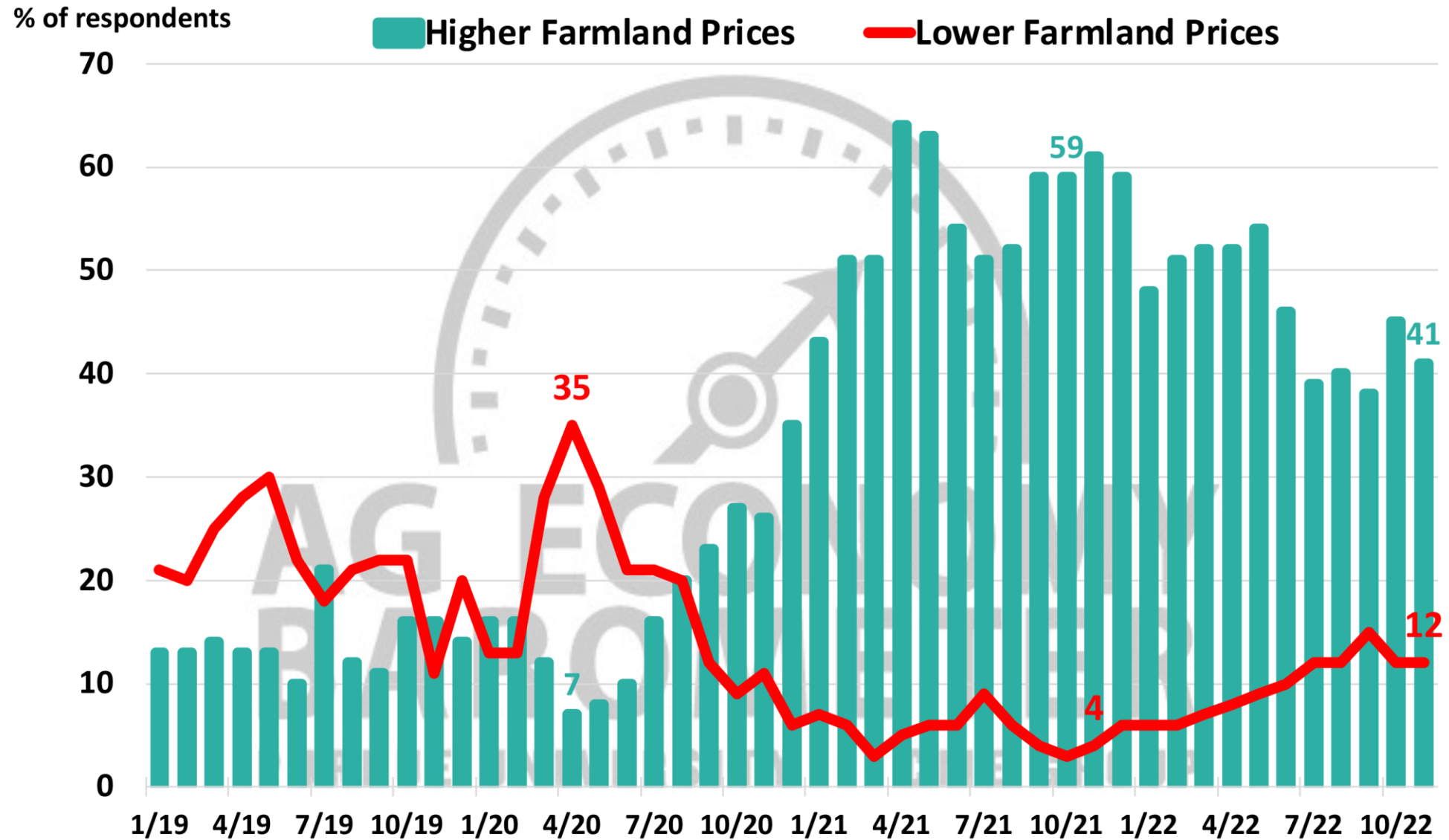
# One and Five Year Cash Crop Price Predictions, 2022

	Predicted Cash Corn Prices		Predicted Cash Soybean Prices	
	One Year Later (2023)	Five Years Later (2027)	One Year Later	Five Years Later
Northwest	\$6.15	\$6.07	\$13.16	\$12.90
North Central	\$6.00	\$5.72	\$13.00	\$12.89
Northeast	\$6.18	\$6.16	\$13.04	\$13.07
West Central	\$6.15	\$5.53	\$13.25	\$12.05
Central	\$6.01	\$6.00	\$13.33	\$13.45
East Central	\$5.99	\$5.62	\$13.19	\$12.67
Southwest	\$6.17	\$5.98	\$13.16	\$12.83
South Central	\$6.12	\$5.98	\$12.80	\$12.69
Southeast	\$5.91	\$5.89	\$13.00	\$12.97
STATE (2022 Prediction)	\$6.09	\$5.90	\$13.12	\$12.84
2019 Prediction	\$3.51	\$4.10	\$8.50	\$9.79
2020 Prediction	\$3.92	\$4.24	\$9.97	\$10.59
2021 Prediction	\$5.09	\$5.11	\$11.55	\$11.72

# Land value predictions for 2023 and 2027



# Farmland Price Expectations, 12 Months Ahead



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2022

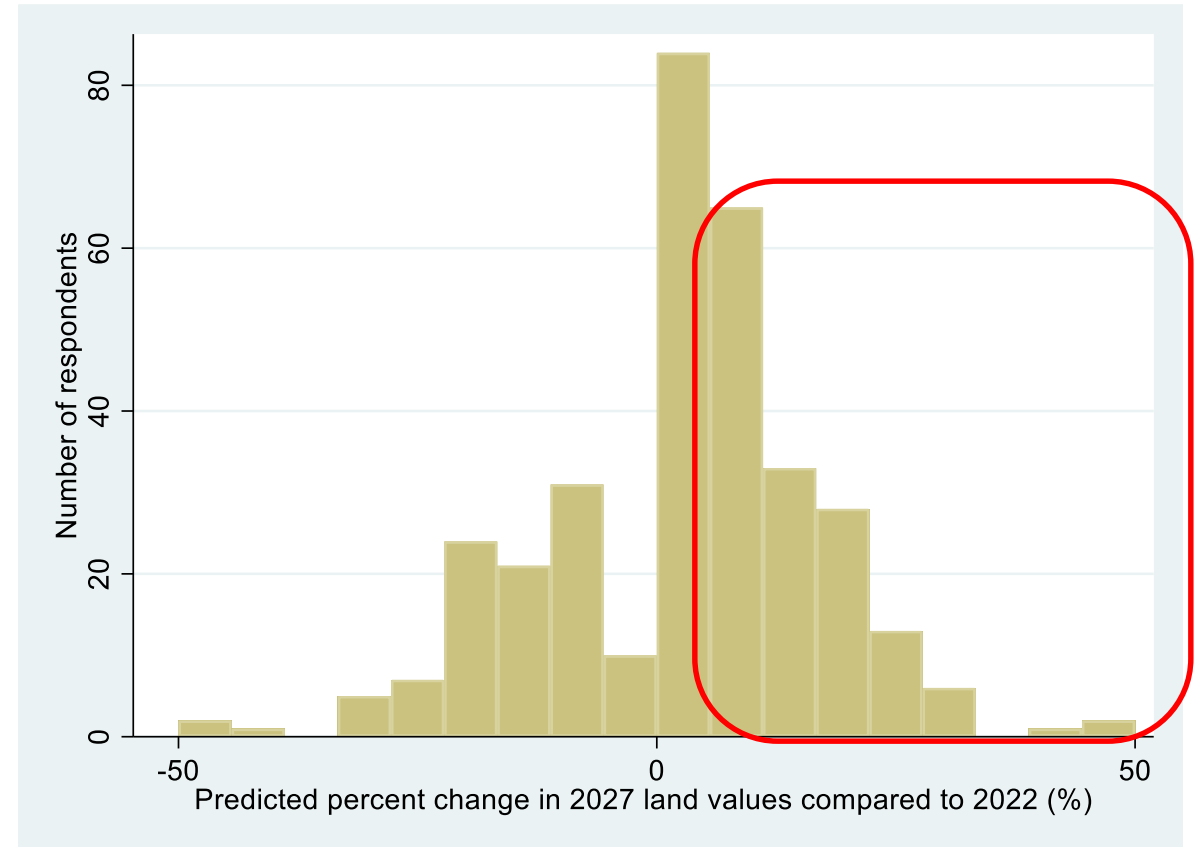
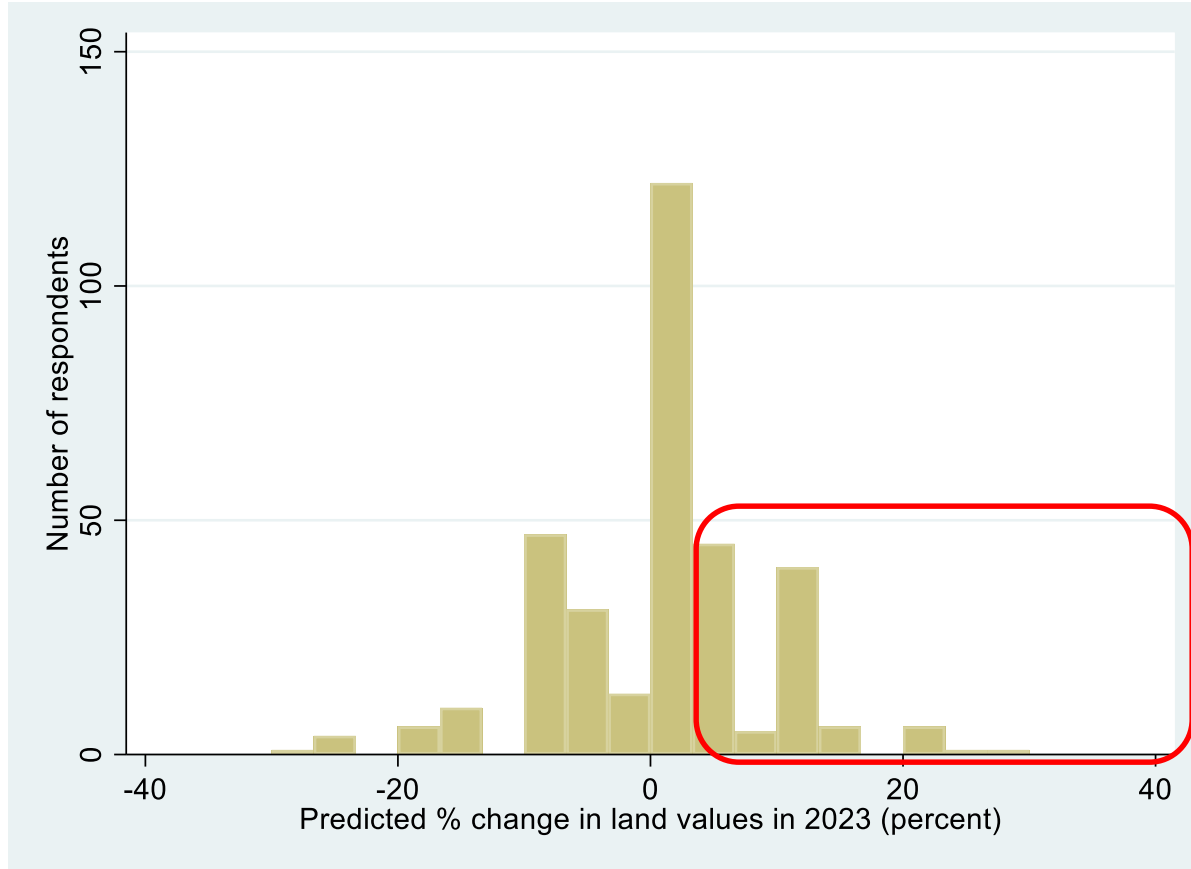
# Perceptions of current land values

	Way Too Low	Too Low	Just Right	Too High	Way Too High
	Percent of respondents				
Northwest	3	3	22	59	13
North Central	3	2	21	65	9
Northeast	0	1	16	57	26
West Central	7	0	19	62	12
Central	7	2	41	43	7
East Central	0	2	17	70	11
Southwest	0	0	26	62	12
South Central	0	2	20	70	8
Southeast	2	11	38	42	7

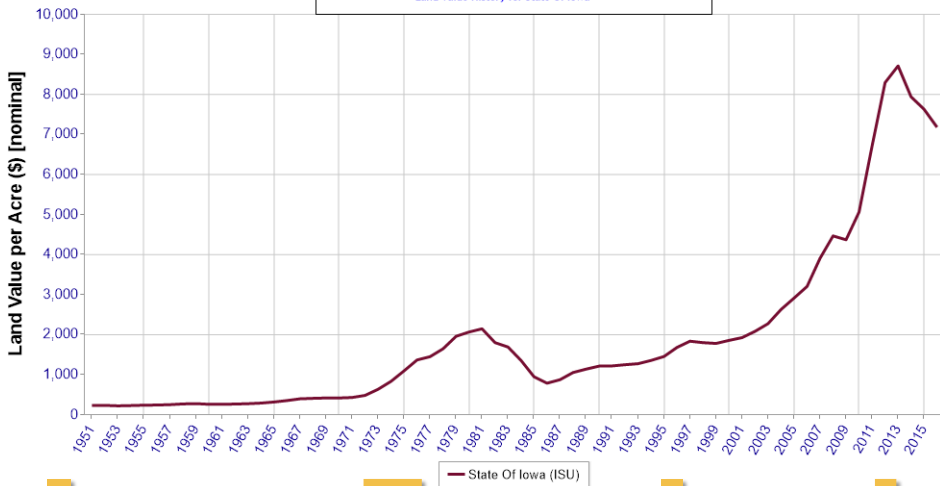
STATE	3%	2%	24%	59%	12%
-------	----	----	-----	-----	-----

# Farmland bubble?

What the respondents who think land values are too high predict future land values?



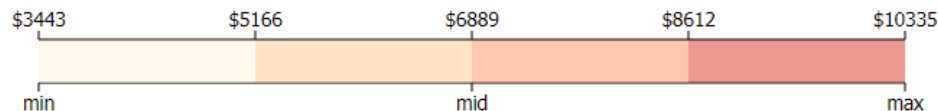
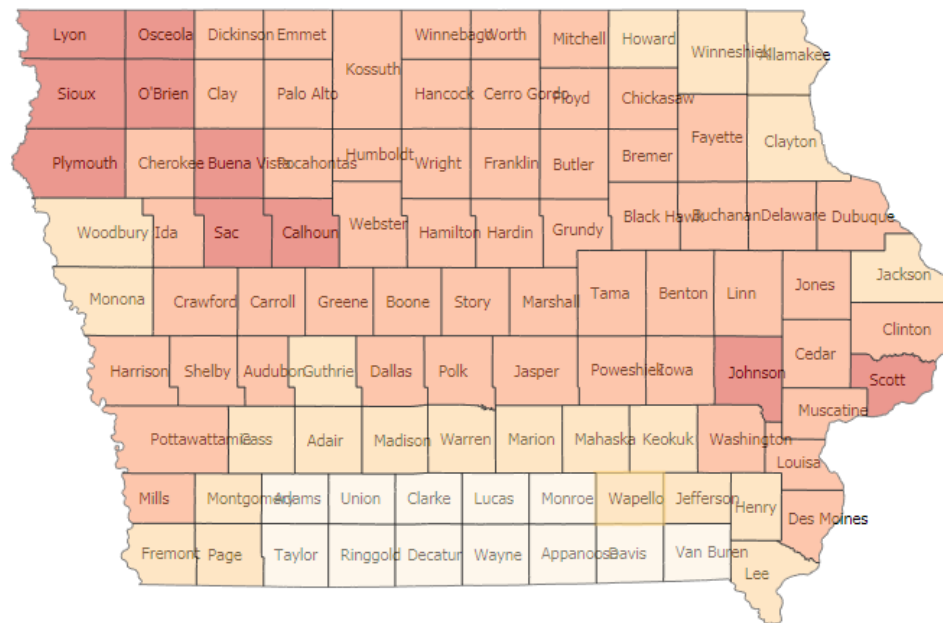
<https://www.card.iastate.edu/farmland>



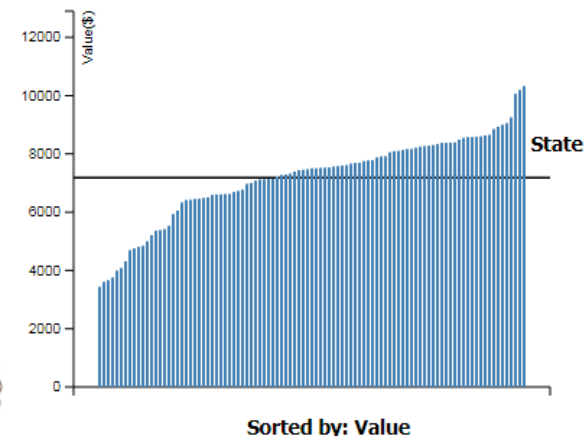
# Iowa Farmland Portal



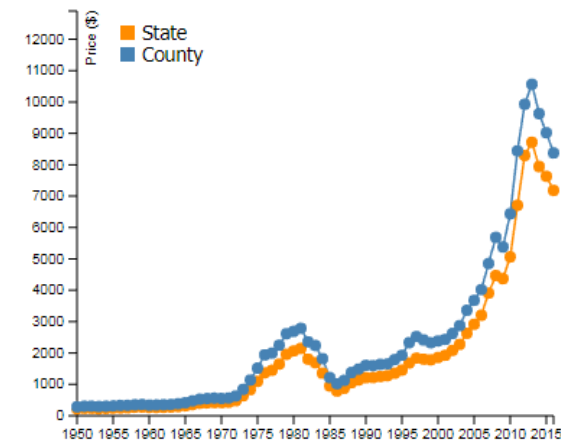
#ISUlandvalue



Iowa County Land Value in 2016



Land Value Trend in County: Story





# Thank You!



## Wendong Zhang

Associate Professor and Extension Economist  
478C Heady Hall, Iowa State University  
515-294-2536  
[wdzhang@iastate.edu](mailto:wdzhang@iastate.edu)

**2019 ISU Land Value Survey**

**2019 ISU Land Value Survey**  
The 2019 ISU Land Value Survey shows a 2.3 percent increase in average Iowa farmland values from November 2018 to November 2019. The average statewide value of an acre of farmland is now estimated at \$7,432. This modest increase, which barely exceeds the pace of inflation, is the second rise over the past six years, but still represents a 15 percent decrease from the 2013 peak in nominal land values, or a 23 percent drop in inflation-adjusted values.

**2017 Iowa Farmland Ownership & Tenure Survey Paper Copy Available for Order (\$5 Only)**  
The new, 60-page [2017 Iowa Farmland Ownership and Tenure Survey report](#) is available for order at the [Extension Store](#) for only \$5 each paper copy. This is a unique survey across the nation which provides statistically representative information on many aspects of land ownership, tenure and transitions in Iowa. For example, the survey finds that 60% of Iowa land is owned by people 65 years or older, 82% of Iowa land is owned free of debt, and 29% of all acres is primarily owned for family or sentimental reasons.

**1. What are you interested in?**

- [2019 ISU survey results](#)
- [find more land value data](#)
- [recent analysis & contact](#)

**Contact Us | Site Map | Links | Staff Intranet**

Iowa State University  
578 Heady Hall  
518 Farm House Lane  
Ames, Iowa 50011-1054

Phone: (515) 294-1183  
FAX: (515) 294-6336

© Copyright 2020 CARD

CARD is a center located within the [College of Agriculture and Life Sciences](#) at [Iowa State University](#).

[www.card.iastate.edu/farmland](http://www.card.iastate.edu/farmland)

**China Ag Center · Publications**

**Xi He and Wendong Zhang, 2020. "Implications of Hong Kong's Special Status Revocation for Agricultural Trade between the United States, Hong Kong, and Mainland China." *Agricultural Policy Review*. Center for Agricultural and Rural Development, Iowa State University.**

In 1992, the United States granted Hong Kong status as a customs territory separate from mainland China. On June 29, 2020, however, the US Department of Commerce withdrew that status due to recent tensions between China and the United States. Hong Kong, as the world's largest re-exporting port, plays a large intermediary role in US-China trade, and the revocation of its special status may provoke China into taking retaliatory economic and/or political actions. He and Zhang examine trends in Hong Kong's import/export of US agricultural products and how that trade may be affected. They find that the revocation itself is not likely to directly affect US-China agricultural trade prospects much if neither China nor the United States responds with further actions.

**Chen-Ti Chen, Tao Xiong, and Wendong Zhang, 2020. "Large Hog Companies Gain from China's Ongoing African Swine Fever." *Agricultural Policy Review*. Center for Agricultural and Rural Development, Iowa State University.**

Since November 2018, China has reduced its hog and sow inventory by almost 32% due to ongoing outbreaks of African Swine Fever (ASF).

[www.card.iastate.edu/china](http://www.card.iastate.edu/china)

**IOWA STATE UNIVERSITY**  
Extension and Outreach

This institution is an equal opportunity provider. For the full non-discrimination statement or accommodation inquiries, go to [www.extension.iastate.edu/diversity/ext](http://www.extension.iastate.edu/diversity/ext).



# Thank you!

---

Wendong Zhang  
[wendongz@cornell.edu](mailto:wendongz@cornell.edu)

<https://wendongzhang.weebly.com/>

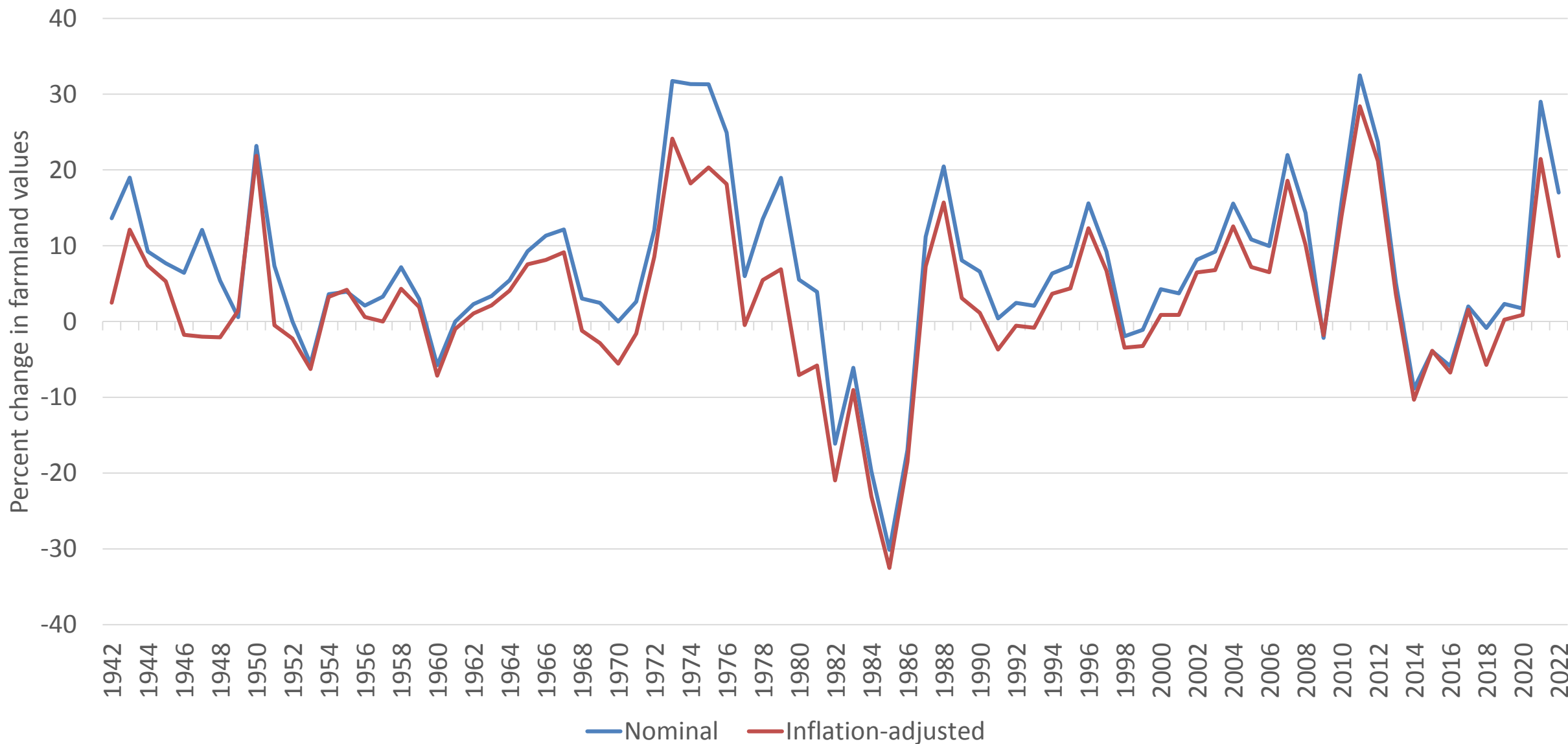


Dyson  
Cornell  
SC Johnson College of Business

Cornell CALS  
College of Agriculture and Life Sciences

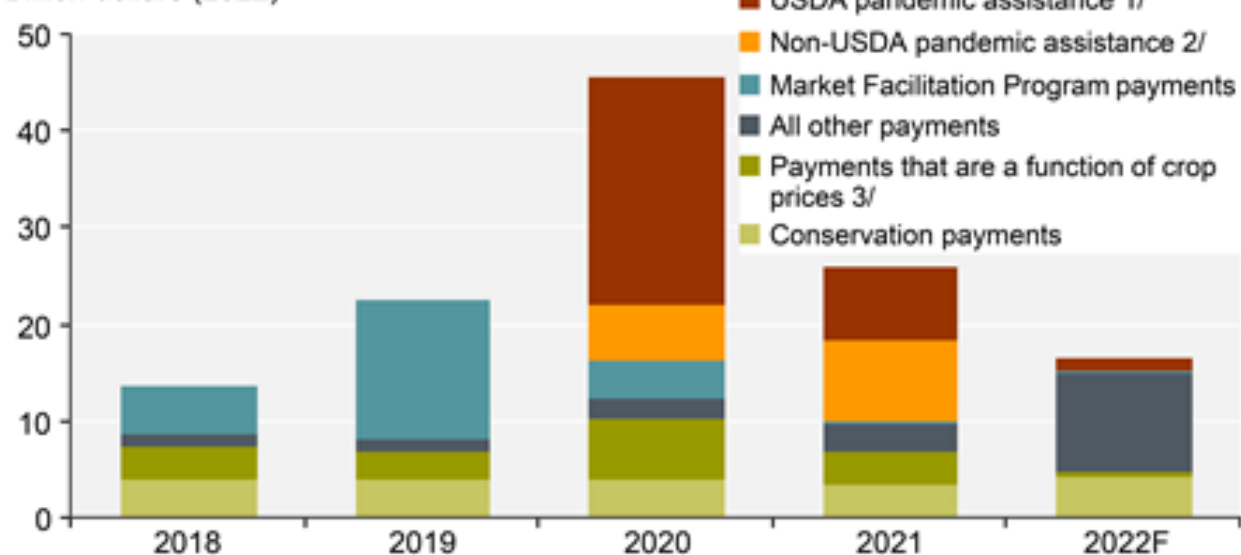
# Percentage change in nominal and inflation-adjusted farmland values

Blue-red line gap shows the effects of inflation



## Direct government payments to U.S. farm producers, 2018–22F

Billion dollars (2022)



Notes: F = forecast.

1/ Includes payments from the Coronavirus Food Assistance Program and other USDA pandemic assistance for producers.

2/ Includes forgiven loans from the Paycheck Protection Program.

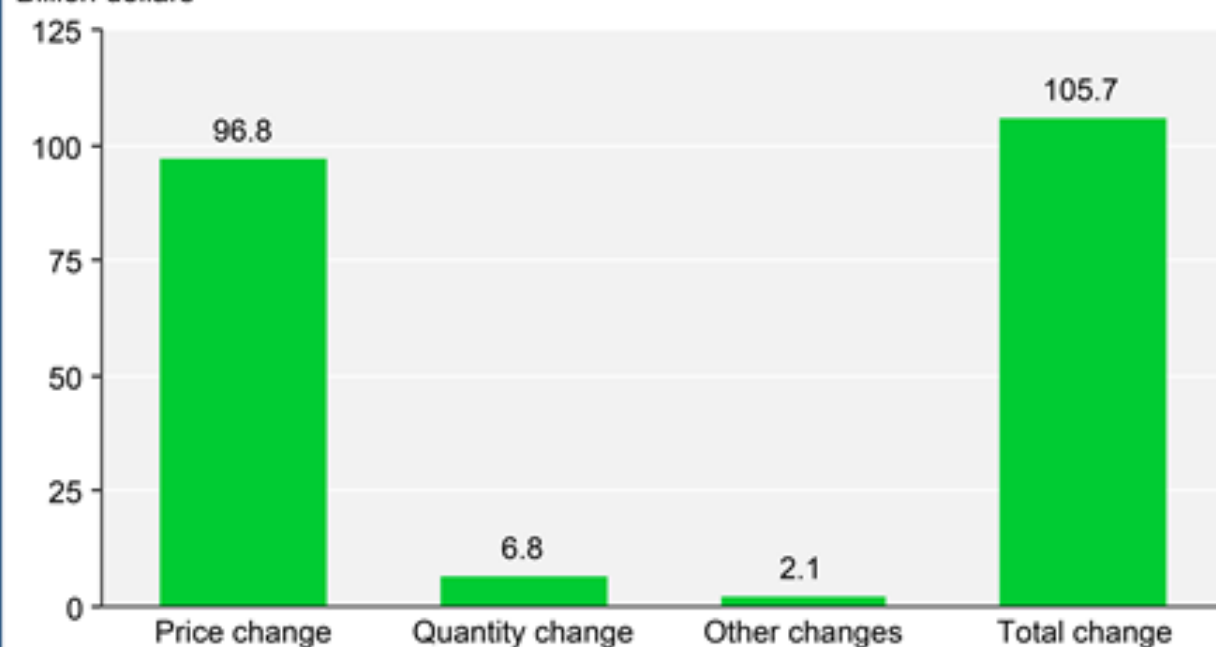
3/ Includes Price Loss Coverage, Agriculture Risk Coverage, loan deficiency payments (excluding grazeout payments), marketing loan gains, certificate exchange gains, and dairy payments.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of December 1, 2022.

## Change in U.S. farm cash receipts, 2021–2022F, by component of change

Billion dollars



Note: F = forecast. Other changes include price/quantity changes in "all other crops" (excluding sugarcane and sugarbeets), proso millet, and miscellaneous animals/products for which data are not available. Price, quantity, and other changes may not sum to total because of rounding.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of December 1, 2022.

## Midwest Farmland Values Surged in the Third Quarter

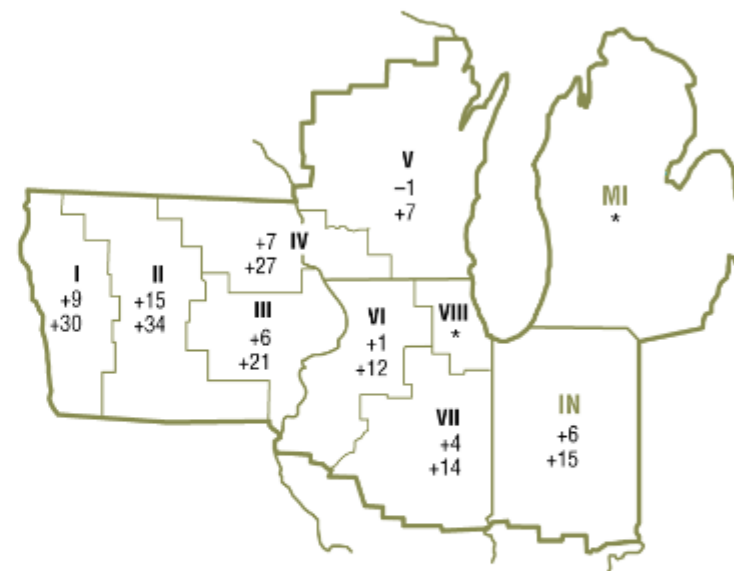
According to the most recent *AgLetter*, Seventh District farmland values in the third quarter of 2021 were 18 percent higher than a year ago—the largest year-over-year gain in nine and a half years. Values for “good” agricultural land in the third quarter of 2021 were 6 percent higher than in the second quarter.

# 2021

### Percent change in dollar value of “good” farmland

	July 1, 2021 to October 1, 2021	October 1, 2020 to October 1, 2021
Illinois	+3	+13
Indiana	+6	+15
Iowa	+10	+28
Michigan	*	*
Wisconsin	+1	+10
Sevent District	+6	+18

\*Insufficient response.



Top: July 1, 2021 to October 1, 2021

Bottom: October 1, 2020 to October 1, 2021