2021 ISU Land Value Survey

Dr. Wendong Zhang

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Associate Professor of Economics and Extension Economist

ISU CARD Farmland Portal: www.card.iastate.edu/farmland

December 14, 2021



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
- Promoted to Associate Professor in August 2021
- Research and extension interests:

land value/ownership https://www.card.iastate.edu/farmland

2019 Iowa Lakes Survey https://www.card.iastate.edu/lakes

ISU China Ag Center https://www.card.iastate.edu/china



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, 2021

		Responses			Respondents			
	Paper	Online	Total Number	Paper	Online	Total Number		
	PERCENT		Total Number	PERCENT		Total Number		
Northwest	37	63	90	29	71	72		
North Central	32	68	77	25	75	58		
Northeast	37	63	65	37	63	57		
West Central	35	65	72	29	71	52		
Central	35	65	74	27	73	55		
East Central	37	63	76	21	79	50		
Southwest	21	79	62	18	82	36		
South Central	19	81	69	16	84	43		
Southeast	48	52	60	23	77	32		
STATE	33%	67 %	645	25%	75%	455		





Survey Respondents by Occupation, 2021

	Farm manager	Appraiser	Ag lender	Broker/Realto	Farmer r /Landowner	Government	Other
				PERCENT			
Northwest	12	7	47	15	3	13	3
North Central	14	13	38	13	9	13	2
Northeast	11	13	44	9	13	6	4
West Central	12	8	42	12	12	12	4
Central	15	13	26	15	11	15	4
East Central	13	10	38	21	4	10	4
Southwest	22	8	39	8	11	11	0
South Central	7	10	38	19	10	10	7
Southeast	14	7	36	14	18	11	0
STATE	13	10	39	14	9	11	3





Experience and Service Area by Occupation

Crop reporting district	Years of experience	Number of counties served	Occupation	Years of experience	Number of Counties Served
Northwest	23	6	Farm manager	23	8
North Central	27	7	Appraiser	19	9
Northeast	16	9	Ag lender	21	5
West Central	25	6	Brokers/Realtor	24	11
Central	24	6	Farmer/Landowner	28	8
East Central	22	7	Government	18	2
Southwest	22	7	Other	28	13
South Central	22	7			
Southeast	17	3			
STATE	22	6	STATE	22	6





STATEWIDE AVERAGE

\$9,751 Nov 2021





HIGH QUALITY LAND

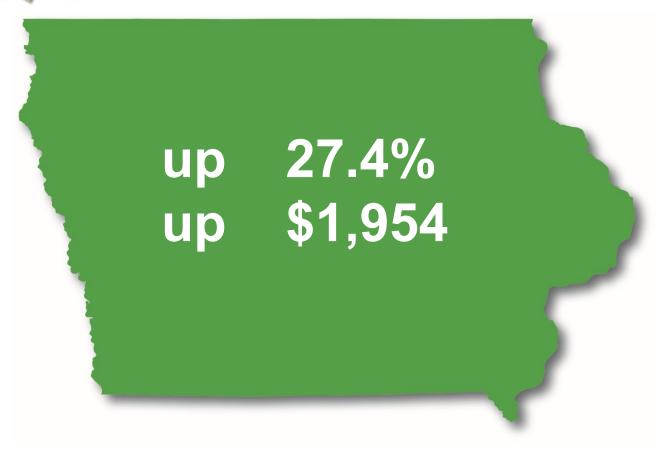
\$11,834 Nov 2021





MEDIUM QUALITY LAND

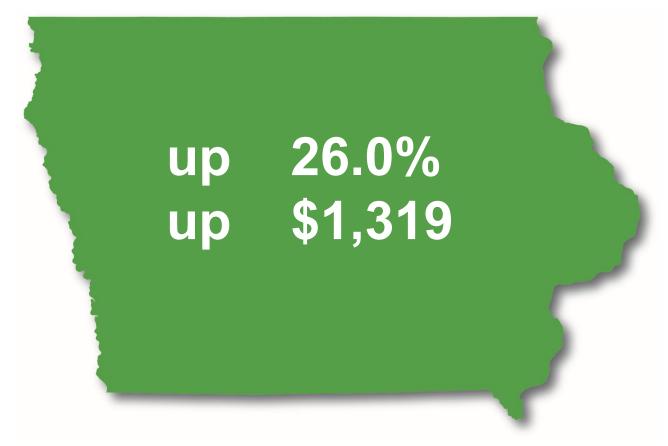
\$9,071 Nov 2021





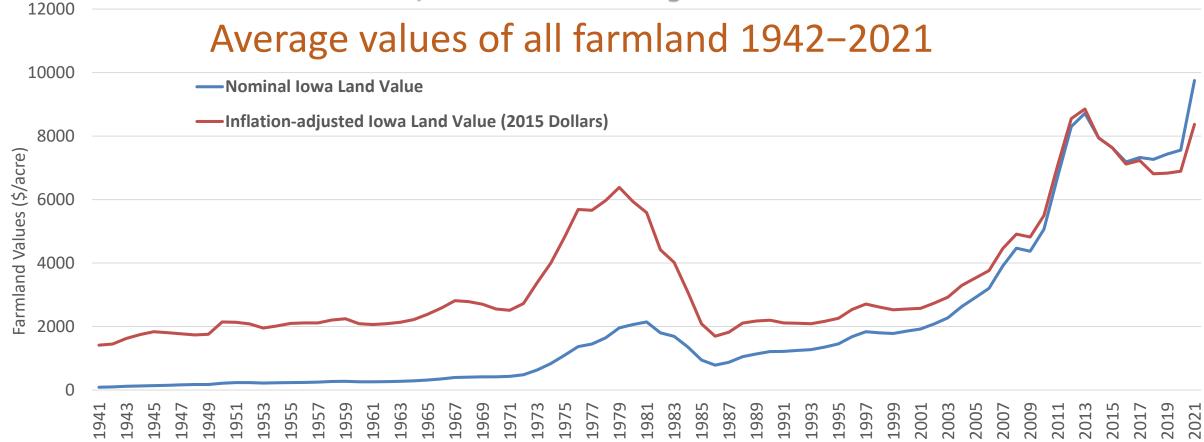
LOW QUALITY LAND

\$6,397 Nov 2021





Nominal lowa land values reach historic high But inflation-adjusted values are still lower than 2012, 2013 Nominal values +29%; Inflation-adjusted values +21%

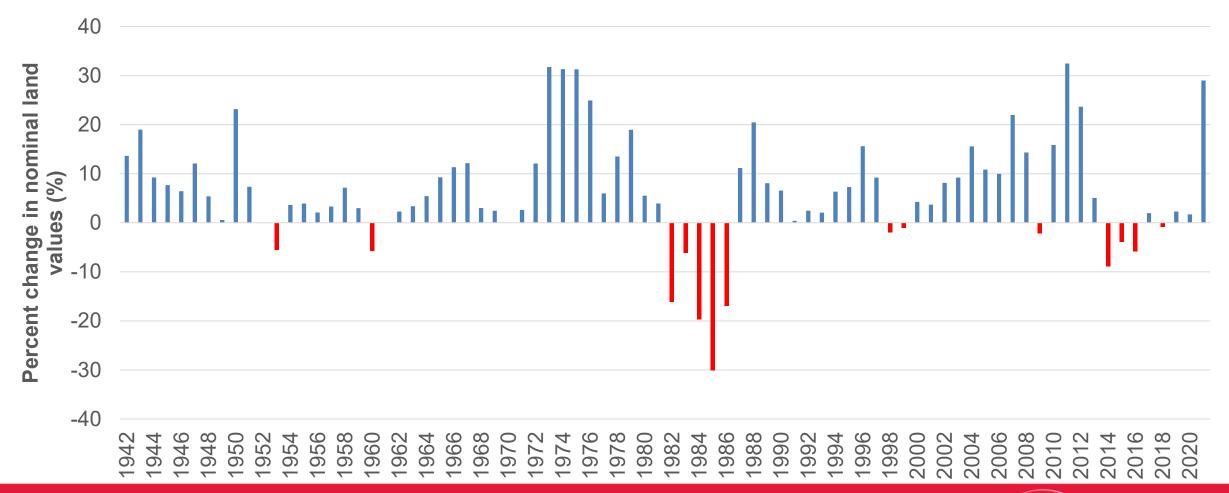






2021 hike: 29% nominal, 21% inflation-adjusted

% Change in Nominal Iowa Farmland Values 1942–2021

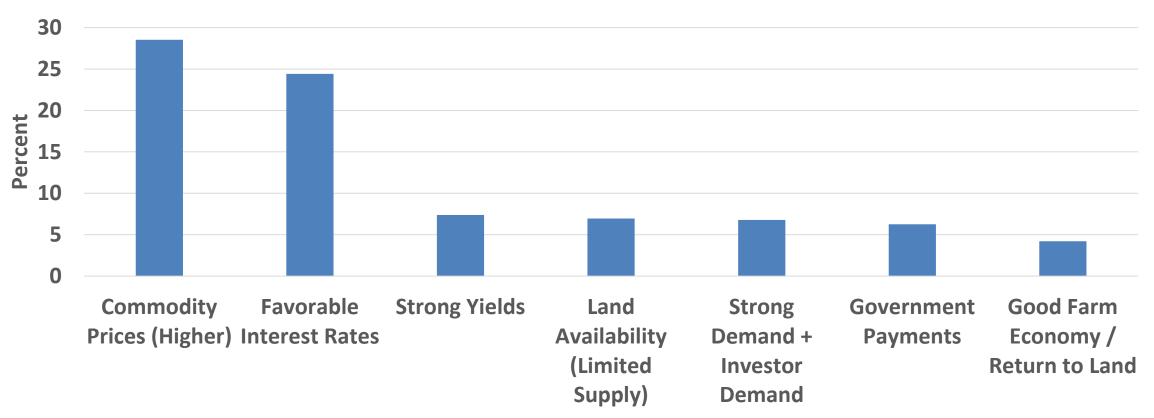






Major Positive Factors Affecting lowa Farmland Market, 2021

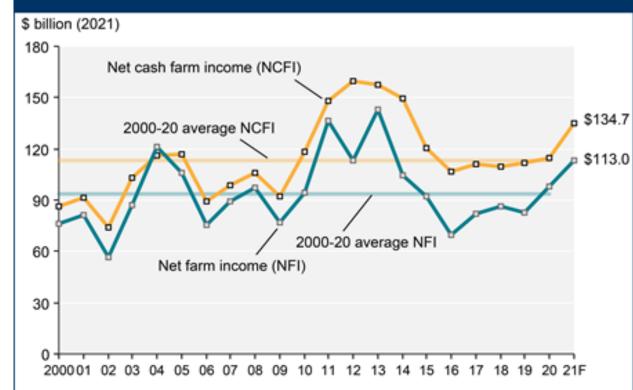
Positive Factors Affecting 2021 Farmland Market





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

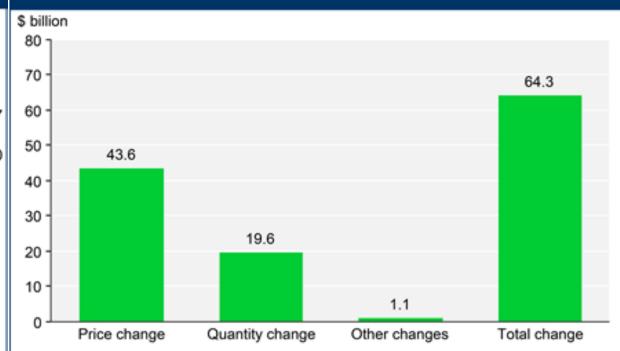
U.S. net farm income and net cash farm income, 2000-21F



Note: F = forecast. Values are adjusted for inflation using the Gross Domestic Product chain-type price index, 2021=100.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of September 2, 2021.

Change in U.S. farm cash receipts, 2020-21F, by component of change



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 September 2, 2021.



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	Latest period	Value	Prior period	Year ago	Two years ago
Prices received by farmers (index, 2011=100)	September	109	-0.7	22	24
Crops (index, 2011=100)	September	108	-1.5	16	23
Corn (\$ per bu.)	September	5.45	-13.8	60	43
Hay (\$ per ton)	September	188	0.0	25	18
Soybeans (\$ per bu.)	September	12.20	-10.9	32	46
Wheat (\$ per bu.)	September	7.75	8.7	64	79
Livestock and products (index, 2011=100)	September	109	0.0	30	25
Barrows & gilts (\$ per cwt.)	September	70.40	-10.4	38	46
Steers & heifers (\$ per cwt.)	September	127.00	1.6	21	22
Milk (\$ per cwt.)	September	18.40	4.0	4	-5
Eggs (\$ per doz.)	September	1.03	-3.7	24	51

Commodity Prices Significantly Higher



Extension and Outreach

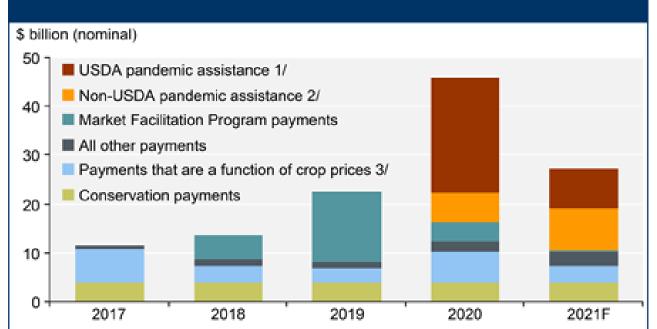


The impacts of interest rate changes on US Midwest farmland values

Albulena Basha

Deutsche Gesellschaft Für Internationale Zusammenarbeit (GIZ) GmbH,
Pristina, Kosovo
Wendong Zhang

Direct government payments to U.S. farm producers, 2017-21F



Note: F = forecast.

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

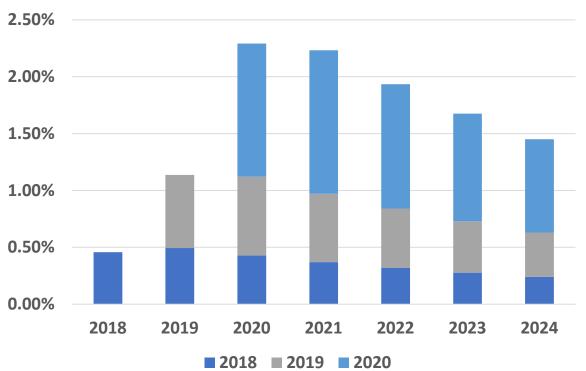
2/ Includes loans from the Paycheck Protection Program.

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

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

Data as of December 1, 2021.

The short- and long-term impacts of recent government payments on I-states' farmland values



https://doi.org/10.1108/AFR-11-2020-0163



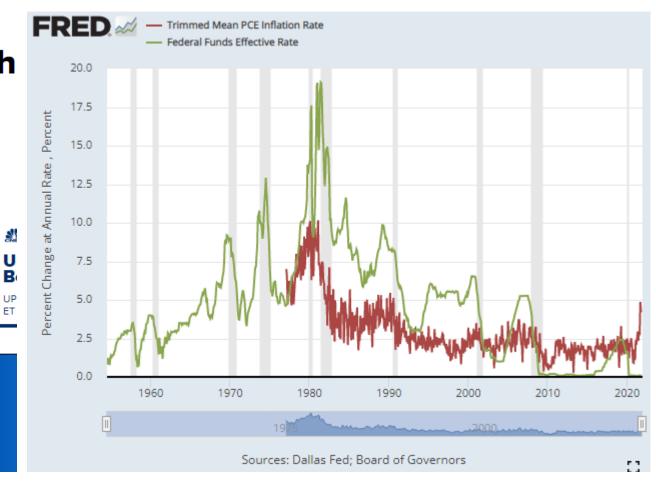
Fed members ready to raise interest rates if inflation continues to run high meeting minutes show

PUBLISHED WED, NOV 24 2021-2:01 PM EST | UPDATED WED, NOV 24 2021-7:21 PM EST



KEY POINTS

- Minutes from the November Fed meeting show members concerned about inflation and willing to tighten policy should it continue to run hot.
- The meeting summary noted that the officials would be willing to raise interest rates "sooner than participants currently anticipated."
- They also indicated at the meeting that they feel conditions warrant a reduction in monthly asset purchases, with some members pushing for a more aggressive tapering.







The impacts of interest rate changes on US Midwest farmland values

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Pristina, Kosovo

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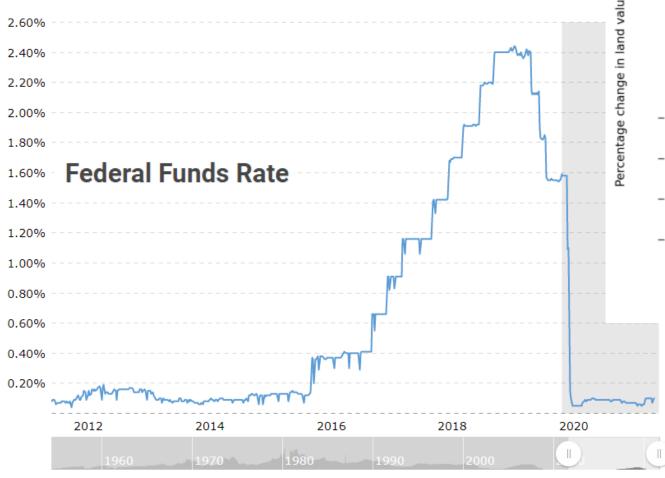
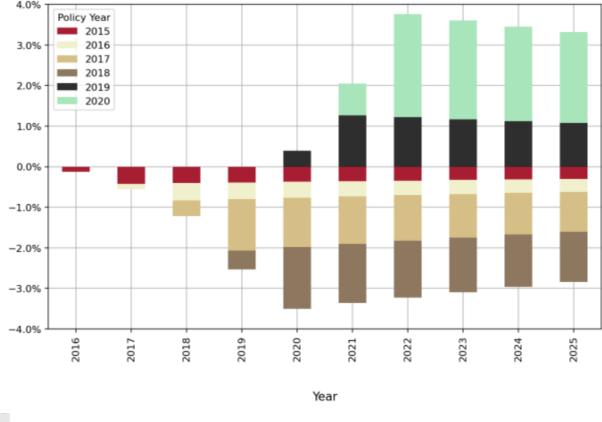


Fig. 3: The short- and long-term impacts of recent Federal Reserve interest rate moves on I-states' farmland values



https://doi.org/10.1108/AFR-11-2020-0163



The relationship between inflation and farmland returns

October 2020



TIAA Center for Farmland Research

Bruce Sherrick, Ph.D., Director of the TIAA Center for Farmland Research and Fruin Professor of Farmland Economics

Table 2: Asset return characteristics, 1970 to 20196

Asset/Index	Annual average return	Standard deviation	Coefficient of variation					
		- 1970 - 2019						
U.S. ag 32 states	10.2%	6.5%	0.64					
U.S. equities	7.1%	16.5%	2.31	U.S. equities	-27.8%			
European equities	6.1%	20.3%	3.35	European equities	-18.6%			
U.S. corporate bonds	7.5%	2.6%	0.35	U.S. listed real estate	-0.8%			
U.S. 10 year bonds	6.3%	3.0%	0.48	U.S. corporate bonds		12.1%		
U.S. 30 year mortgages	7.7%	3.6%	0.46	U.S. 10 year bonds		17.1%	1 20 00/	
U.S. listed real estate	10.9%	16.8%	1.53	Gold CPI			38.8%	71.4%
Gold	7.53%	22.2%	2.95	PPI				75.7%
PPI	3.40%	4.9%	1.44					10.170
CPI	3.84%	2.8%	0.73					

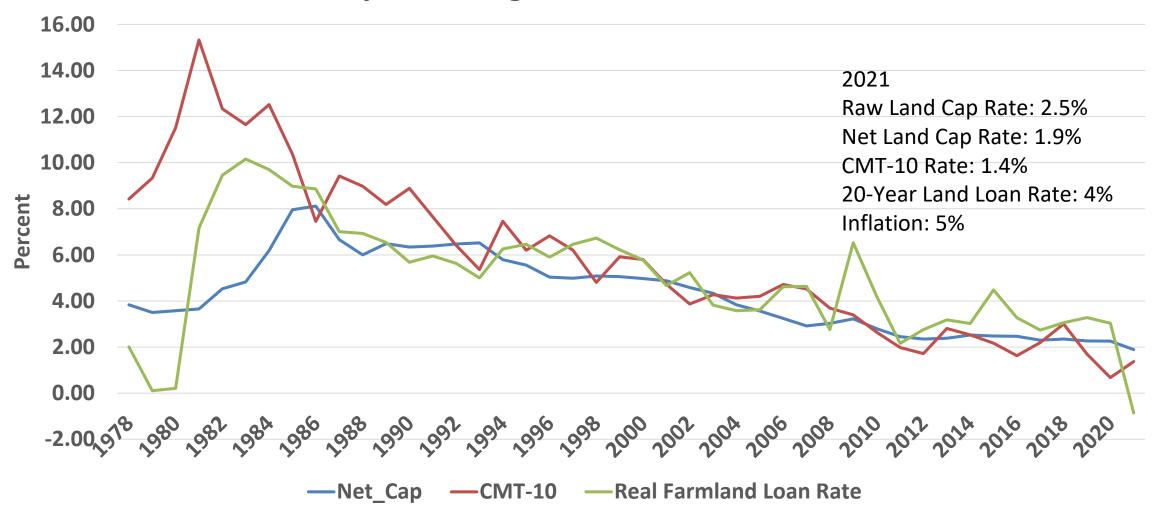
U.S. Equities: S&P 500 index; European equities: MSCI EAFE Index; U.S. corp

Corporate AAA rated bonds; U.S. 10 year bonds: U.S. 10 year Transport Transport State on 30 year fixed rate mortgage; U.S. lis Figure 5: Three-year rolling geometric correlations with U.S. 32 state farmland

Index; Gold: London Bullion Market Association Gold Price; PPI: |returns, 1970 to 20198

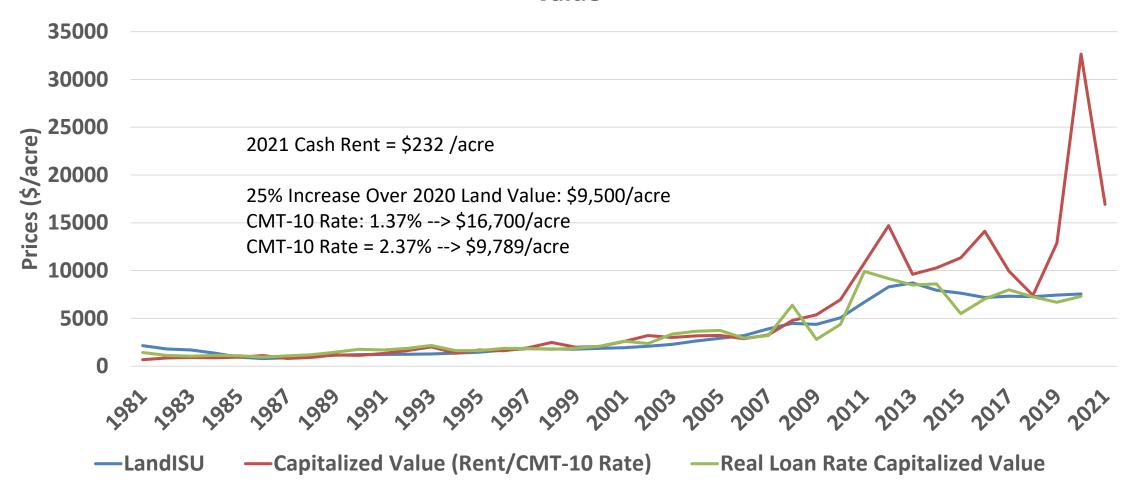
https://farmland.illinois.edu/research-briefs/

Net Rent to Land Value Ratio vs. 10-Year CMT Interest Rates vs. Inflationadjusted Chicago Fed Farmland Loan Rate

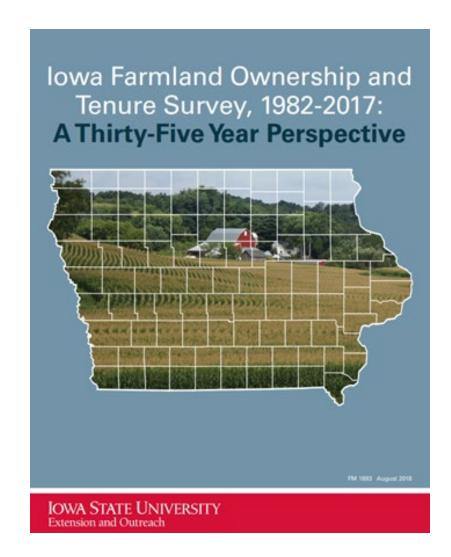




ISU Land Values vs. CMT-10 Capitalized Value vs. Real Loan Rate Capitalized Value





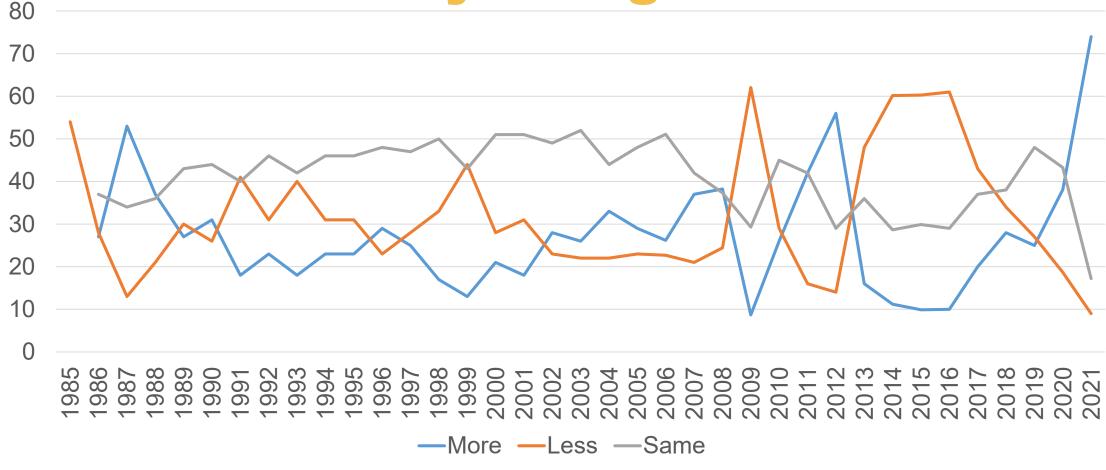


- 82% of lowa land is debt-free
- 60% of land owned by owners 65+ years old, onethird of land owned by 75+ years old, 13% of land owned by women landowners 80+ years old
- Ownership continues to shift from sole ownership to trusts and corporations
- 53% of Iowa land rented out mainly cash rent
- 34% of lowa land owned by landlords with no farming experience, 23% of land owned by retired farmers who do not currently farm
- 29% of lowa land owned primarily for family/sentimental reasons

(\$5 each print copy!)

https://store.extension.iastate.edu/product/6492

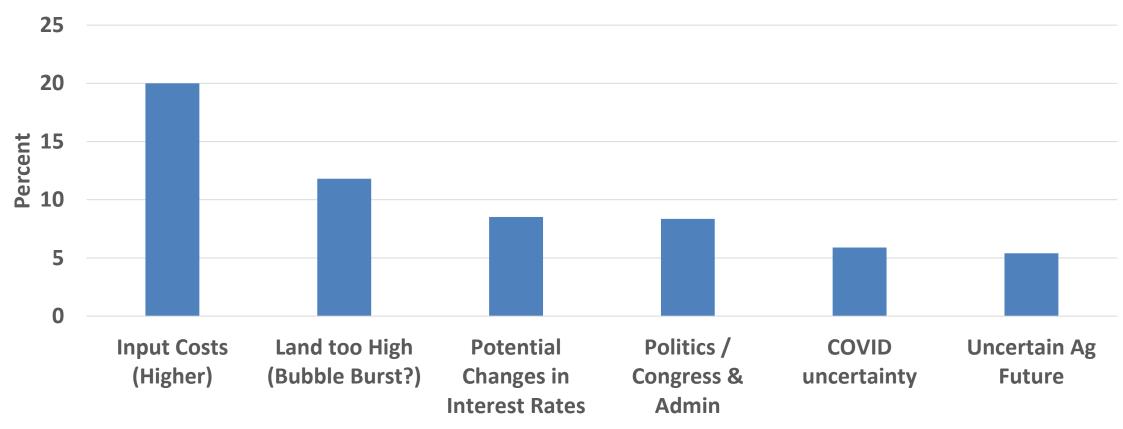
74% of respondents reported more sales than one year ago





Major Negative Factors Affecting lowa Farmland Market, 2021

Negative Factors Affecting 2021 Farmland Market





the American Families Plan proposes taxing previously unrealized capital gain upon the transfer of appreciated property at death or by gift. This new tax never before implemented in the United States—would generally apply to gain exceeding \$1 million per person. The AFP proposes increasing the top marginal tax rate for ordinary income, taxing some capital gain at ordinary income tax rates, subjecting more income to the 3.8% Medicare tax, and taxing unrealized capital gain at death or upon gift. As proposed, the AFP would generally eliminate the tax-free step up in basis for capital gain exceeding \$1 million - So the first \$1 million would still receive a tax-free step up in basis, but the rest would receive the step up only after paying the tax

Married couple owning 722 acres jointly, \$519,561 new tax liability per spouse (bought land in 2005 at \$3k/acre)

CARD Policy Briefs



August 2021 21-PB 35

The Tax Implications of the American Families Plan on Iowa Farmland Owners

Kristine Tidgren*, Dolezal Adjunct Assistant Professor, Agricultural Education & Studies Department, Director, Center for Agricultural Law and Taxation, Iowa State University, ktidgren@iastate.edu

Wendong Zhang, Associate Professor, Department of Economics and Center for Agricultural and Rural Development, Iowa State University, wdzhang@iastate.edu

https://www.card.iastate.edu/products/publications/pdf/21pb35.pdf





Land Values by District and Quality, Nov 2021

District	Average Value	% Change	High Quality	% Change	Medium Quality	% Change	Low Quality	% Change
Northwest	\$12,164	27.6%	\$13,997	29.8%	\$11,042	22.8%	\$8,088	24.7%
North Central	\$10,664	34.5%	\$12,064	35.7%	\$9,641	31.2%	\$6,992	32.0%
Northeast	\$9,958	32.3%	\$12,308	34.1%	\$9,122	30.7%	\$6,717	28.8%
West Central	\$10,461	33.1%	\$12,289	34.2%	\$9,700	30.5%	\$7,044	28.3%
Central	\$10,744	26.6%	\$12,512	27.7%	\$9,980	26.6%	\$7,136	23.2%
East Central	\$11,051	29.6%	\$13,503	32.4%	\$10,179	27.9%	\$7,215	28.9%
Southwest	\$7,582	24.0%	\$9,424	25.9%	\$7,145	22.3%	\$5,155	27.1%
South Central	\$6,035	29.6%	\$8,194	27.9%	\$6,094	33.6%	\$4,058	24.4%
Southeast	\$8,451	21.9%	\$11,628	25.0%	\$8,169	23.1%	\$4,734	14.5%
lowa Avg.	\$9,751	29.0%	\$11,834	30.5%	\$9,071	27.4%	\$6,397	26.0%

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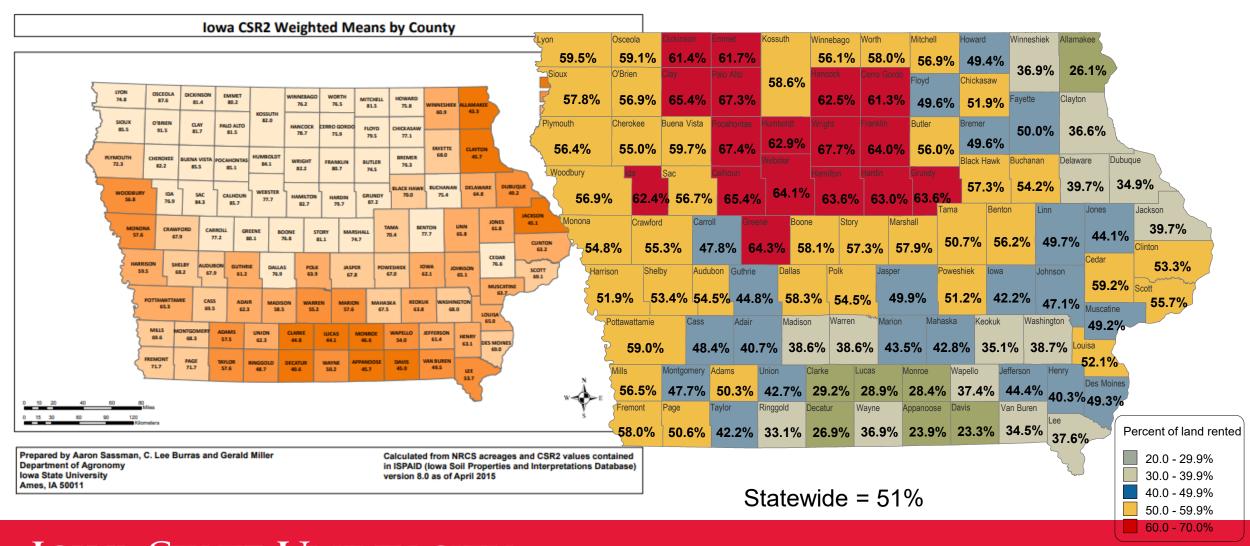
CSR2 by Crop Reporting District, 2021

Reported Average CSR2

		<u> </u>	
	High Quality	Medium Quality	Low Quality
Northwest	89	80	67
North Central	85	75	61
Northeast	82	68	51
West Central	81	70	56
Central	86	75	60
East Central	86	71	54
Southwest	77	62	48
South Central	72	56	40
Southeast	82	68	49
STATE	83	70	55



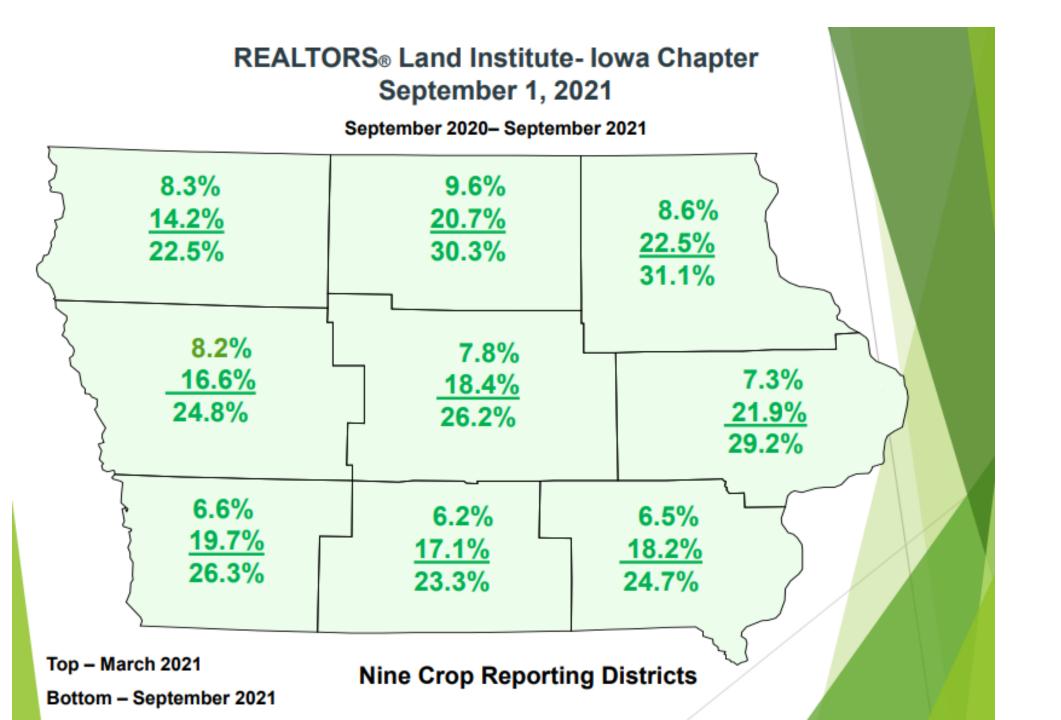
CSR2 and Percent of land in farms rented out, 2017



CSR2 and % of Land Rented Out

	Repor	ted Average C	SR2	Implied \$/CSR2			
	High Quality	Medium Quality	Low Quality	High Quality	Medium Quality	Low Quality	
Northwest	89	80	67	\$168/CSR2	\$150/CSR2	\$130/CSR2	
North Central	85	75	61	146	133	117	
Northeast	82	68	51	148	141	138	
West Central	81	70	56	154	141	132	
Central	86	75	60	153	139	126	
East Central	86	71	54	164	150	139	
Southwest	77	62	48	120	113	107	
South Central	72	56	40	121	110	103	
Southeast	82	68	49	147	124	107	
STATE	83	70	55	\$147/CSR2	\$134/CSR2	\$122/CSR2	





Iowa



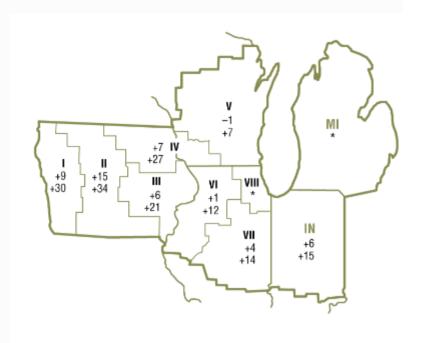
FEDERAL RESERVE BANK of CHICAGO

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.

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
lowa	+10	+28
Michigan	*	*
Wisconsin	+1	+10
Sevent District	+6	+18



Top: July 1, 2021 to October 1, 2021

Bottom: October 1, 2020 to October 1, 2021

^{*}Insufficient response.

Farmland Values Surge Alongside Strength in Agriculture

Agricultural credit conditions in the Tenth District remained strong in the third quarter and farm real estate values increased sharply.

November 15, 2021 | Agriculture | Ag Credit Survey



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

Percent change from previous year *

	Nonirrigated	Irrigated	Ranchland
Kansas	9	20	14
Western Missouri	18	n/a **	25
Mountain States***	9	9	9
Nebraska	16	19	21
Oklahoma	9	n/a **	9
Tenth District	14	16	17



Percent changes are calculated using responses only from those banks reporting in both the past and the current quarters.

Not reported due to small sample size.

^{***} Mountain States include Colorado, northern New Mexico and Wyoming, which are grouped because of limited survey responses from each state.





SOLD!

151.68 Acres, m/l, Johnson Co., IA

Parcel 1: (75.68 Acres) \$21,000/Acre

Parcel 2: (76 Acres) \$26,000/Acre



FARMLAND

New Record \$26,000/Acre Iowa Farmland Sale, Record Amount of Land **Could Flood Market in Next 60 Days**





Once, Twice, Sold! 80 Acres in Iowa Sold for \$22,600 Per Acre, Sets New State Record By TYNE MORGAN August 30, 2021



By **TYNE MORGAN** October 7, 2021

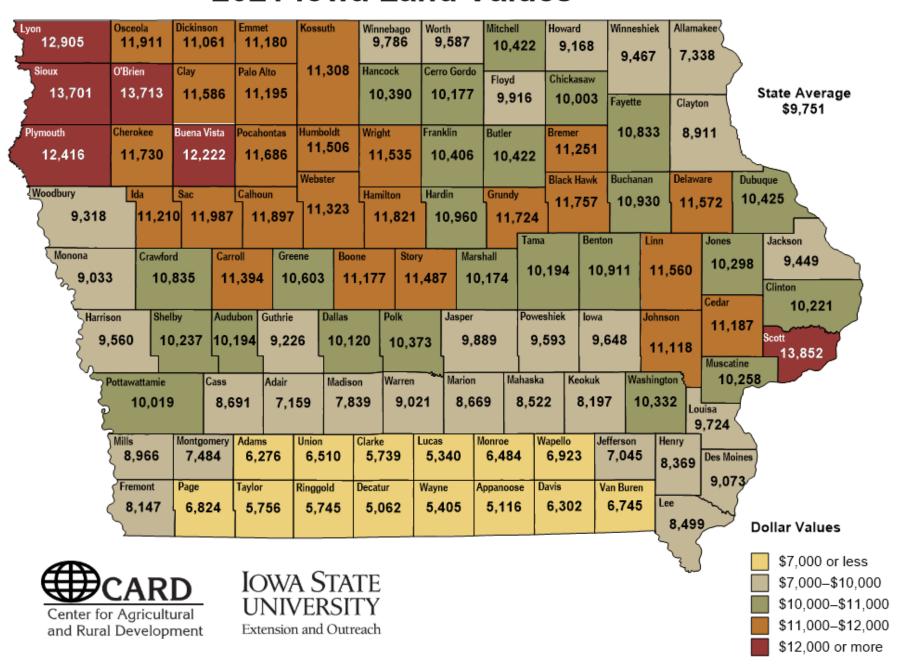
The sale was on 80 acres of ground in Grundy County, Iowa, which is located west of Waterloo. The ground did include a wind turbine, which helped drive up the price as of the record sale.





Land Values by County, 2021

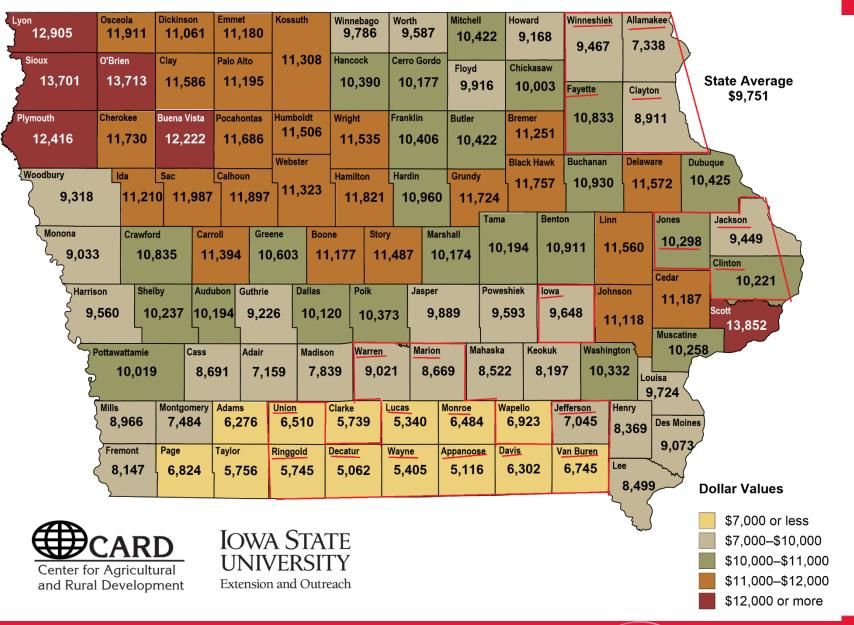
2021 Iowa Land Values



IOWA STATE UNIVERSITE Extension and Outreach

20 counties saw historically high land values in inflationadjusted terms

99 for nominal

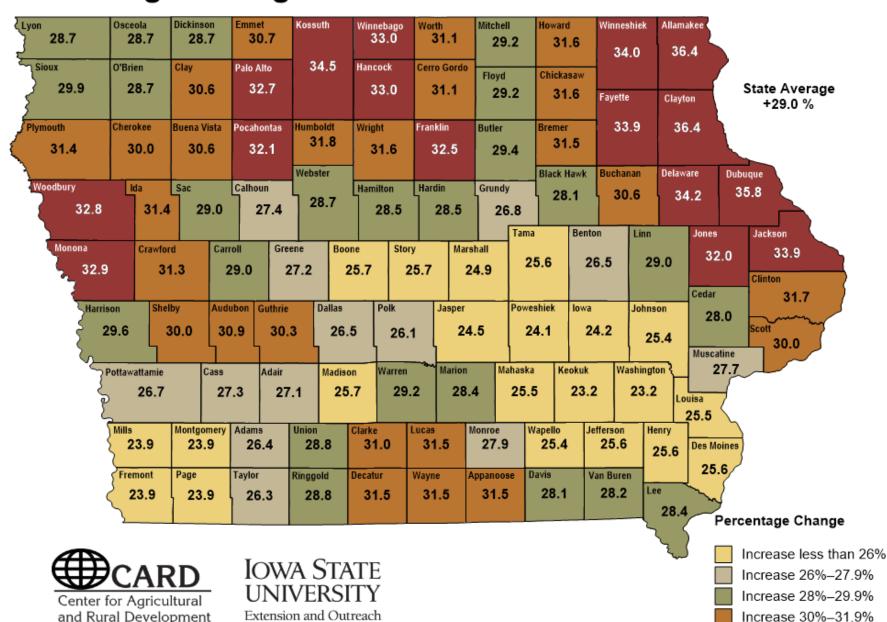


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Percentage Change in Iowa Land Values 2020 to 2021

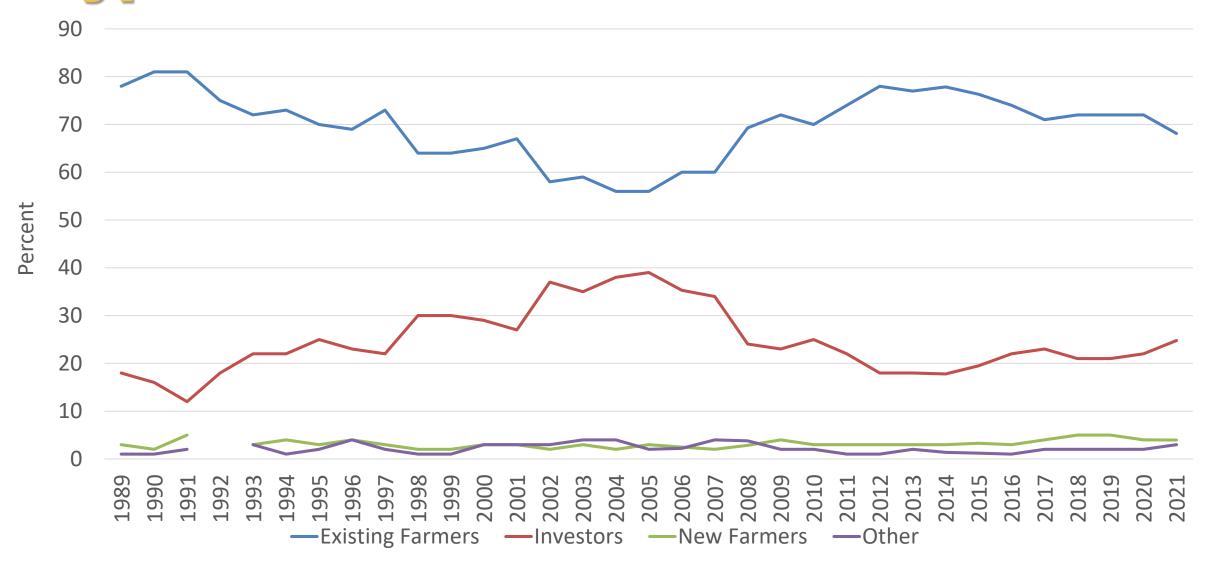


Percent
Changes in
Land
Values
from Nov
2020



Increase 30%–31.9% Increase 32% or more

lowa Farmland Purchases by Buyer Types 1989–2021



Iowa Farmland Purchases by Seller Types, 2021

	Active Farmers	Retired Farmers	Estate Sales	Investors	Other
			PERCENT		
Northwest	4	18	66	8	4
North Central	8	19	60	12	2
Northeast	13	33	45	8	1
West Central	7	26	57	5	5
Central	8	26	54	9	3
East Central	9	25	54	9	3
Southwest	12	28	43	14	3
South Central	8	23	49	18	2
Southeast	7	26	57	6	3
STATE	9	24	54	10	3

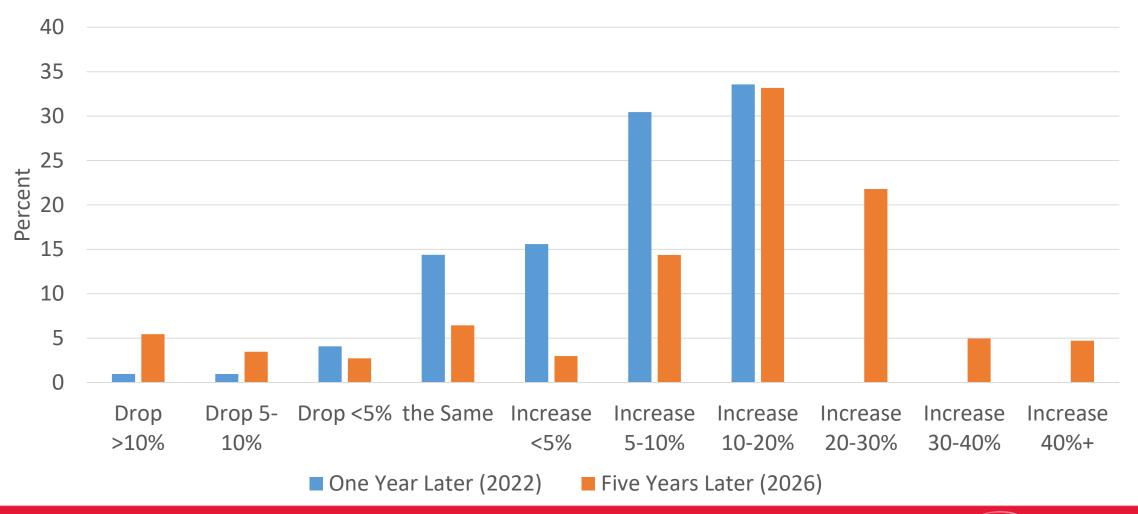




One- and Five-year Cash Crop Price Predictions, 2021

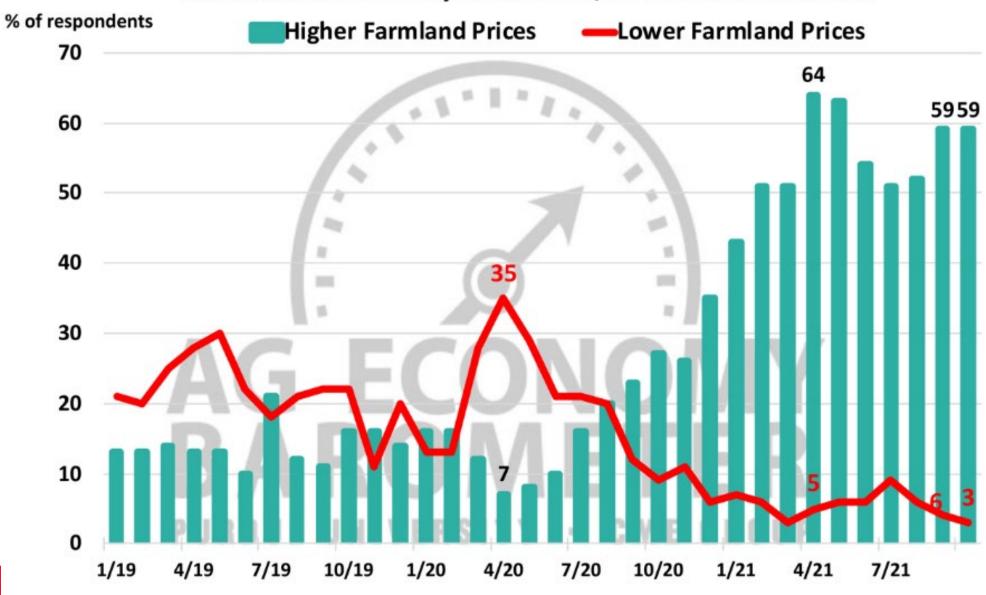
	Predicted Cash Corn Prices		Predicted Cash Soybean Prices	
	One Year Later	Five Years Later	One Year Later	Five Years Later
Northwest	\$5.04	\$5.04	\$11.45	\$11.60
North Central	\$5.07	\$5.13	\$11.34	\$11.67
Northeast	\$5.25	\$5.29	\$11.95	\$12.32
West Central	\$5.09	\$5.02	\$11.45	\$11.58
Central	\$5.10	\$5.14	\$11.79	\$11.85
East Central	\$5.22	\$5.33	\$12.27	\$12.29
Southwest	\$4.99	\$5.26	\$11.50	\$11.50
South Central	\$4.75	\$4.90	\$11.00	\$11.43
Southeast	\$5.26	\$5.37	\$12.25	\$12.15
STATE (2020 Prediction)	\$5.09	\$5.11	\$11.55	\$11.72
2019 Prediction	\$3.	51 \$4.10	\$8.50	\$9.79
2020 Prediction	\$3.	92 \$4.24	\$9.97	\$10.59

Land value predictions for 2022 and 2026



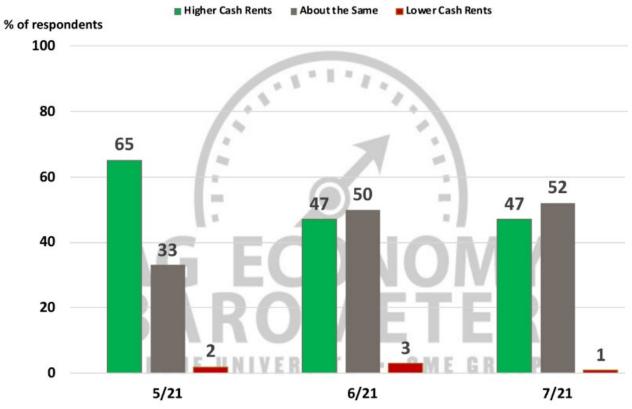


Farmland Price Expectations, 12 Months Ahead





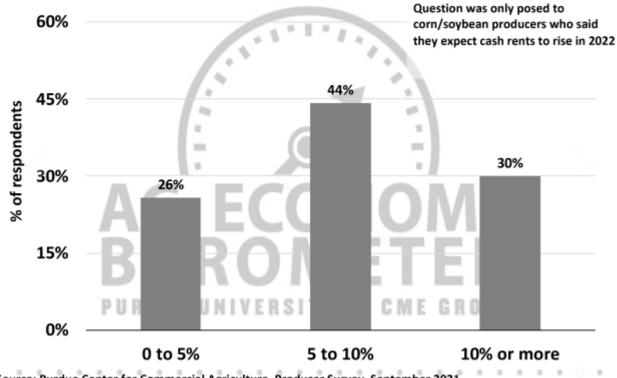
Compared to 2021, what are your expectations for cash rents in your area in 2022?



Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2021



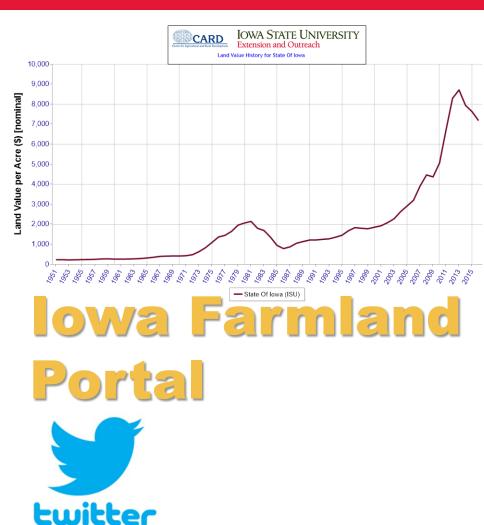
Compared to this year, by how much do you expect 2022 cash rents in your area to increase?



Source: Purdue Center for Commercial Agriculture, Producer Survey, September 2021

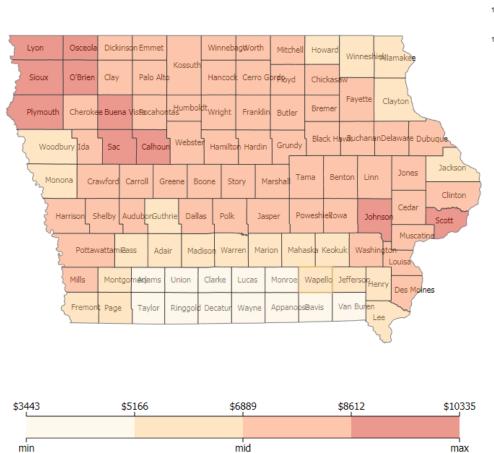


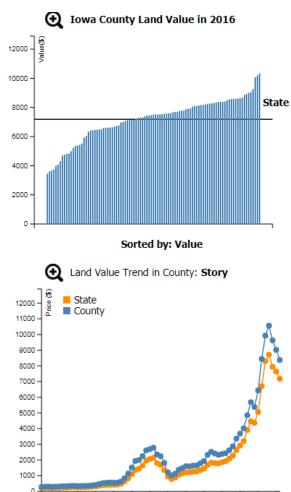




#ISUlandvalue

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









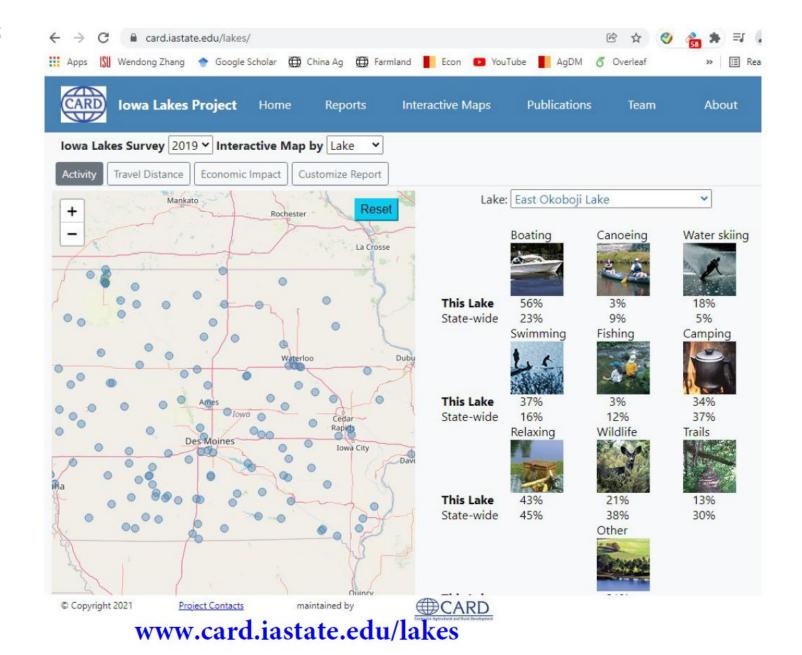
1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015

Questionnaire: <u>Iowa Lakes</u> Su <u>Survey 2019</u>

Survey Report: <u>Iowa Lakes Report</u> 2019

Summary

- Sixty-five percent of Iowa respondents reported at least one single-day trip, while about 20% reported taking at least one overnight trip.
- In 2019, Iowa households took around 9 million single-day trips across Iowa. The top-10 most visited lakes in 2019 were Clear Lake, Saylorville Reservoir, Ada Hayden Lake, Coralville Lake, Lake Macbride, Grays Lake, Big Creek Lake, Red Rock Lake, George Wyth Lake, and Lost Grove Lake, respectively.
- Respondents made most of their lake trips in the summer, and the top three activities selected by respondents were relaxing and/or picnicking, fishing, and nature/wildlife watching, respectively.
- On average, lowa respondents took around 8 trips and traveled 48 miles to visit lowa lakes in 2019; neighboring states' respondents took one trip and traveled 84 miles to visit lowa lakes in 2019.
- We estimate that the total statewide expenses from all single-day trip takers was \$1.023 billion, or an average of \$7.4 million per lake.



FINDING FIRMER GROUND: The Role of **Agricultural Cooperation** in U.S.-China Relations A Report by the US Heartland China Association and The Carter Center Dr. Minghao Li **Assistant Professor** Economics, Applied Statistics, and International Business Department **New Mexico State University Dr. Wendong Zhang** Associate Professor Department of Economics and Center for Agricultural and Rural Development (CARD) **Iowa State University**

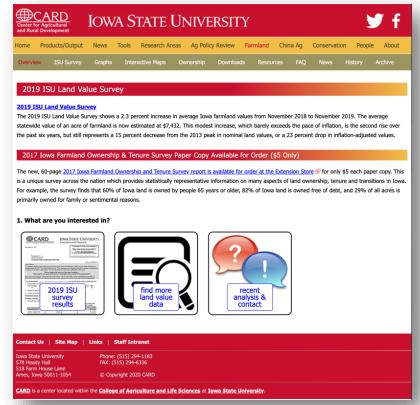
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Thank You!





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