

2019 ISU Land Value Survey

Dr. Wendong Zhang

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December 11, 2019

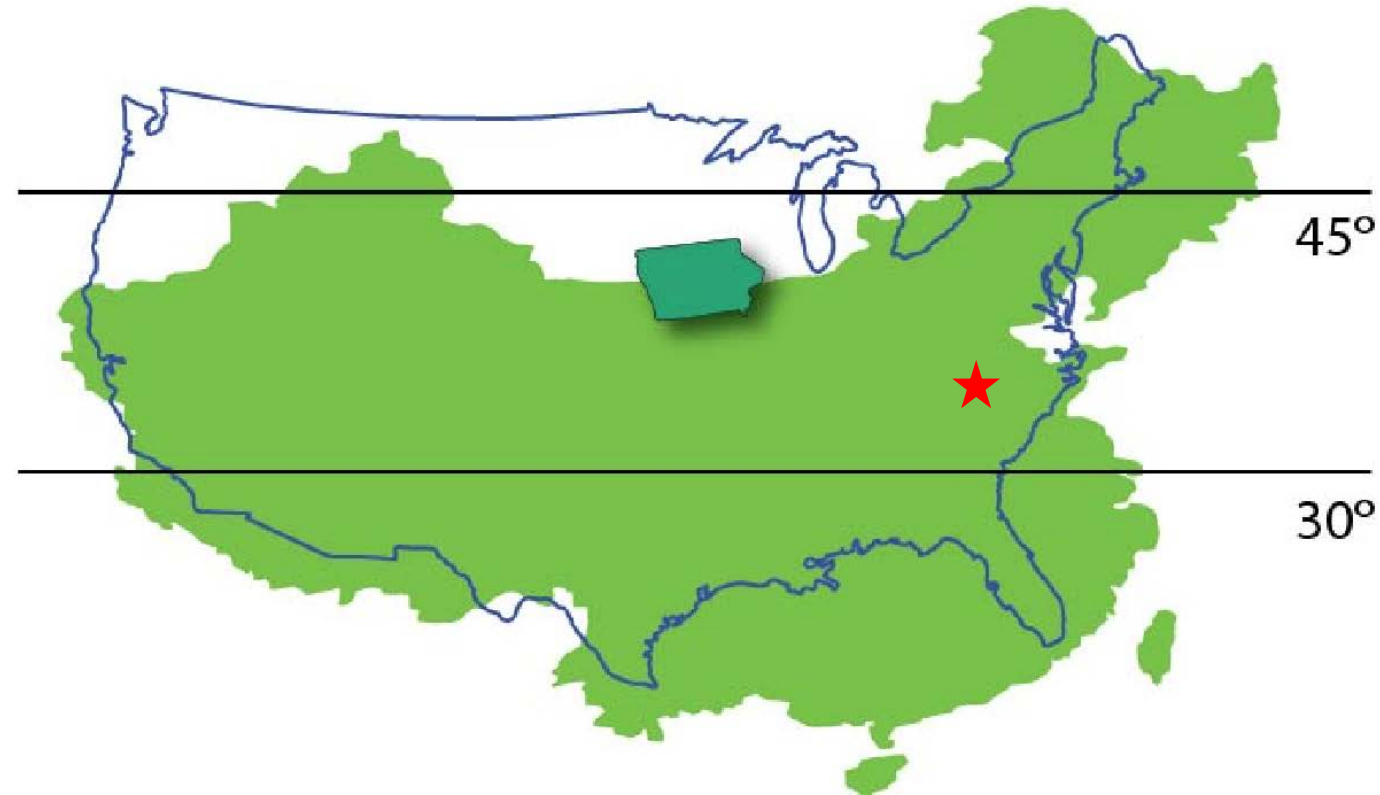
A Quick Introduction: Dr. Wendong Zhang

- Grown up in a rural county in Shandong Province, China
- Attended college in Shanghai and Hong Kong
- Ph.D. in Ag Econ in 2015 from Ohio State
- 2012 summer intern at USDA-ERS on farm economy and farmland values
- Research and extension interests:

land value/ownership <https://www.card.iastate.edu/farmland>
agriculture and the environment

ISU China Ag Center (+ CAAS) <https://www.card.iastate.edu/china>

My Hometown: Shenxian, Shandong Province



ISU Land Value Survey – How to Interpret

- It is an opinion survey
- It is an expert opinion survey: respondents - 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 their percent change
- To value individual parcels – consult appraisers or comparable sales

Number of Respondents and Responses by District and Mode, 2019

	Responses			Respondents		
	Paper PERCENT	Online PERCENT	Total Number	Paper PERCENT	Online PERCENT	Total Number
Northwest	45	55	88	45	55	76
North Central	32	68	95	32	68	77
Northeast	37	63	89	39	61	71
West Central	51	49	69	52	48	54
Central	40	60	77	38	62	61
East Central	35	65	74	34	66	58
Southwest	34	66	56	39	61	41
South Central	33	67	60	38	62	52
Southeast	48	52	65	51	49	57
STATE	39%	61%	673	41%	59%	547

Survey Respondents by Occupation, 2019

	Farm manager	Appraiser	Ag lender	Broker/Realtor	Farmer /Landowner	Government	Other
	PERCENT						
Northwest	20	4	39	18	4	12	3
North Central	12	8	42	14	9	10	5
Northeast	10	6	44	11	14	7	8
West Central	11	6	44	11	2	13	13
Central	15	11	31	13	8	13	8
East Central	16	9	34	16	7	5	14
Southwest	10	7	29	17	17	12	7
South Central	8	8	23	31	10	19	4
Southeast	7	9	39	11	5	16	11
STATE	12	7	37	16	8	12	8

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	27	6	Farm manager	23	10
North Central	29	9	Appraiser	28	15
Northeast	25	10	Ag lender	24	4
West Central	26	9	Brokers/Realtor	26	13
Central	28	10	Farmer/Landowner	40	5
East Central	24	6	Government	20	3
Southwest	29	5	Other	34	11
South Central	20	8			
Southeast	22	6			
STATE	26	8	STATE	26	8

STATEWIDE AVERAGE

\$7,432

Nov 2019



up 2.3%
up \$168

HIGH QUALITY LAND

\$9,078

Nov 2019

up 2.4%
up \$215



MEDIUM QUALITY LAND

\$6,938

Nov 2019

up 2.0%
up \$133



LOW QUALITY LAND

\$4,759

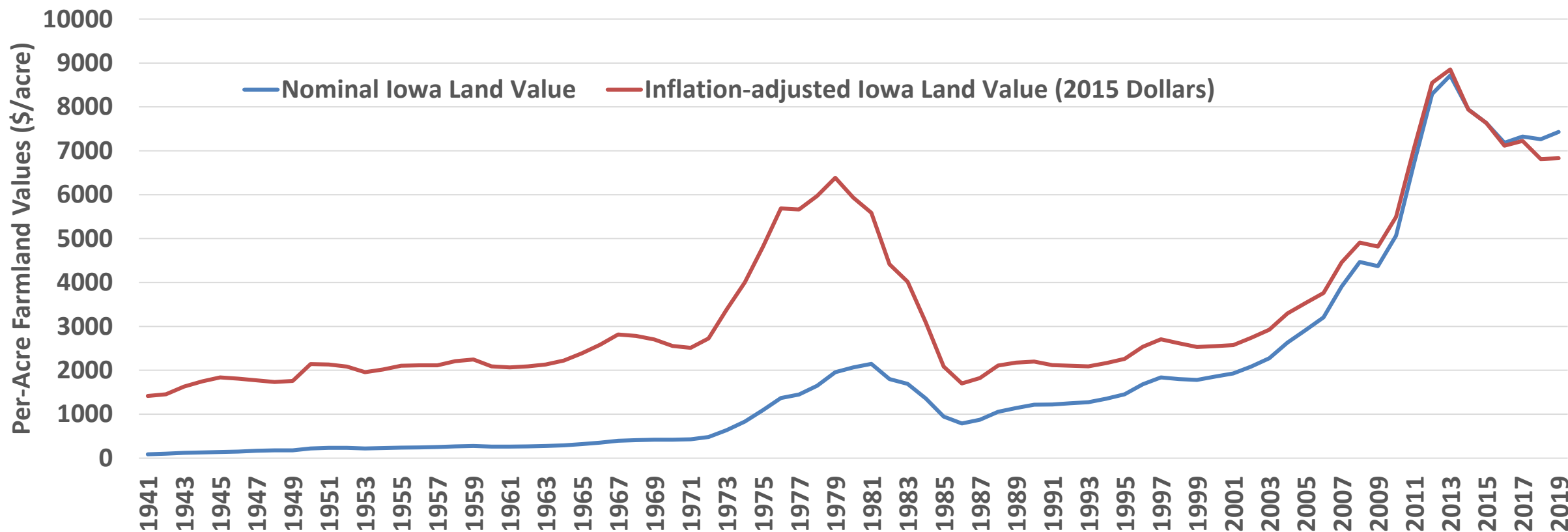
Nov 2019

up 3.3%
up \$150



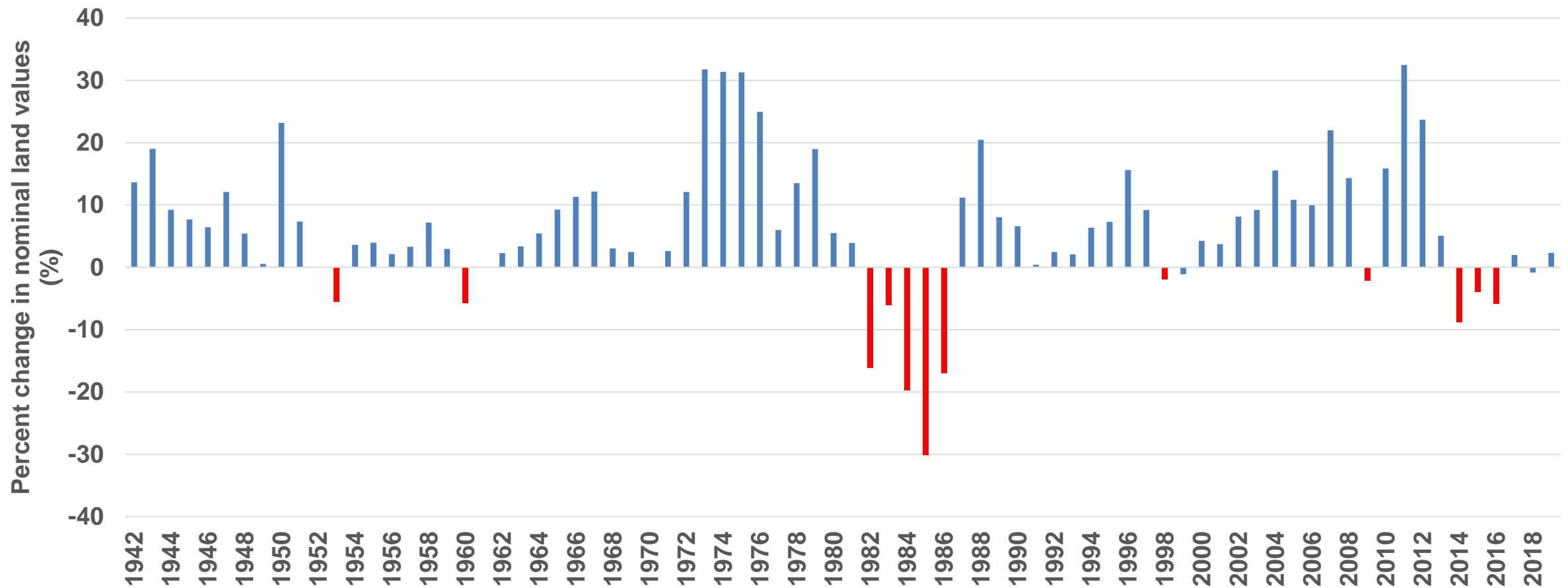
Average Iowa Land Values Just Exceeded Inflation

Average values of all farmland 1942–2019



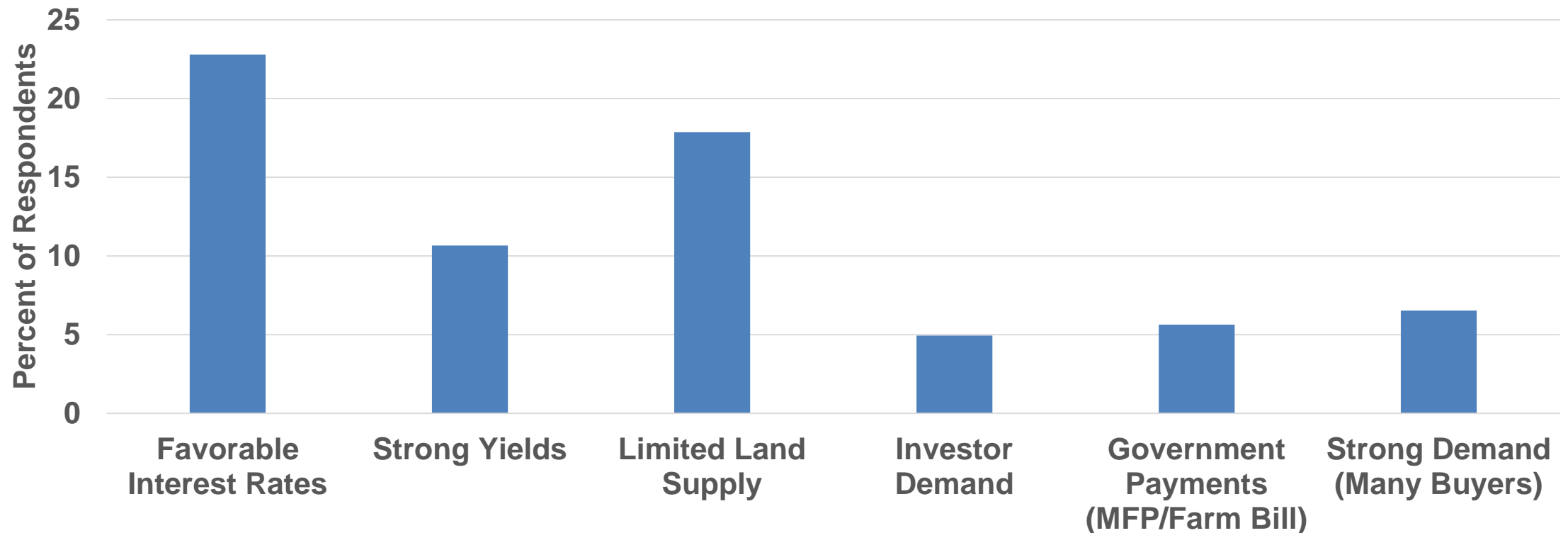
2019 hike represents 2nd rise in past 6 years

% Change in Nominal Iowa Farmland Values 1942-2019



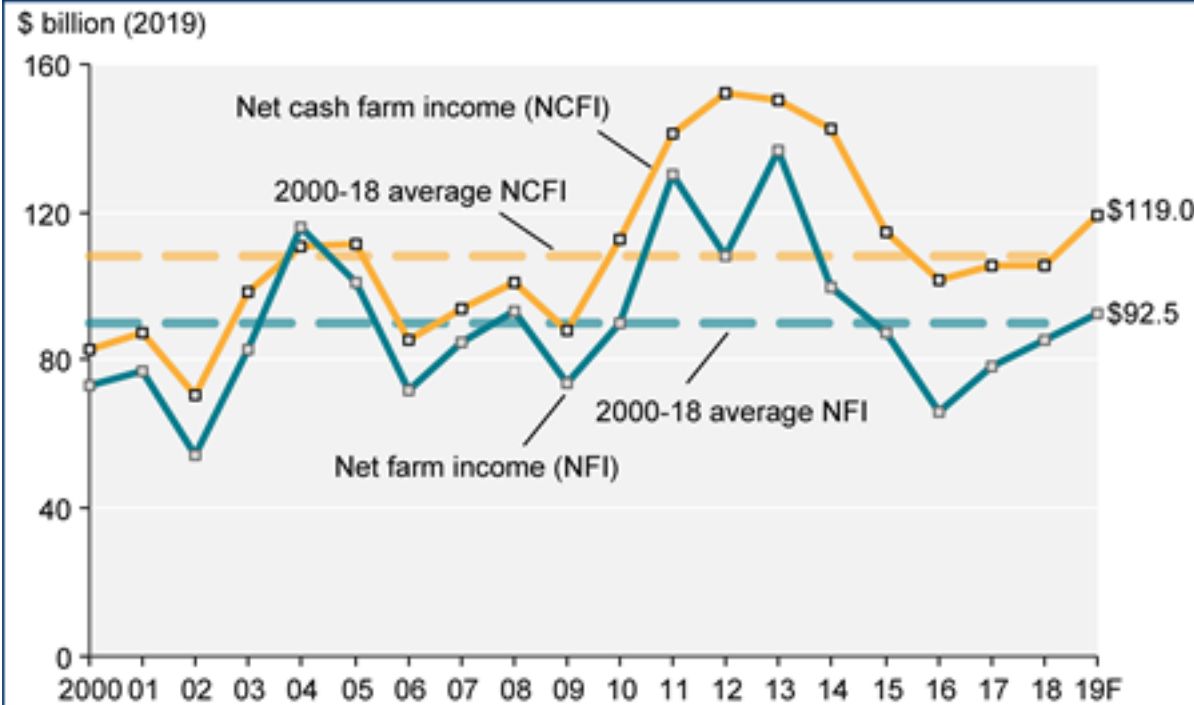
Major Positive Factors Affecting Iowa Farmland Market, 2019

Positive Factors, 2019 (Percent)



Higher farm income and lower interest rates provided support for land values

Net farm income and net cash farm income, 2000-19F



Note: F = forecast. Values are adjusted for inflation using the chain-type GDP deflator, 2019=100.
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of November 27, 2019.

Federal Reserve Cuts Interest Rates for Third Time in 2019

The quarter-point cut comes as the economy continues to show signs of slowing, but the Fed signaled that it may pause to weigh incoming data before adjusting rates again.

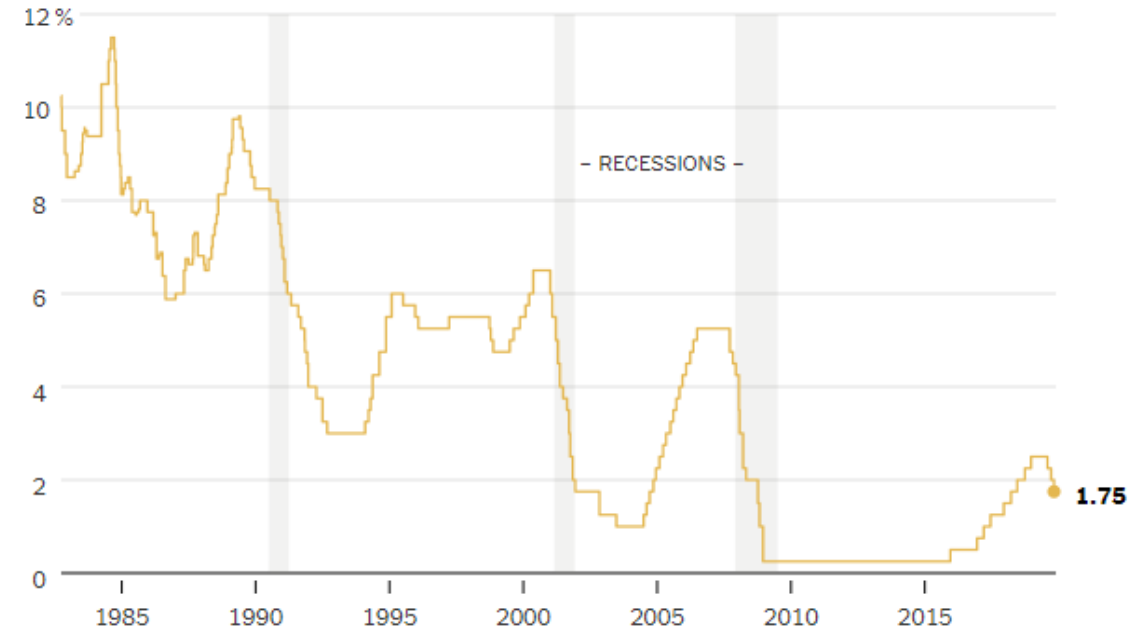
The New York Times

By Jeanna Smialek

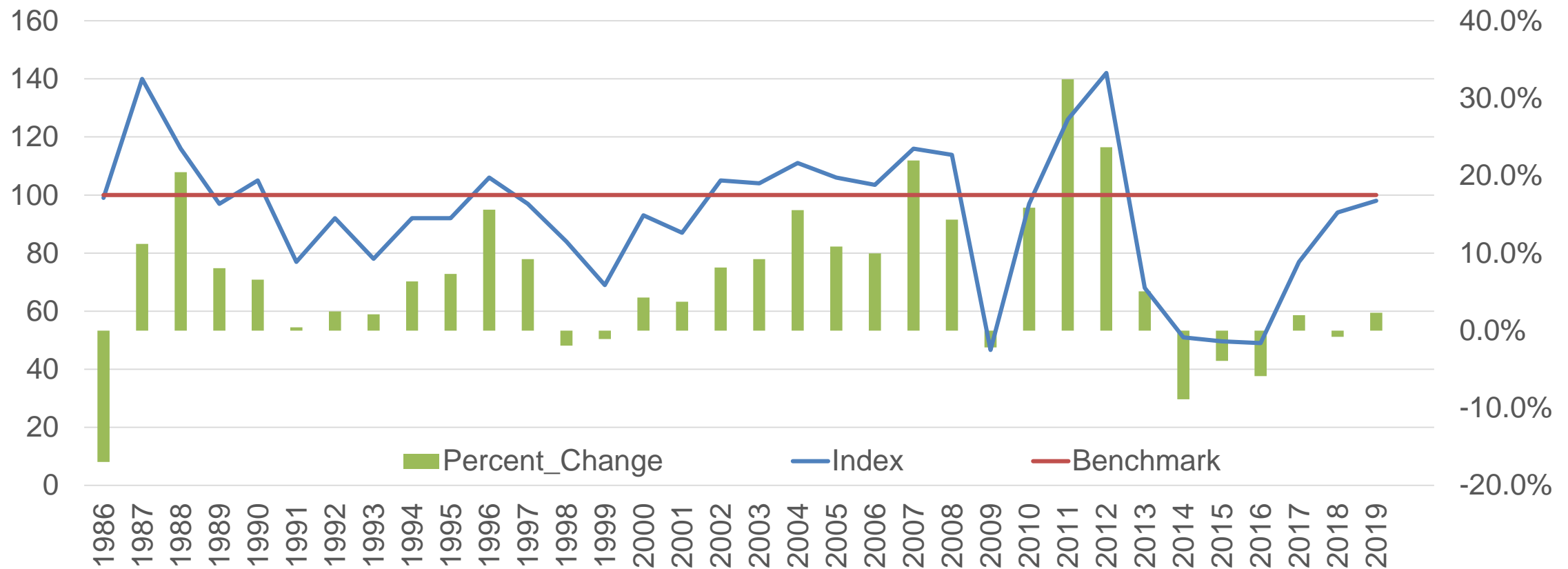
Oct. 30, 2019



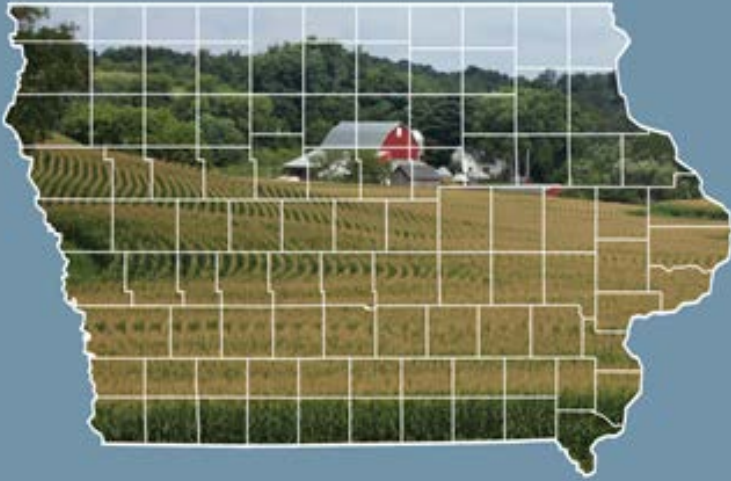
Fed funds rate



Limited land supply still a key factor holding up land values



Iowa Farmland Ownership and
Tenure Survey, 1982-2017:
A Thirty-Five Year Perspective



FM 1883 - August 2018

IOWA STATE UNIVERSITY
Extension and Outreach

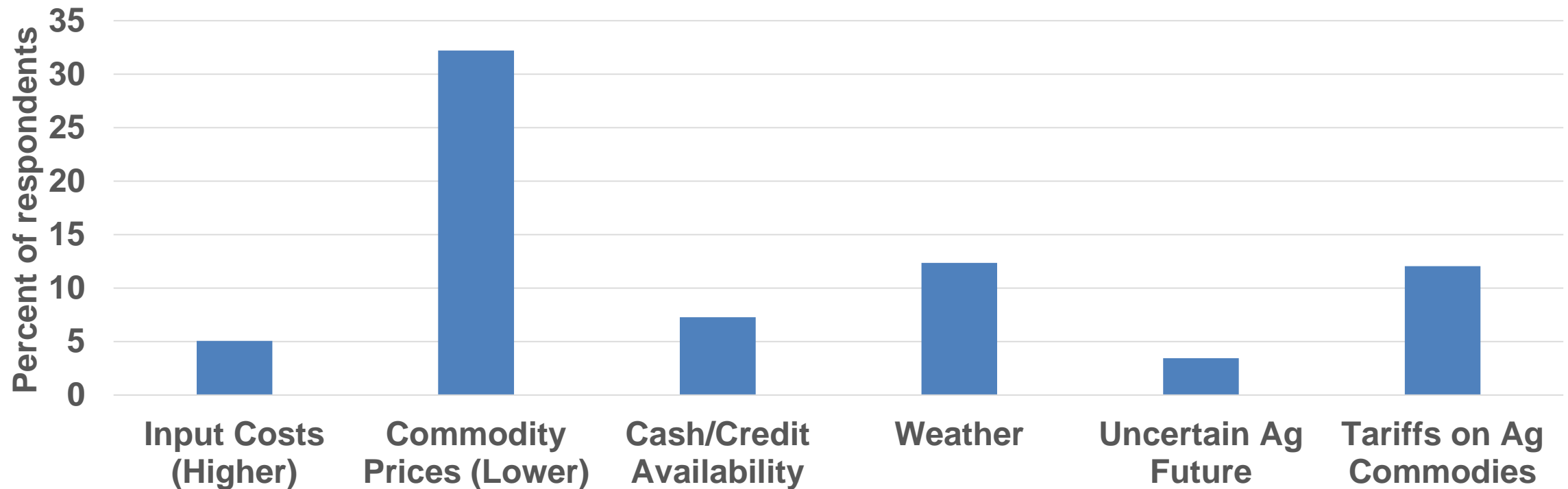
- **82% of Iowa land is debt-free**
- 60% of land owned by owners 65+ years old, one-third of land owned by 75+ years old, 13% of land owned by women landowner 80+ years old
- Ownership continues to shift from sole ownership to trusts and corporations
- **53% of Iowa land rented out – mainly cash rent**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

(\$5 each print copy!)

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

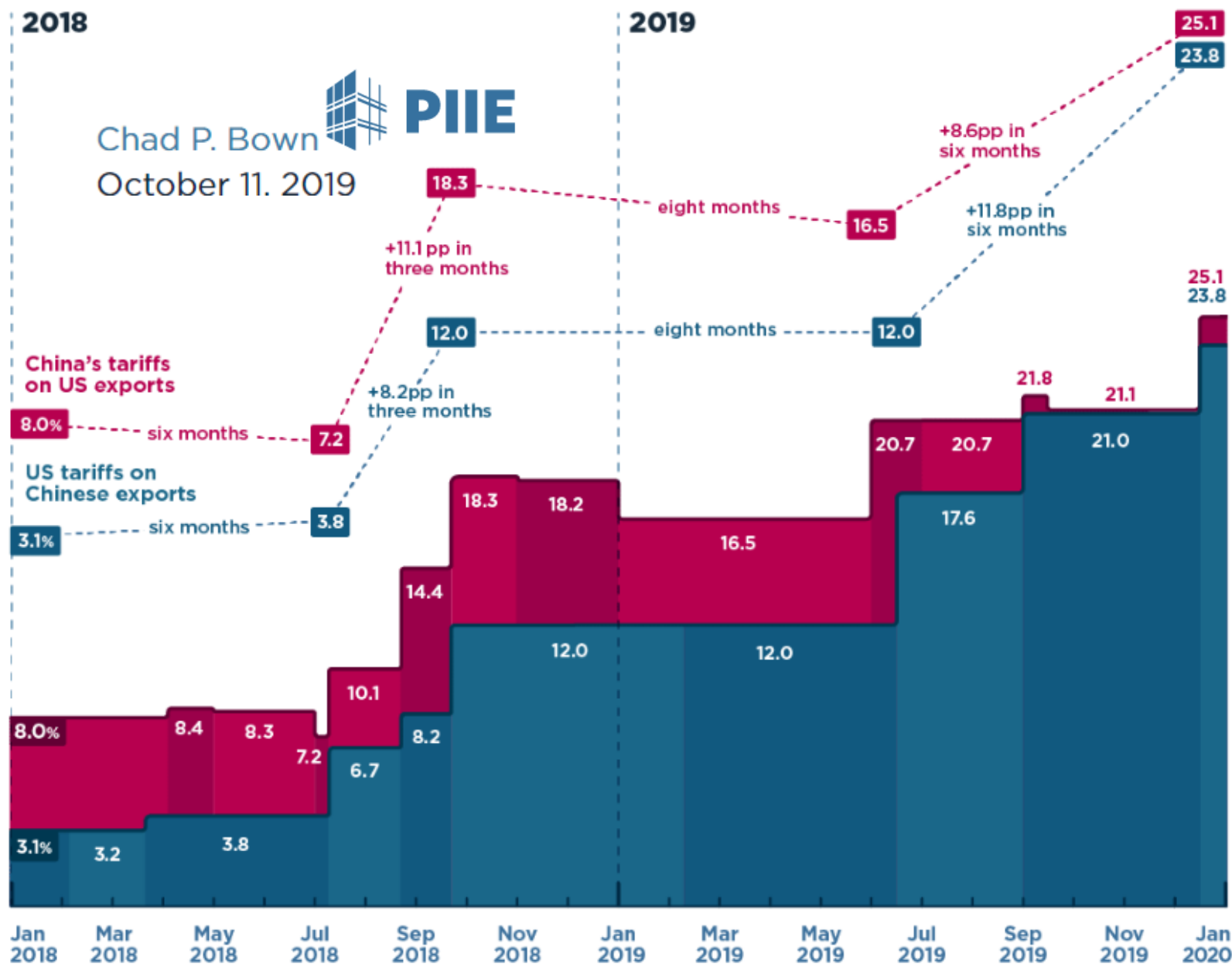
Major Negative Factors Affecting Iowa Farmland Market, 2019

Negative Factors, 2019 (Percent)



US-China Trade War Tariffs: An Up-to-Date Chart

Average tariff rate, percent



POLITICS

Trump administration reportedly plans to delay China tariffs set to take effect Sunday

PUBLISHED TUE, DEC 10 2019 8:52 AM EST UPDATED 4 HOURS AGO



Jacob Pramuk
@JACOBPRAMUK

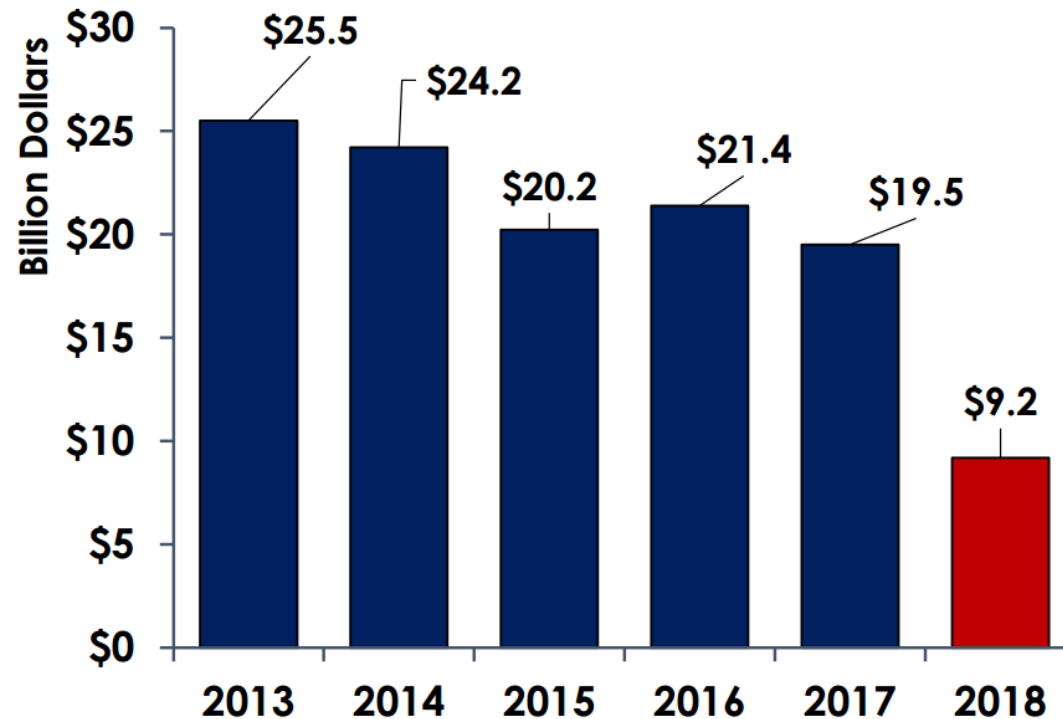
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KEY POINTS

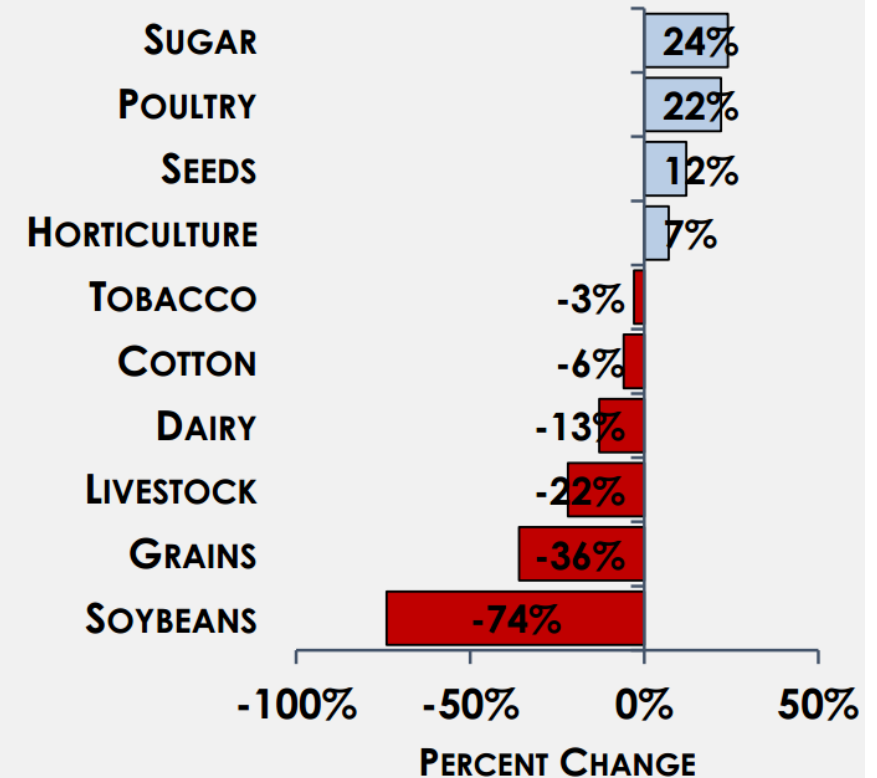
- The U.S. and China are taking steps to delay the next round of American tariffs set for Sunday as they seek a deal to rein in a raging trade war, according to The Wall Street Journal.
- 15% tariffs on about \$160 billion in Chinese goods are set to take effect on Sunday.
- This round of tariffs targets Chinese-made consumer goods, including toys, phones, laptops and clothes.

#TradeWar Was, and Is, More Than Soybeans

Total Agricultural Exports to China Down
\$10 Billion in 2018

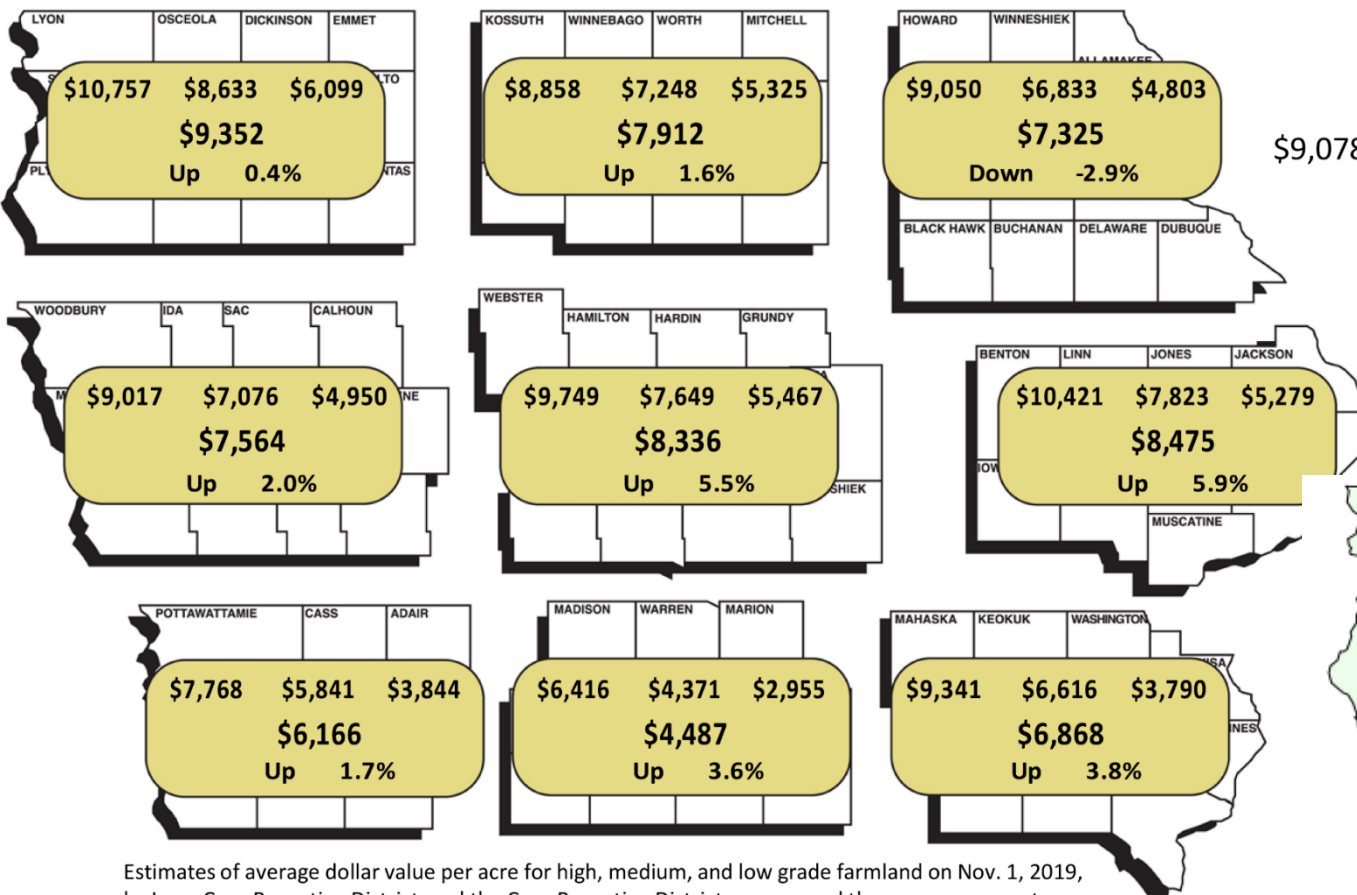


Year-Over-Year Change in U.S.
Agriculture Exports to China
2018 Compared to 2017



20

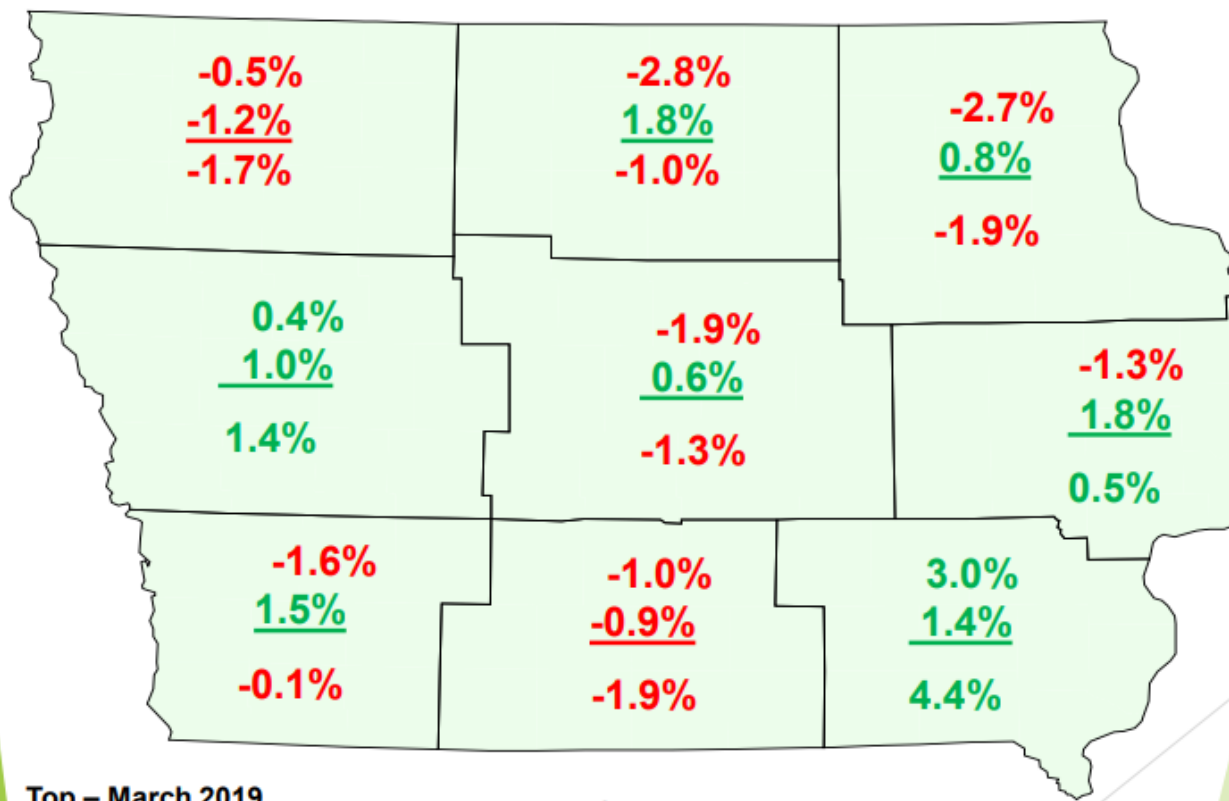
2019 Iowa Land Values by Crop Reporting District



Iowa
\$9,078 \$6,938 \$4,759
\$7,432
Up 2.3%

September 2018 – March 2019 **-1.0%**
March 2019 – September 2019 **0.8%**
-0.2%

REALTORS® Land Institute- Iowa Chapter
September 1, 2019



Top – March 2019
Bottom – September 2019
Nine Crop Reporting Districts

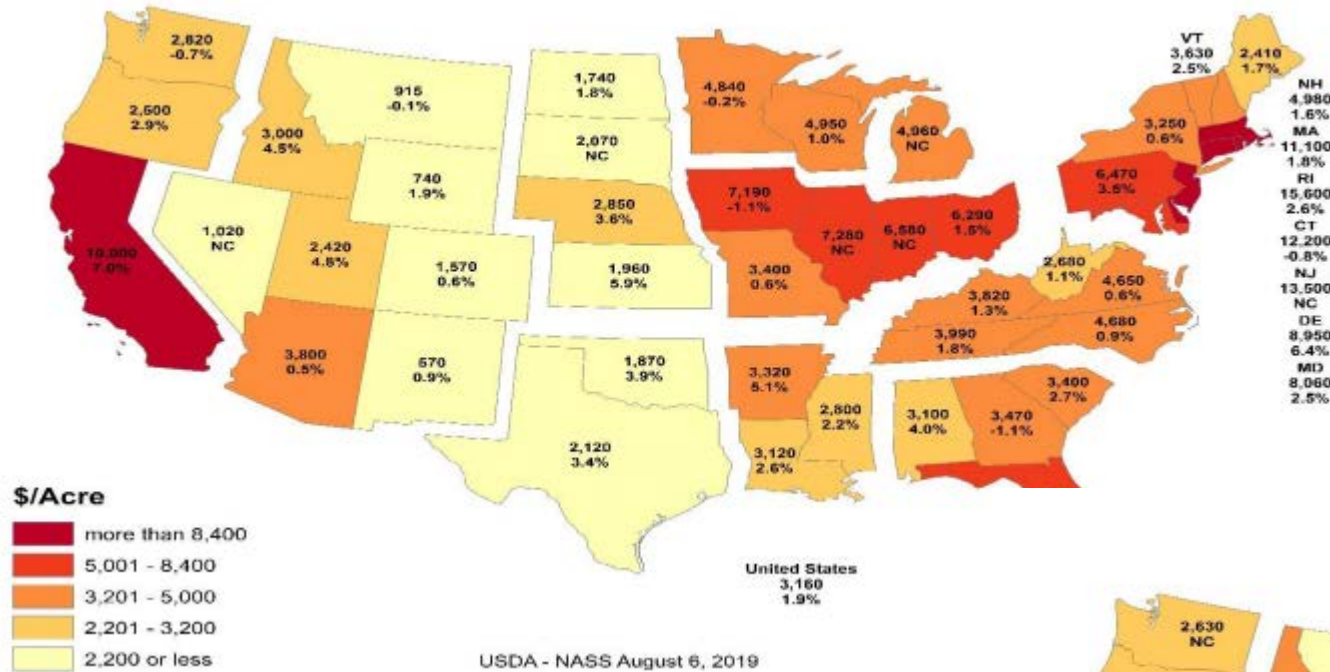
Estimates of average dollar value per acre for high, medium, and low grade farmland on Nov. 1, 2019, by Iowa Crop Reporting District, and the Crop Reporting District average and the average percentage change from Nov. 1, 2018. The estimates are based on a survey conducted by Iowa State University, Center for Agricultural and Rural Development and Iowa State University Extension and Outreach.

ISU 2019 Survey Results

A Bit More Positive

2019 Farm Real Estate Value by State

Dollars per Acre and Percent Change from 2018



USDA NASS June Area Survey
June 2018 to June 2019

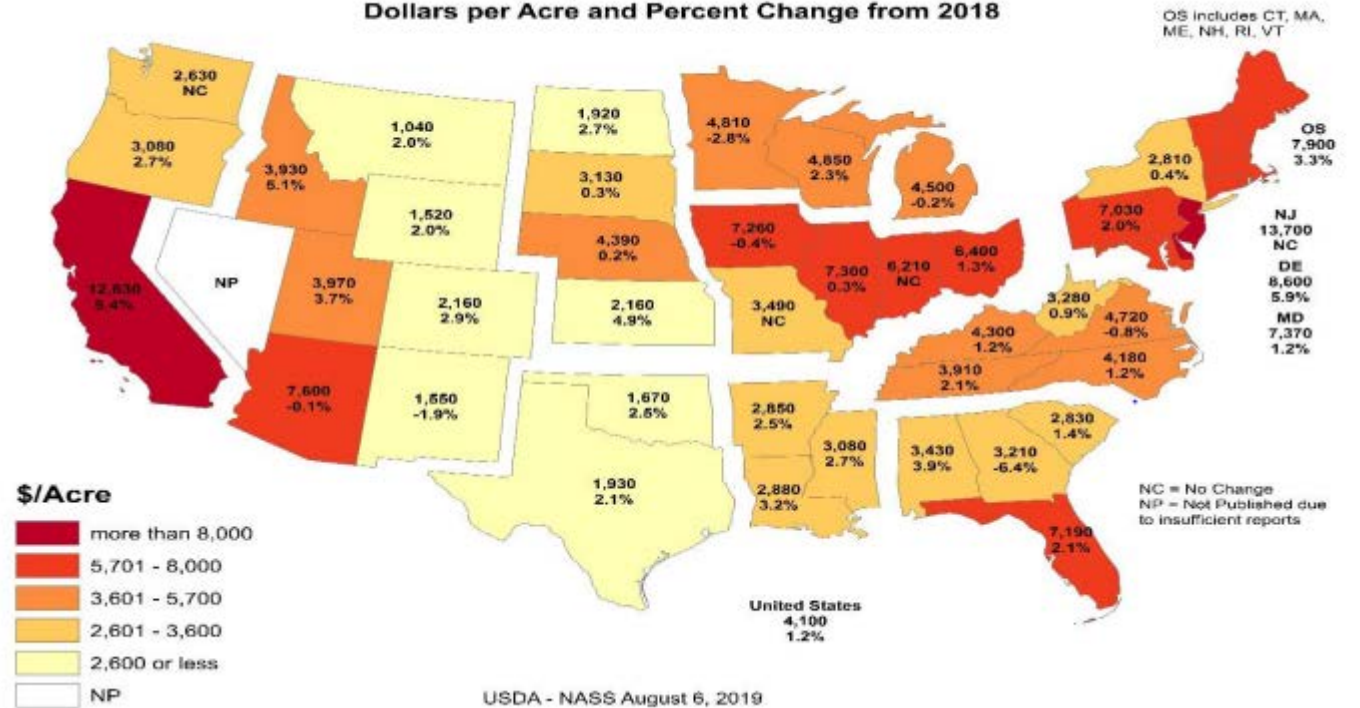
IA Ag Real Estate Values: -1.1%

IA Cropland Values: -0.4%

IA Pasture Values: -2.5%

2019 Cropland Value by State

Dollars per Acre and Percent Change from 2018



USDA June Area Survey,
August 2019

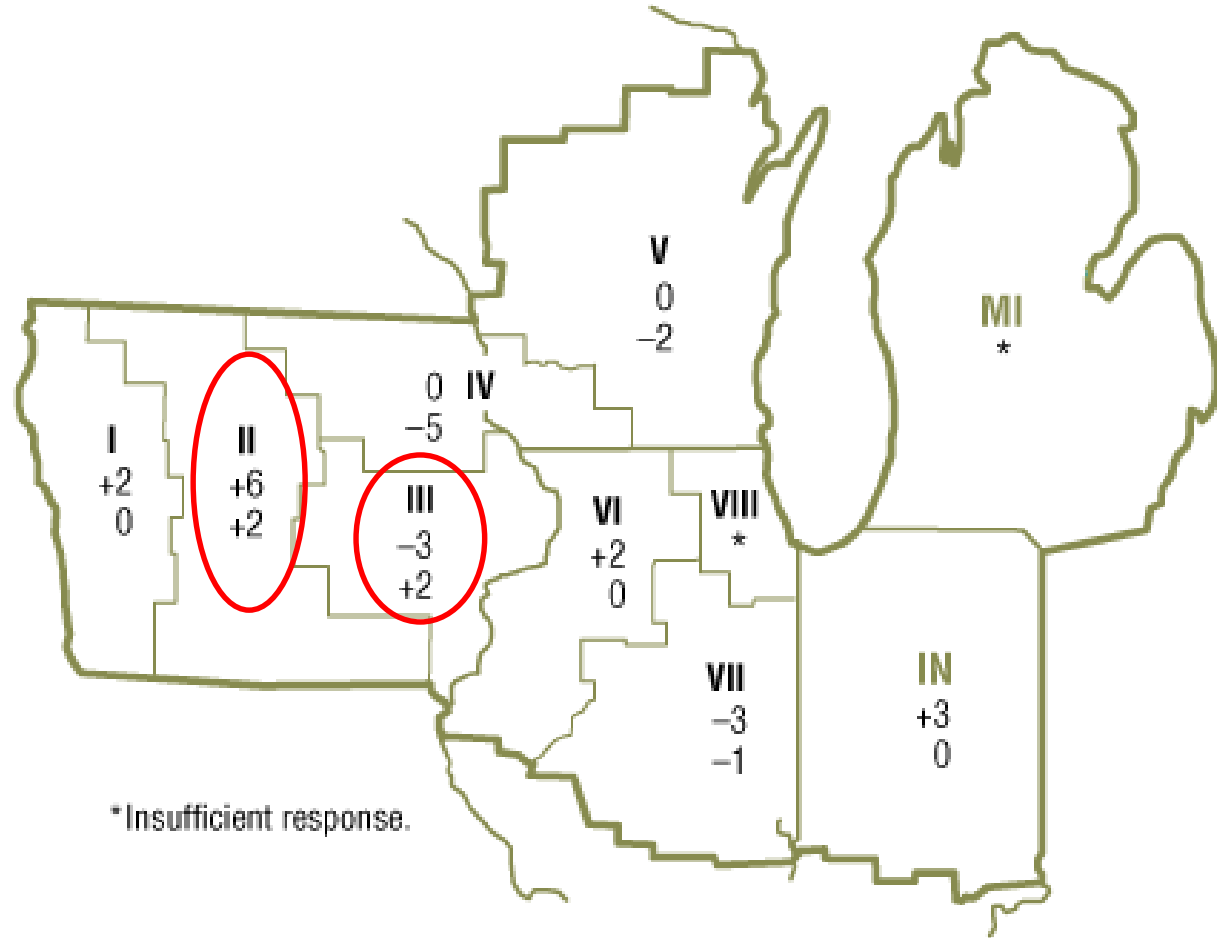
ISU Survey Results Echo Recent Increases from Chicago Fed Survey

Percent change in dollar value of “good” farmland

Top: July 1, 2019 to October 1, 2019

Bottom: October 1, 2018 to October 1, 2019

	July 1, 2019 to October 1, 2019	October 1, 2018 to October 1, 2019
Illinois	-1	-1
Indiana	+3	0
Iowa	+2	0
Michigan	*	*
Wisconsin	0	-2
Seventh District	+1	-1



*Insufficient response.

Indiana and Illinois show mixed results

2019 Illinois Land Values

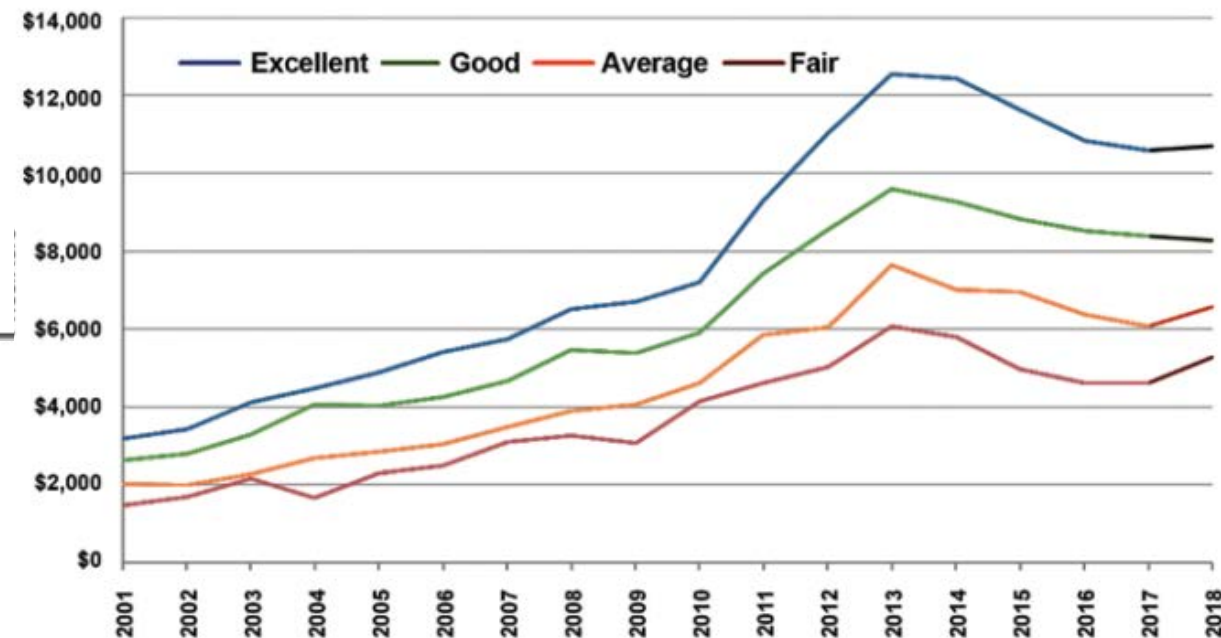
% Change		
6/18-6/19	6/18-12/18	12/18-6/19
%	%	%

Indiana

Top	-5.3%	-3.7%	-1.6%
Average	-0.9%	1.0%	-1.8%
Poor	0.0%	3.3%	-3.2%
Transition ²	0.6%	-0.7%	1.3%
Recreation	3.7%	2.9%	0.8%

2019 INDIANA FARMLAND VALUES
CASH RENTS SLIDE LOWER

All Regions - 2018: Illinois Land Values by Soil Productivity Class



Land Values by District and Quality, Nov 2019

District	Average Value	% Change	High Quality	% Change	Medium Quality	% Change	Low Quality	% Change
Northwest	\$9,352	0.4%	\$10,757	-0.1%	\$8,633	1.0%	\$6,099	1.3%
North Central	\$7,912	1.6%	\$8,858	1.8%	\$7,248	0.5%	\$5,325	3.2%
Northeast	\$7,325	-2.9%	\$9,050	-1.6%	\$6,833	-4.0%	\$4,803	-5.0%
West Central	\$7,564	2.0%	\$9,017	2.1%	\$7,076	2.0%	\$4,950	4.9%
Central	\$8,336	5.5%	\$9,749	4.7%	\$7,649	4.2%	\$5,467	10.9%
East Central	\$8,475	5.9%	\$10,421	6.7%	\$7,823	5.0%	\$5,279	7.5%
Southwest	\$6,166	1.7%	\$7,768	0.4%	\$5,841	3.0%	\$3,844	1.4%
South Central	\$4,487	3.6%	\$6,416	6.0%	\$4,371	3.0%	\$2,955	0.1%
Southeast	\$6,868	3.8%	\$9,341	3.1%	\$6,616	4.1%	\$3,790	3.7%
Iowa Avg.	\$7,432	2.3%	\$9,078	2.4%	\$6,938	2.0%	\$4,759	3.3%

Local Land Supply and Demand Explain Variations in Land Market

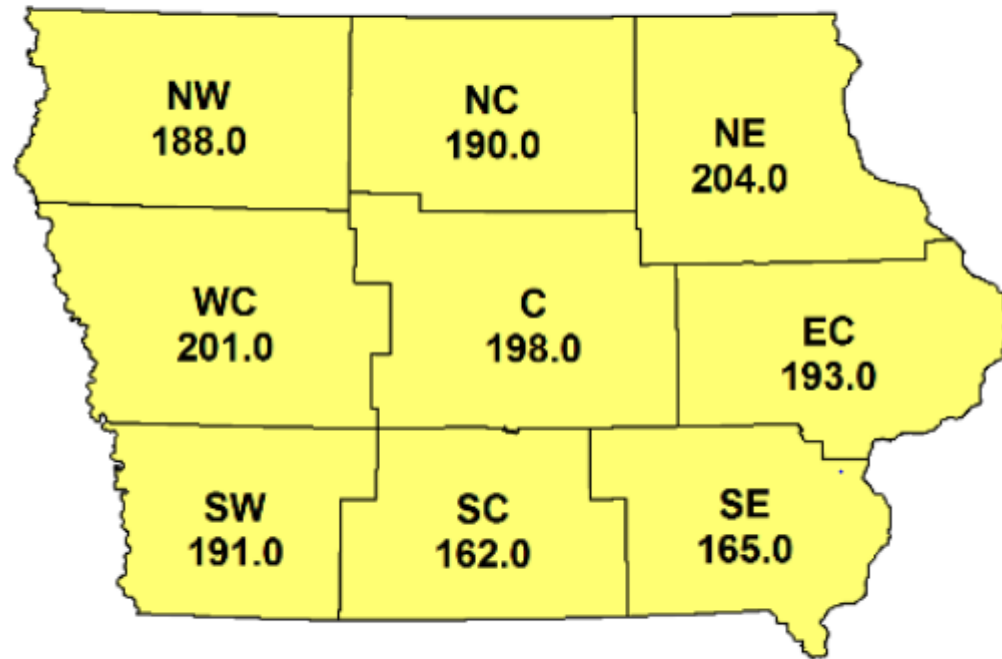
$$\text{Land Value} = \frac{\text{localized net income}}{\text{universal interest rate}}$$

Livestock and Crop Inventory by Crop Reporting District

District	Livestock Inventory - 2017			Acres 2017		Harvested Acres 2018	
	Hogs	Milk Cows	Cattle	Pasture	Timber	Corn	Soybean
Northwest	27%	36%	26%	6%	2%	14%	16%
North Central	13%	3%	5%	3%	4%	14%	13%
Northeast	11%	51%	17%	11%	23%	12%	8%
West Central	12%	0%	12%	10%	7%	15%	15%
Central	13%	0%	7%	8%	7%	15%	14%
East Central	6%	6%	11%	12%	14%	11%	10%
Southwest	1%	0%	7%	11%	5%	8%	10%
South Central	3%	0%	9%	27%	20%	4%	6%
Southeast	12%	2%	5%	12%	18%	7%	8%
Iowa Total	22.5 million	0.17 million	3.9 million	2.4 million	1.2 million	12.8 million	9.9 million

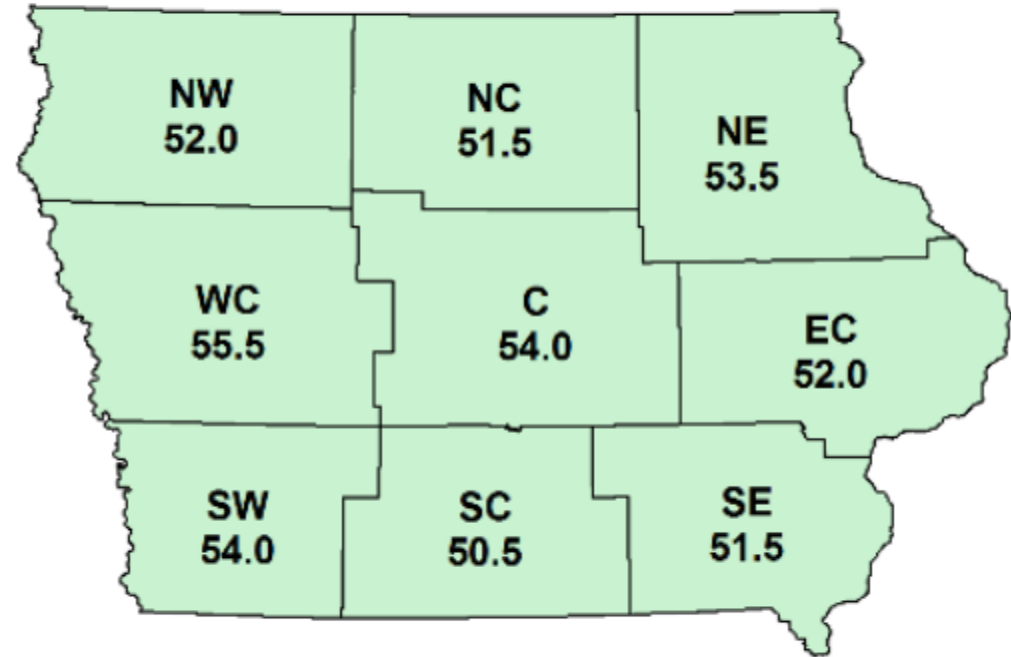
Despite weather problems, yields remain strong than expected

Corn Yield: November 1, 2019 Bushels per Acre



State Average: 192.0 bu/acre

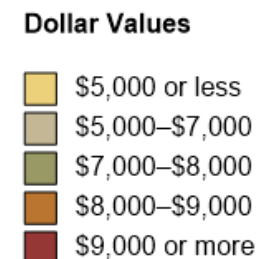
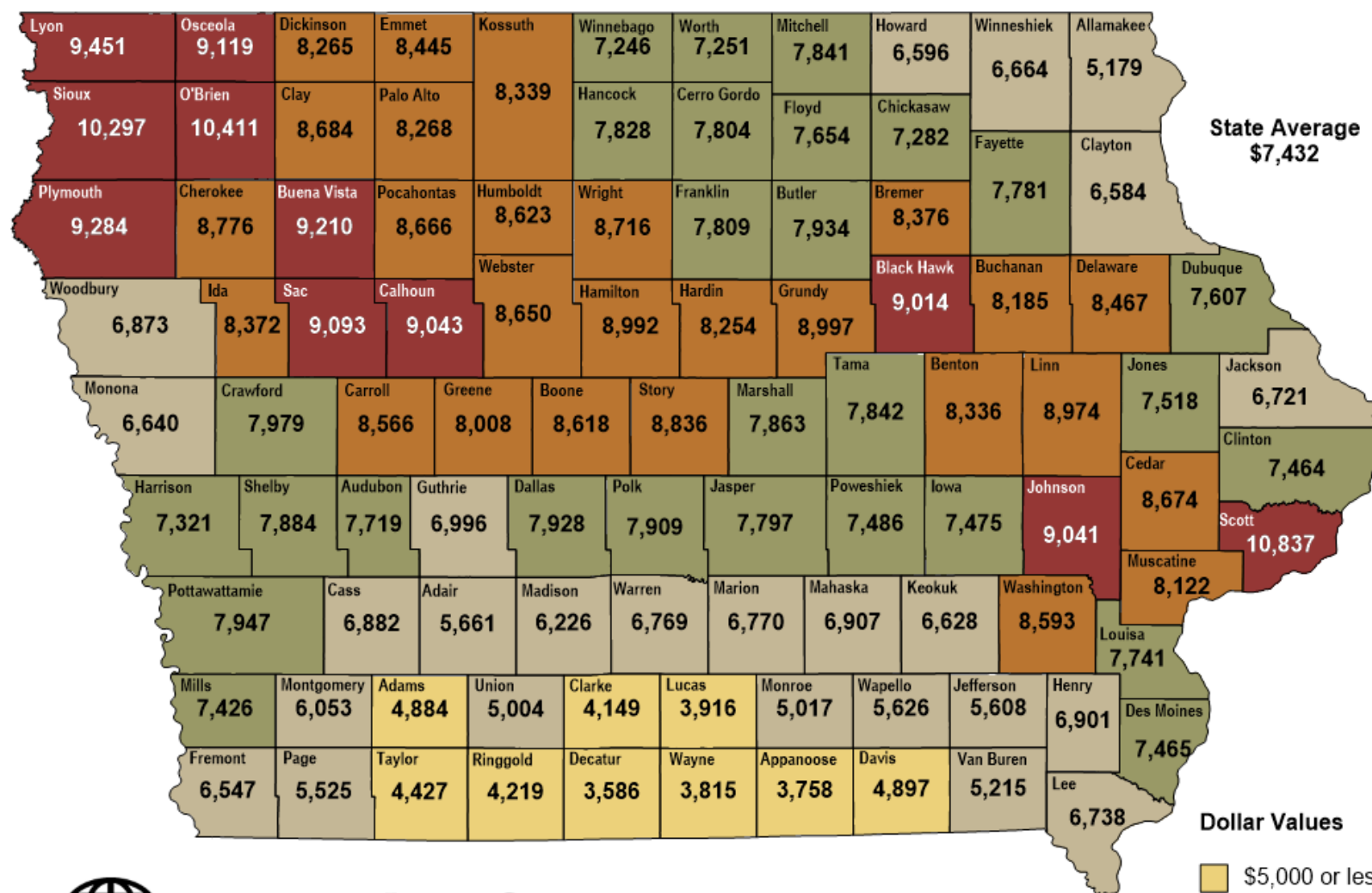
Soybean Yield: November 1, 2019 Bushels per Acre



State Average: 53.0 bu/acre

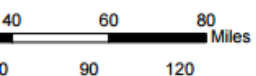
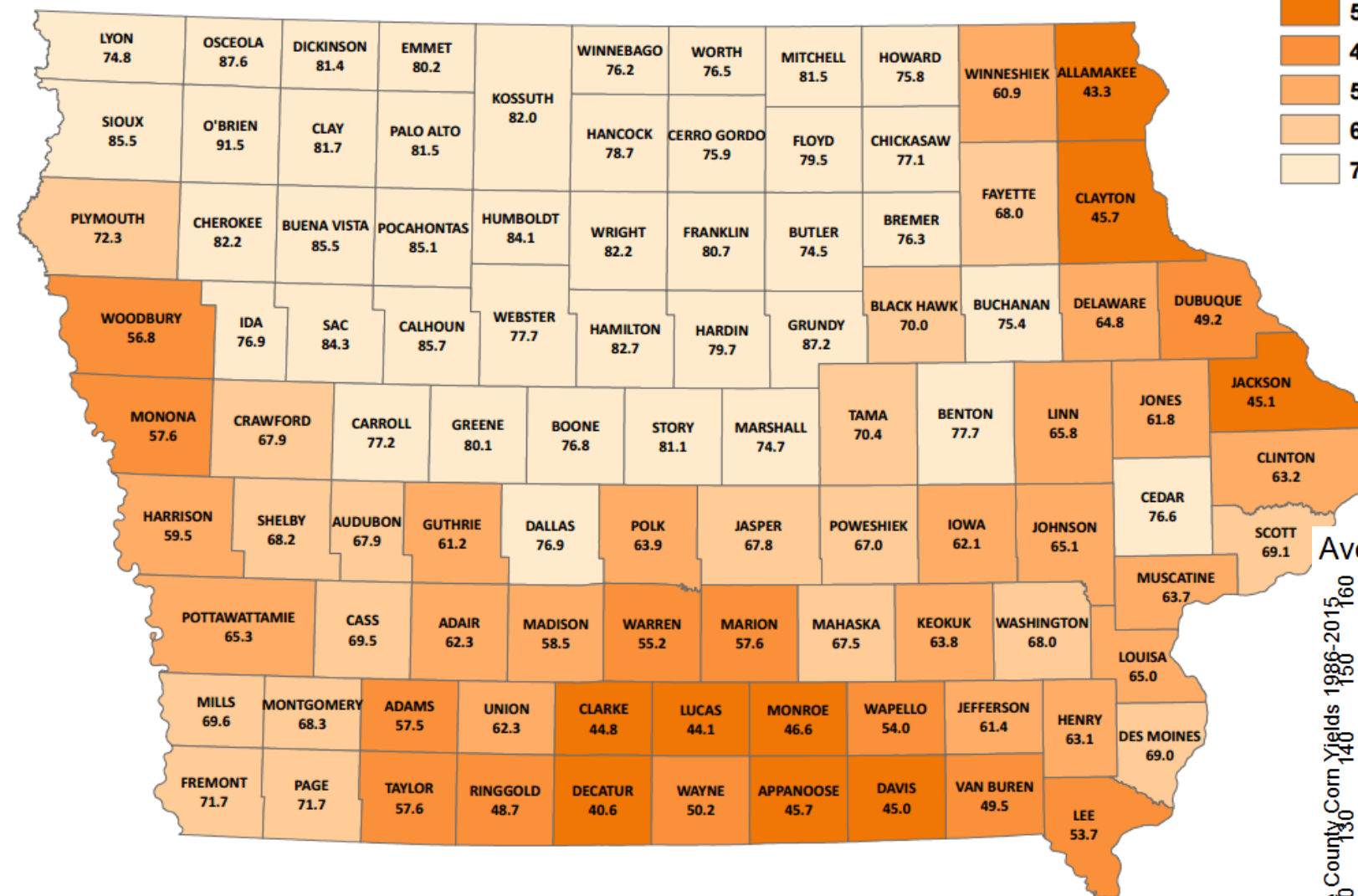
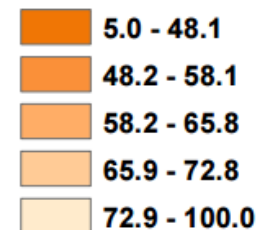
Land Values by County, 2019

2019 Iowa Land Values

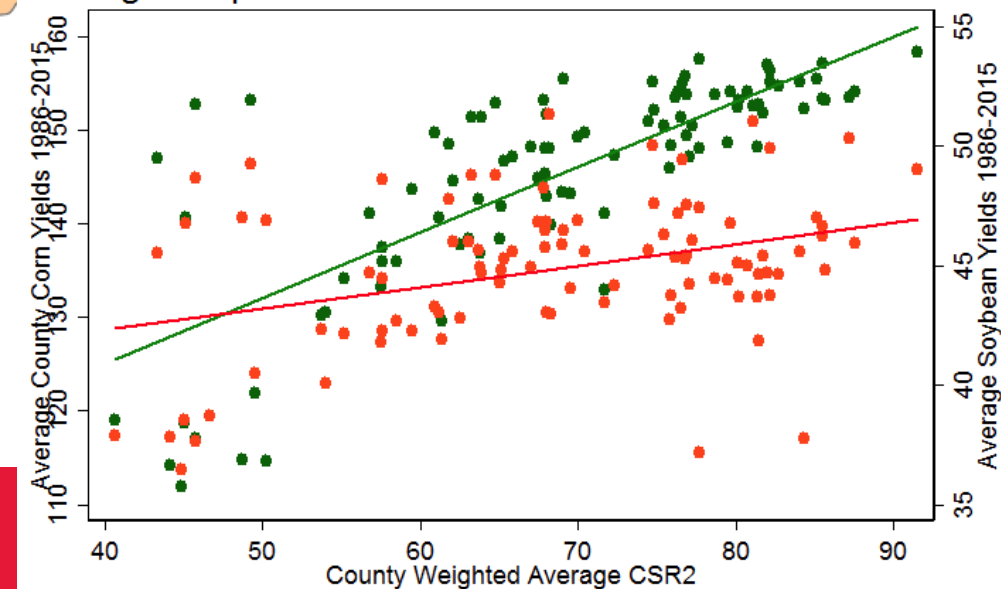


CSR2 – Corn Suitability Rating

Weighted Mean CSR2



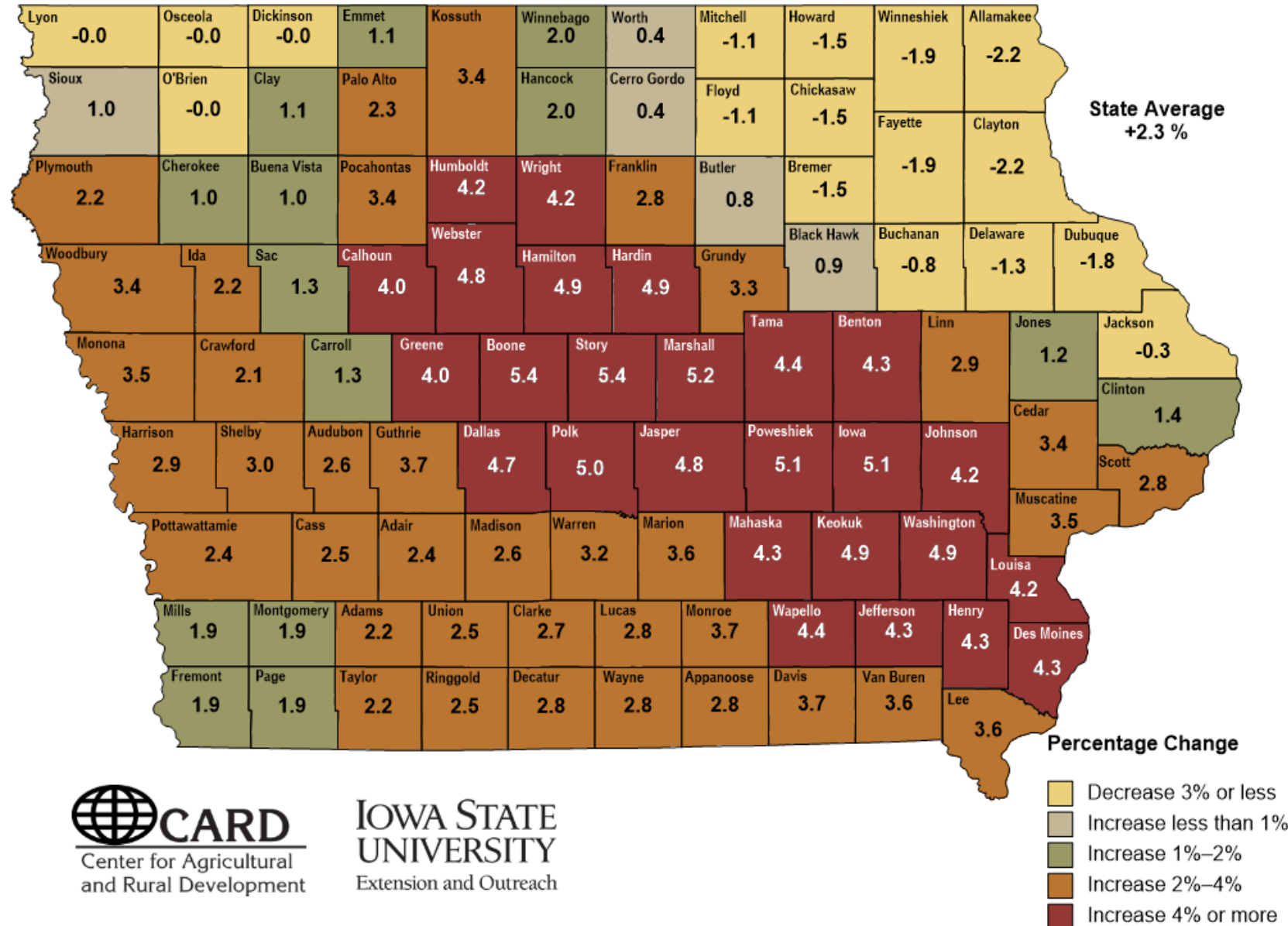
Average Crop Yields 1986-2015 vs. CSR2 for Iowa Counties



Corn: $\text{Avg_corn_yield} = 97.19 + 0.70 \text{ CSR2}$ ($R^2 = 59.6\%$)

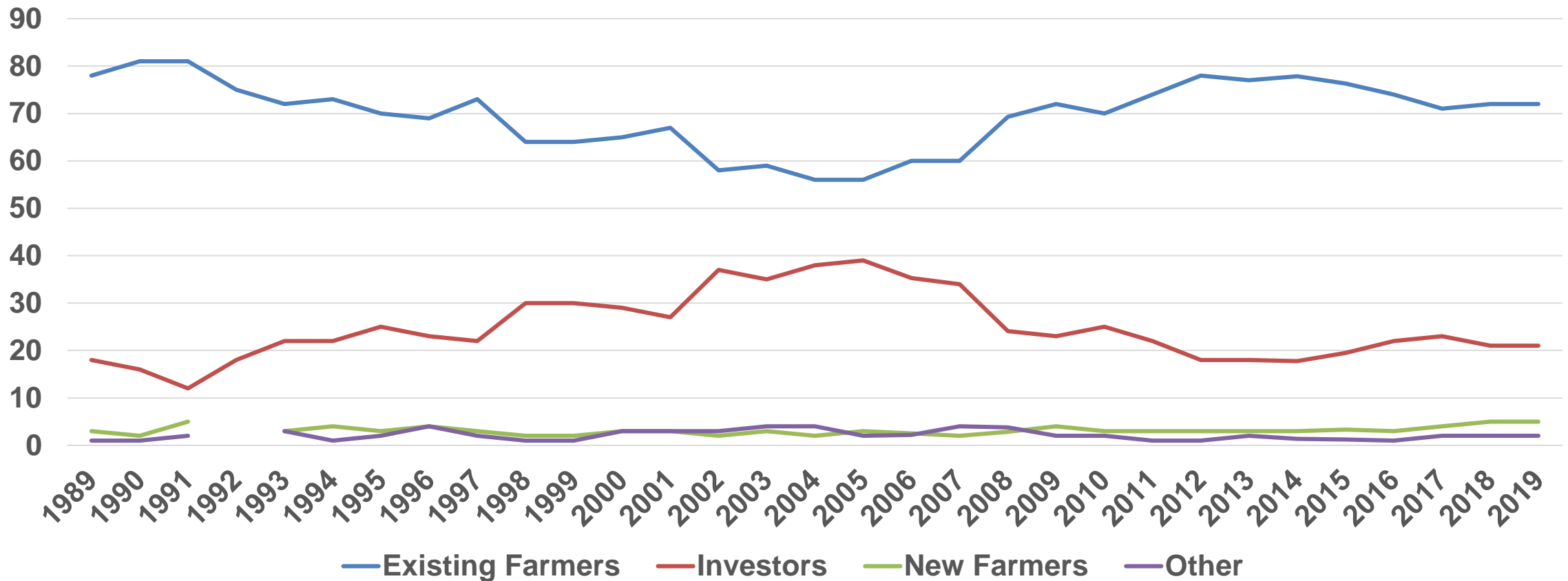
Soybean: $\text{Avg_soy_yield} = 38.71 + 0.09 \text{ CSR2}$ ($R^2 = 12.9\%$)

Percentage Change in Iowa Land Values 2018 to 2019



Percent
Changes in
Land
Values
from Nov
2018

Iowa Farmland Purchases by Buyer Types 1989-2019



Iowa Farmland Purchases by Seller Types, 2019

	Active Farmers	Retired Farmers	Estate Sales	Investors	Other
	PERCENT				
Northwest	10	17	65	7	1
North Central	12	20	60	6	2
Northeast	15	31	45	6	3
West Central	11	24	57	6	2
Central	12	19	62	5	2
East Central	13	23	56	6	2
Southwest	12	25	49	10	4
South Central	20	25	35	17	3
Southeast	16	26	50	6	2
STATE	16	24	52	7	1

US Farm Income Projections 1990-2028

U.S. farm income indicators



Source: USDA OCE 2019: Long-term Ag Outlook to 2028

Three things market participants should watch for at the Fed interest-rate meeting

By Greg Robb

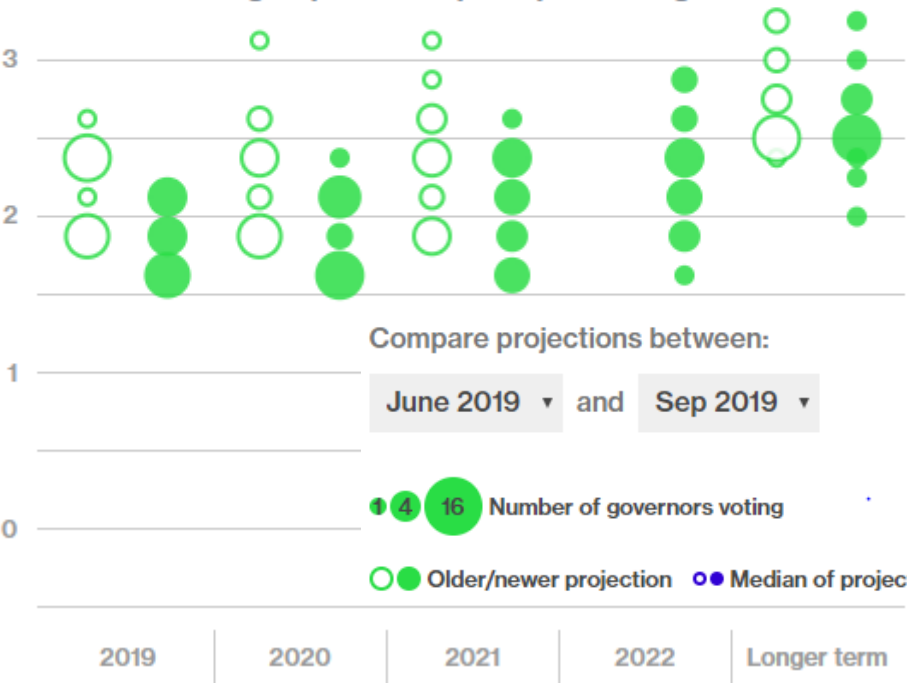
Published: Dec 9, 2019 3:43 p.m. ET

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COMMENTS 3

Bloomberg

Will December's dot plot show a more united Fed after fractious reading in previous policy meetings



One and Five Year Cash Crop Price Predictions

	Cash Corn Prices		Cash Soybean Prices	
	A Year Later	Five Years Later	A Year Later	Five Years Later
Northwest	\$3.44	\$4.00	\$8.36	\$9.55
North Central	\$3.49	\$4.11	\$8.58	\$9.94
Northeast	\$3.46	\$4.16	\$8.57	\$9.92
West Central	\$3.44	\$4.00	\$8.36	\$9.55
Central	\$3.45	\$4.05	\$8.55	\$9.90
East Central	\$3.61	\$4.11	\$8.79	\$10.04
Southwest	\$3.55	\$4.05	\$8.44	\$9.64
South Central	\$3.64	\$4.17	\$8.29	\$9.65
Southeast	\$3.47	\$4.25	\$8.43	\$9.79
STATE	\$3.51	\$4.10	\$8.50	\$9.79

2017 Predictions

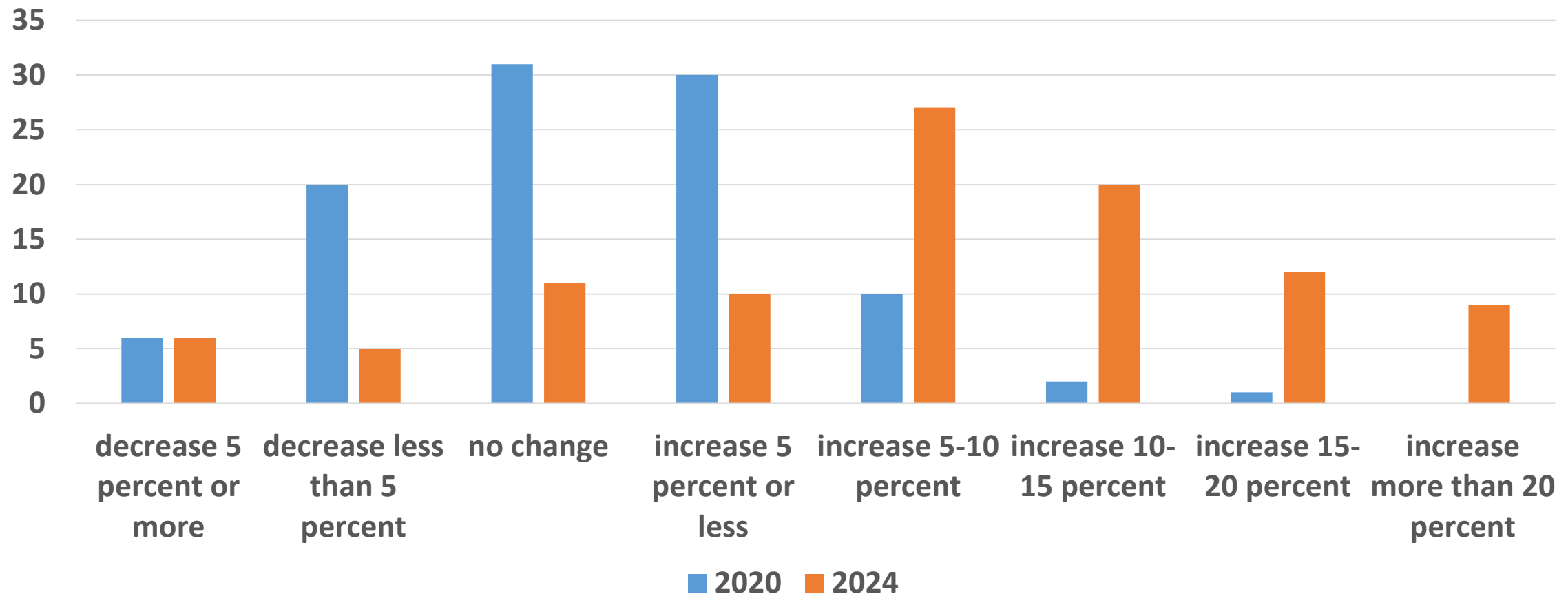
\$3.32

\$3.98

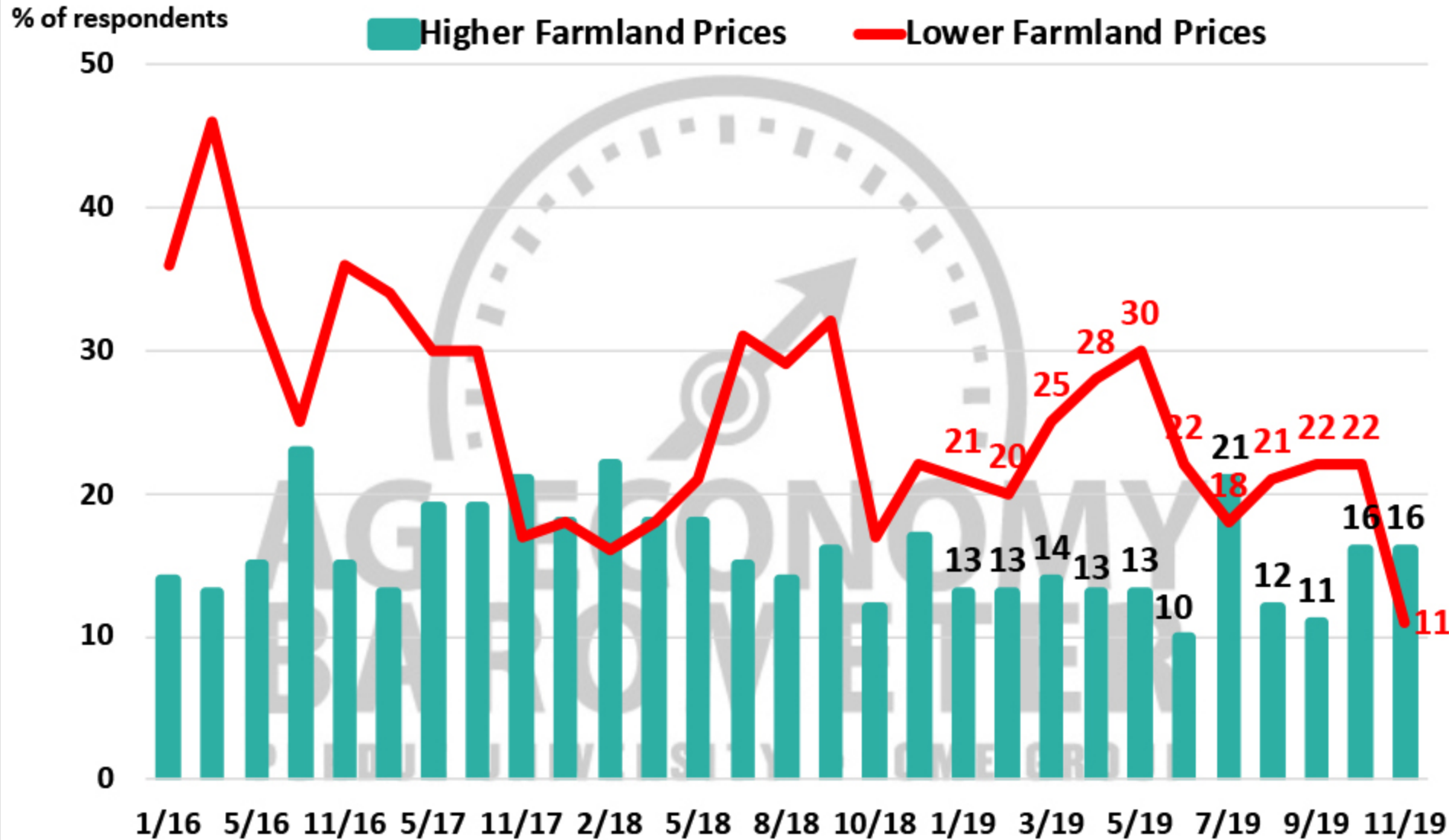
\$9.21

\$10.25

Land value predictions one & five years from now, more optimism over time

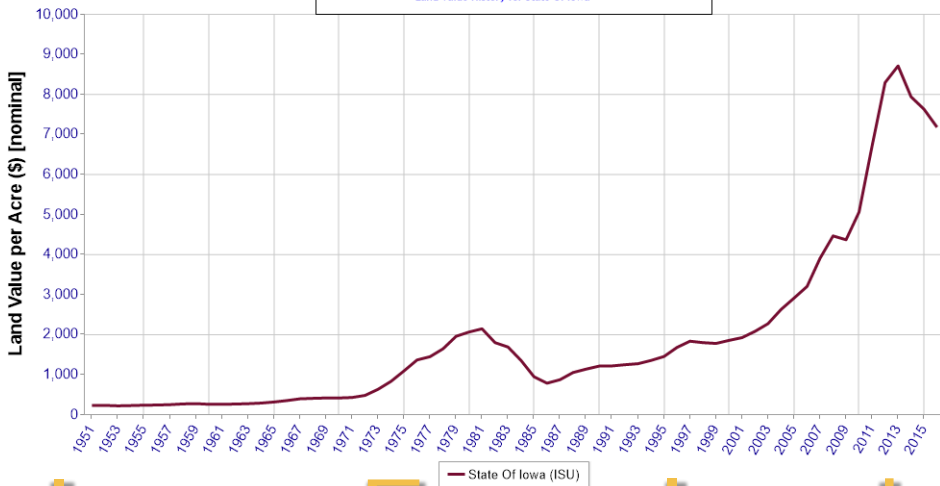


Farmland Price Expectations, 12 Months Ahead



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

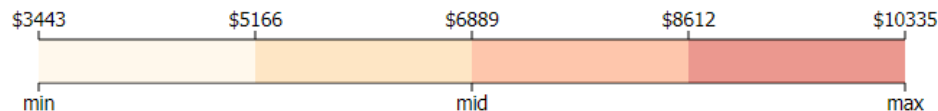
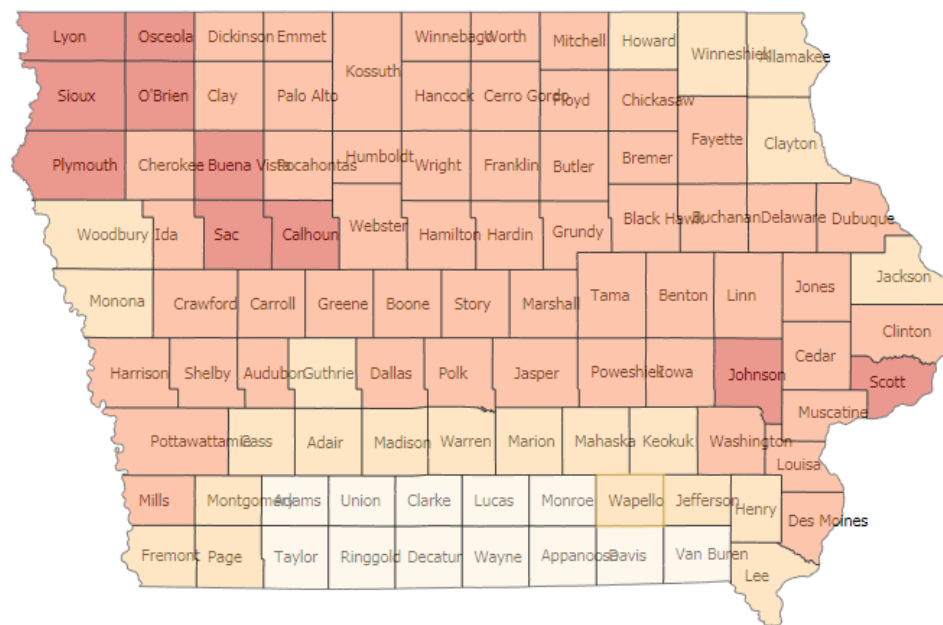
<https://www.card.iastate.edu/farmland>



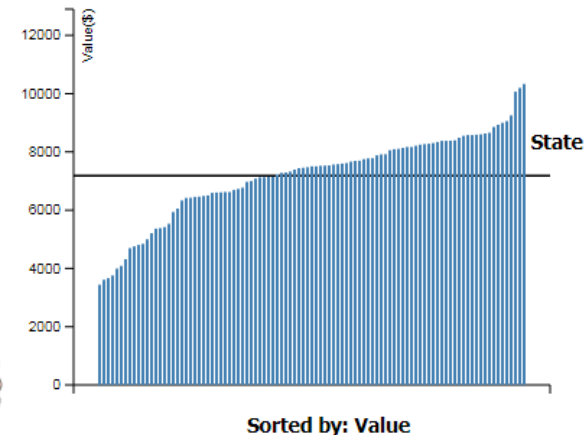
Iowa Farmland Portal



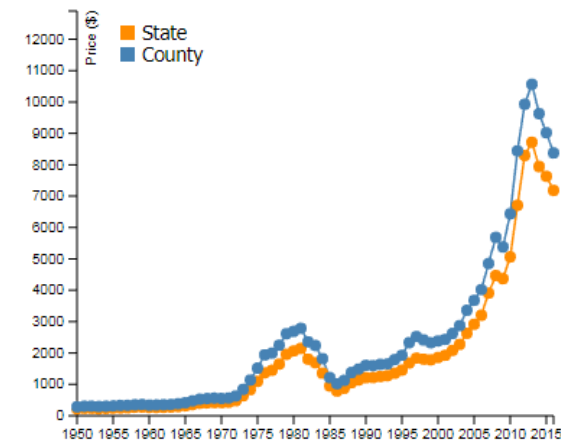
#ISUlandvalue



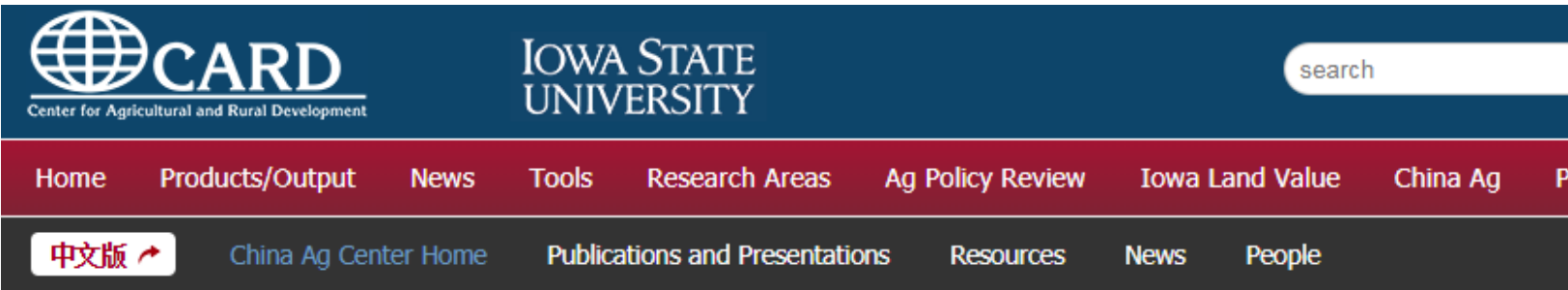
Iowa County Land Value in 2016



Land Value Trend in County: Story



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



Center for China-US Agricultural Economics and Policy

Shuyang Qu, Wendong Zhang, Minghao Li, Lulu Rodriguez, Guang Han, Erin Cork, James M Gbeda. 2019. ["Midwest Crop Farmers' Perceptions of the U.S.-China Trade War."](#) *CARD Policy Brief*. Center for Agricultural and Rural Development, Iowa State University.

Tao Xiong and Wendong Zhang. 2019. ["Who benefits most from China's growing import demand due to African Swine Fever?"](#) *Ag Decision Maker*. Iowa State University Extension and Outreach.

Impact of African Swine Fever on US and World Commodity Markets

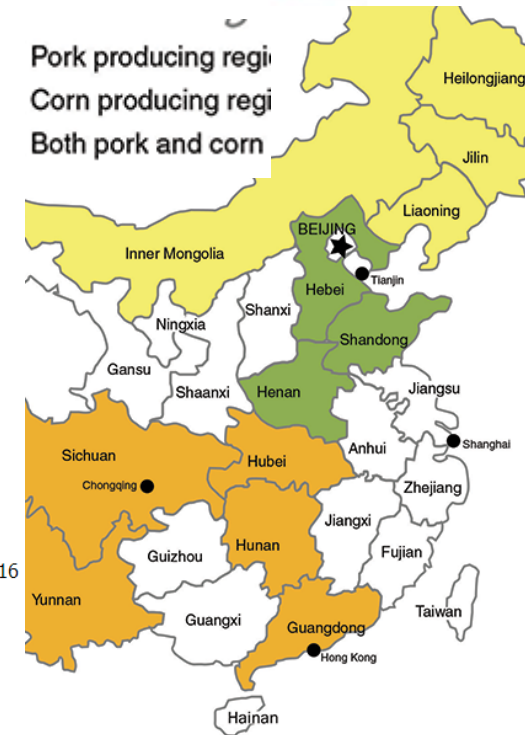
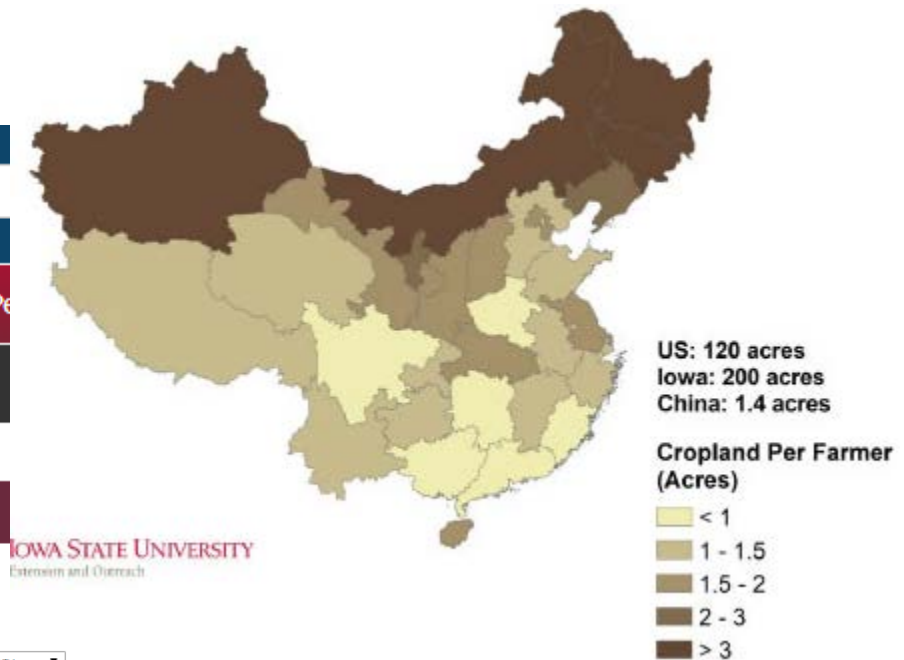
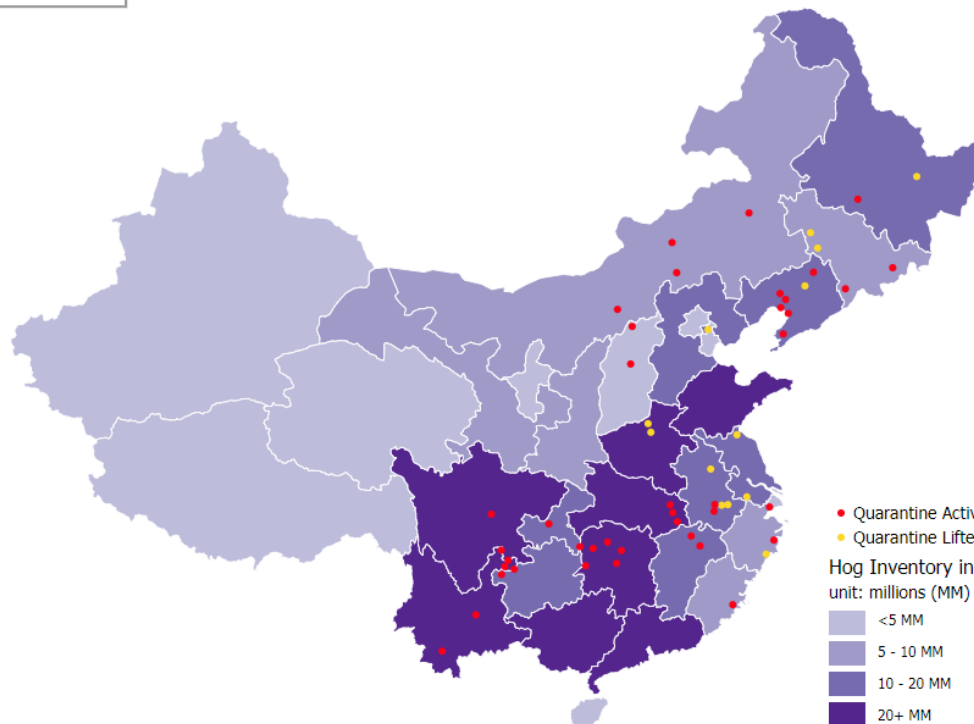
Miguel Carriquiry, Amani Elobeid, Dermot Hayes, and Wendong Zhang

African Swine Flu Cases in China (Mainland)

Show All Cases

Animation: ☐ on ☒ off

Map Base Data:



Thank You!

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