

# NYS Farmland: Who Owns It & Where It's Headed?

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October 12, 2022



Dyson  
Cornell  
SC Johnson College of Business

# 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 & Management in July 2022 (50% research 50% extension appointment)
- Research and extension interests:

**Led land value/ownership surveys** <https://www.card.iastate.edu/farmland>

**Co-founded ISU China Ag Center** <https://www.card.iastate.edu/china>

Cornell Atkinson Center for Sustainability: <https://atkinson.cornell.edu/>

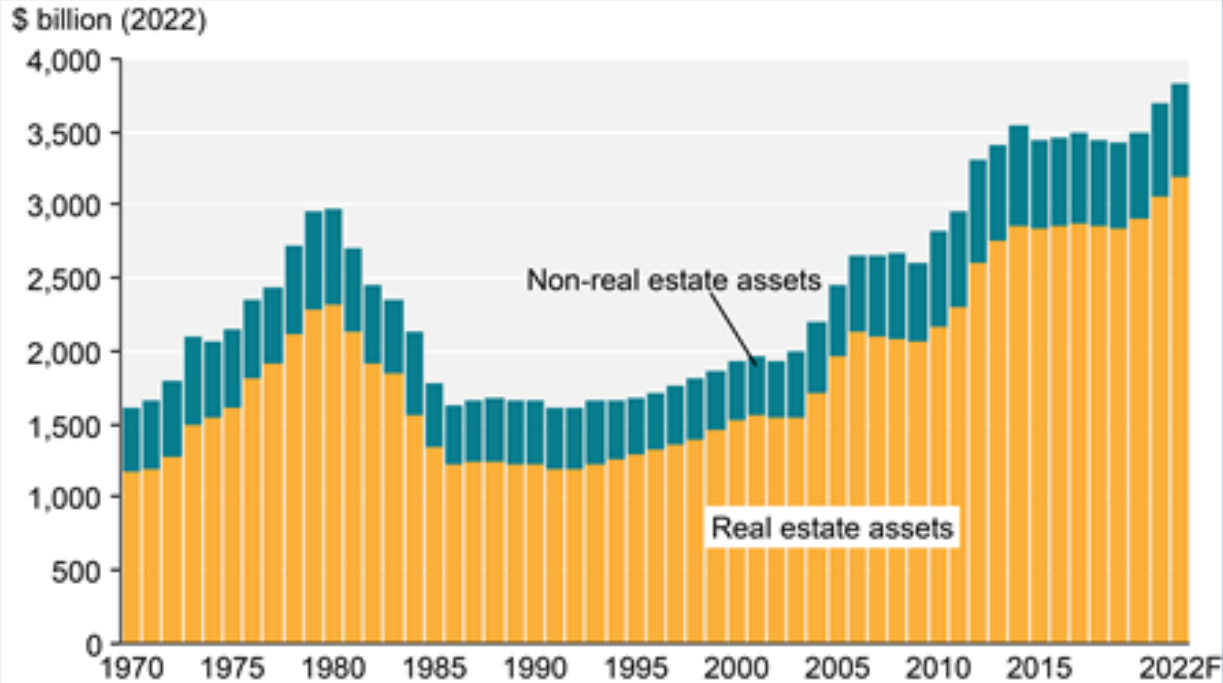
Cornell Institute for China Economic Research (CICER)

<http://china.dyson.cornell.edu/>

Global Public Voices Fellow, Einaudi Center for International Studies

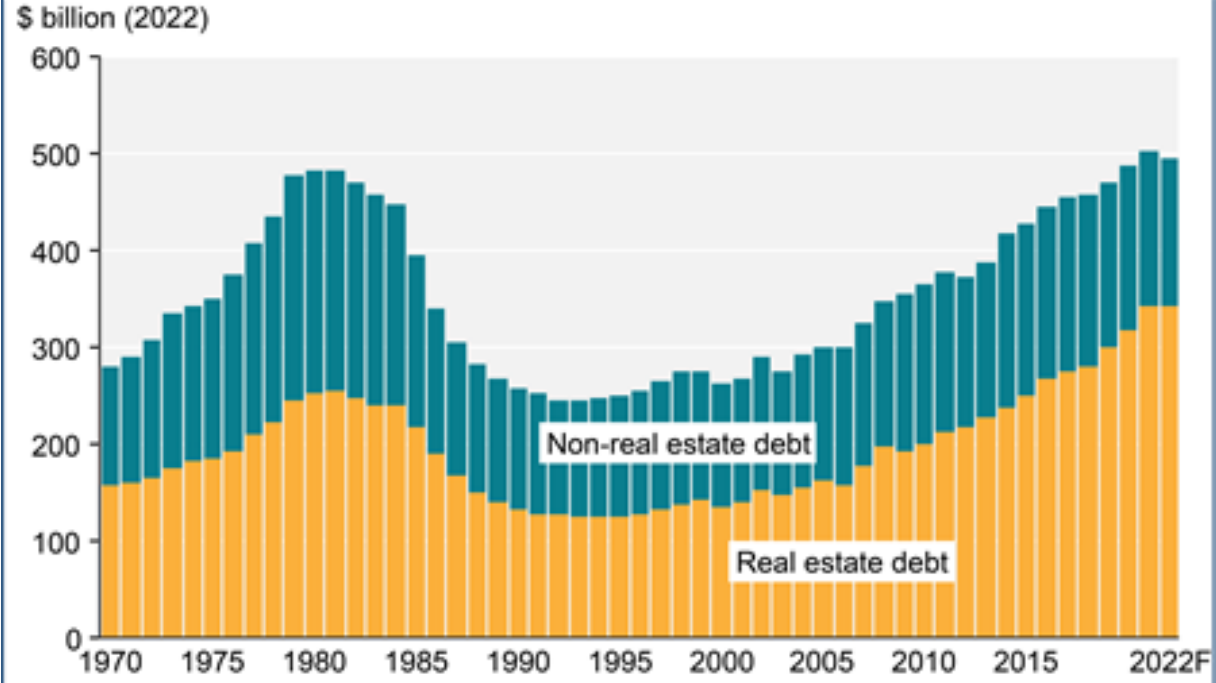
# Why We Care About Farmland?

U.S. farm sector assets, inflation adjusted, 1970–2022F



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 September 1, 2022.

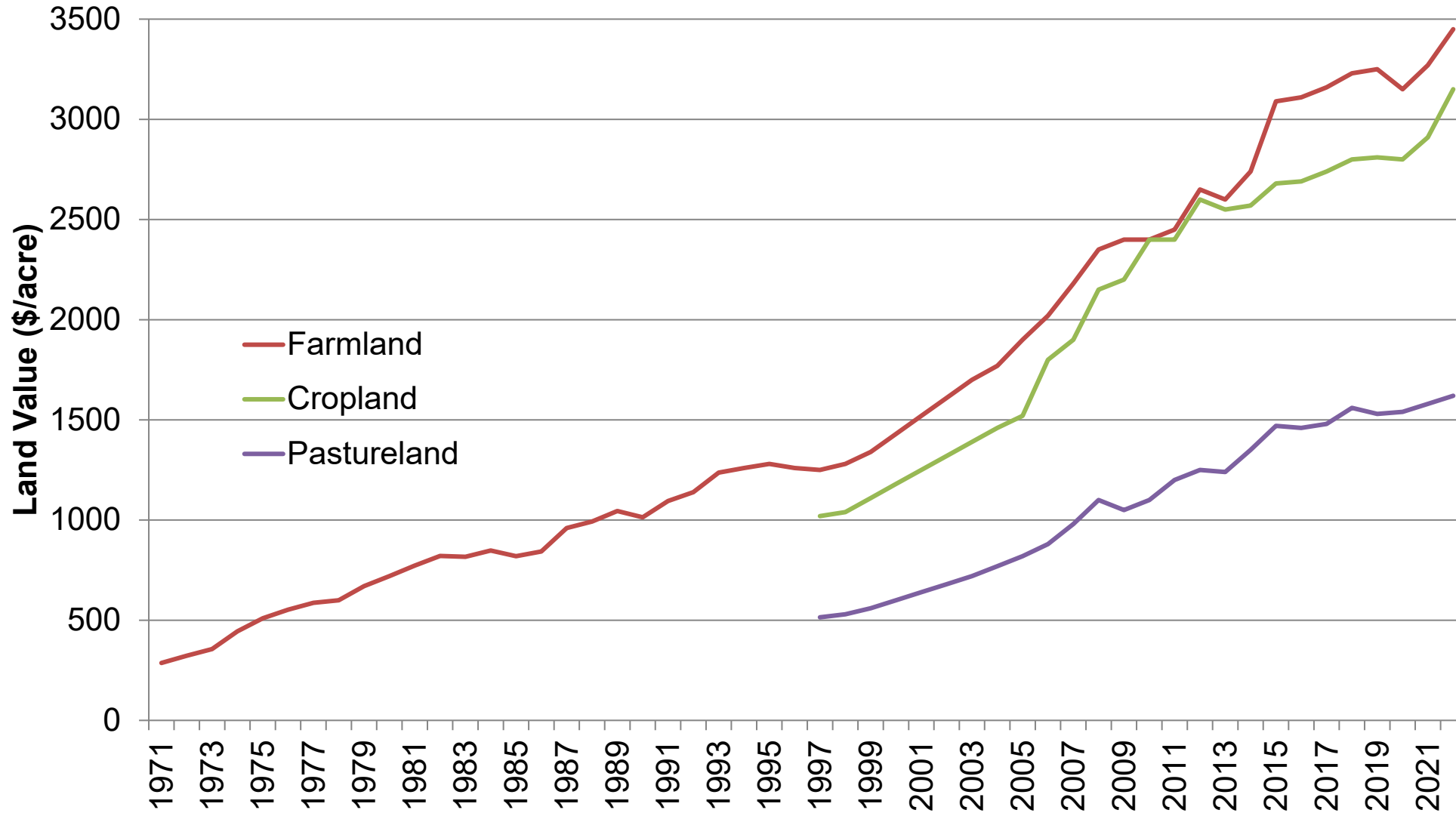
U.S. farm sector debt, inflation adjusted, 1970–2022F



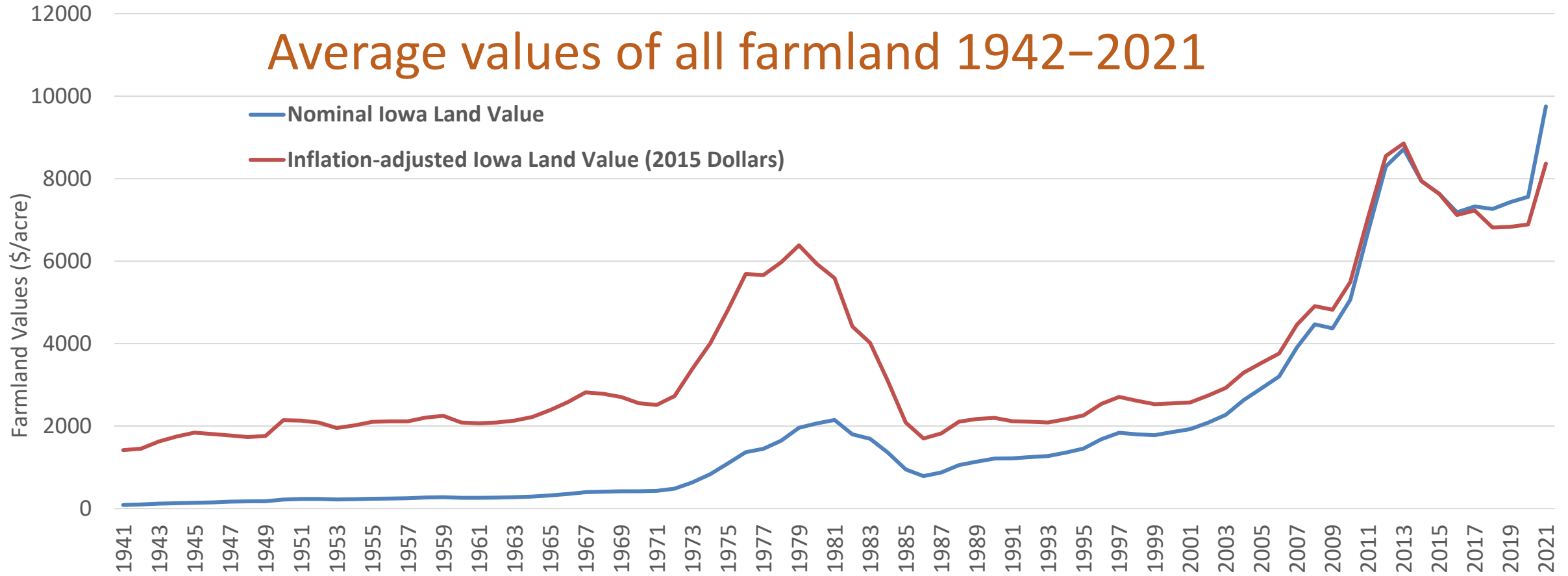
Note: F = forecast. Values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.  
Data as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

# Farmland Value Trends in NYS 1971-2022

Source: USDA NASS



# Not exactly the same as the Midwest land market Iowa land market showed the 1980s farm crisis more vividly





# 55.56 acres of Plymouth County farmland sells for record \$26,250 per acre

Mason Dockter Oct 12, 2022 Updated Oct 13, 2022 0



This aerial photo from the Brock Auction Company shows a parcel of Plymouth County land that was sold at auction Monday for a record-breaking \$26,250 per acre.

Brock Auction Co.

[https://siouxcityjournal.com/news/local/55-56-acres-of-plymouth-county-farmland-sells-for-record-26-250-per-acre/article\\_943c5735-b065-530e-8e7b-e7ae6b92b257.html](https://siouxcityjournal.com/news/local/55-56-acres-of-plymouth-county-farmland-sells-for-record-26-250-per-acre/article_943c5735-b065-530e-8e7b-e7ae6b92b257.html)

July 13, 2022

**1340-A GEORGETOWN ROAD, QUARRYVILLE (24.656 ACRES)**

**24.656 Acre +/- Dairy Farm w/Stream & Pond – 2- \$2,194,384**

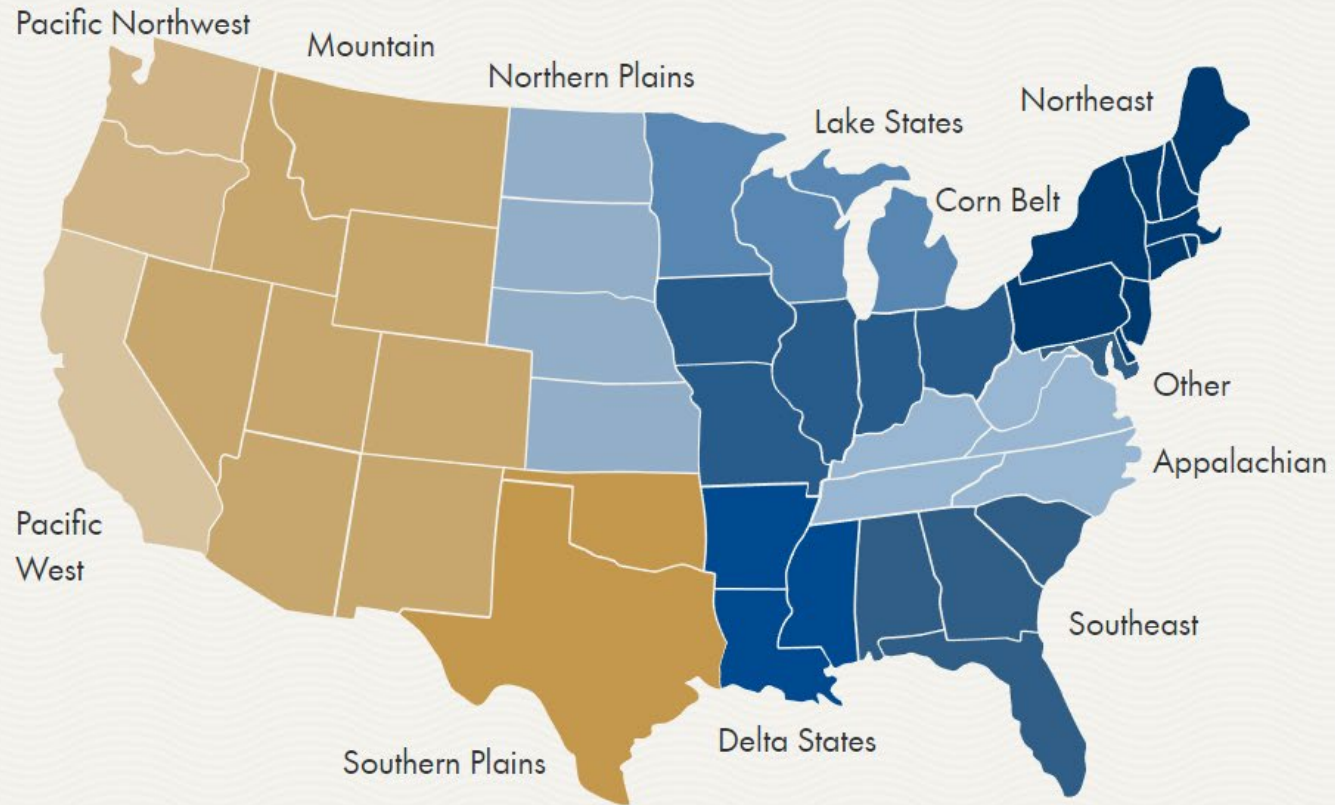
Family Farmhouse – Bank Barn – Dairy Barn – Heifer Barn – Tobacco Barn – Corn Barn – Garage/Shop/Barn – Silos – Manure Pit – **Zoned General Business** – Georgetown/Nine Points/Green Tree Area

**BROCHURE | MAP | PHOTOS | TOPOGRAPHICAL | ONLINE BIDDING**



<http://www.klinekreidergood.com/past-auctions>

# NCREIF Farmland Property Index



## 3rd Quarter 2022

Total Market Value:  
\$14,859,663,577.00

### FILTER BY PROPERTY TYPE



**3.80%**

4Q 2021

**2.63%**

1Q 2022

**1.45%**

2Q 2022

**1.98%**

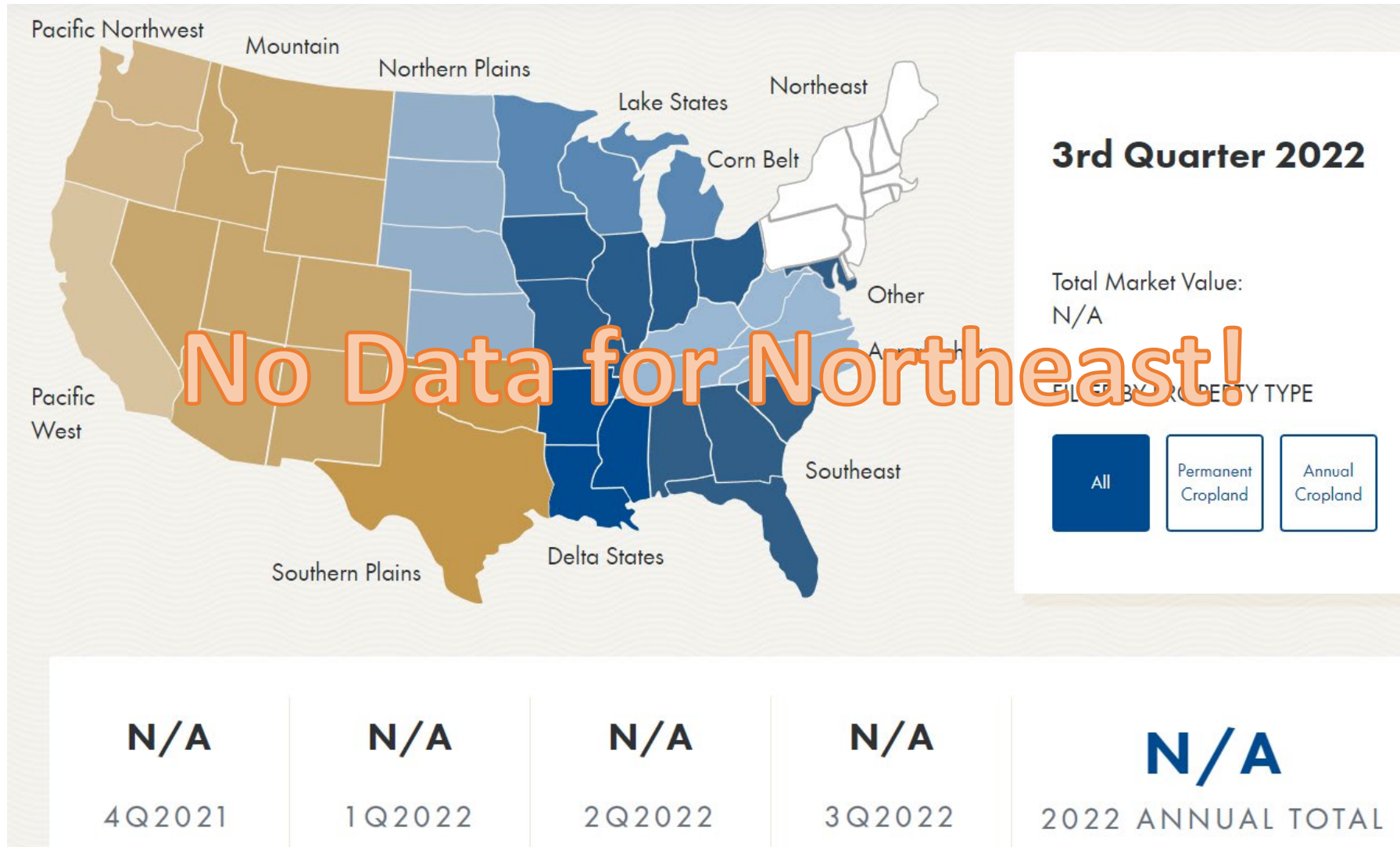
3Q 2022

**10.21%**

2022 ANNUAL TOTAL



# NCREIF Farmland Property Index



<https://www.ncreif.org/data-products/farmland/>

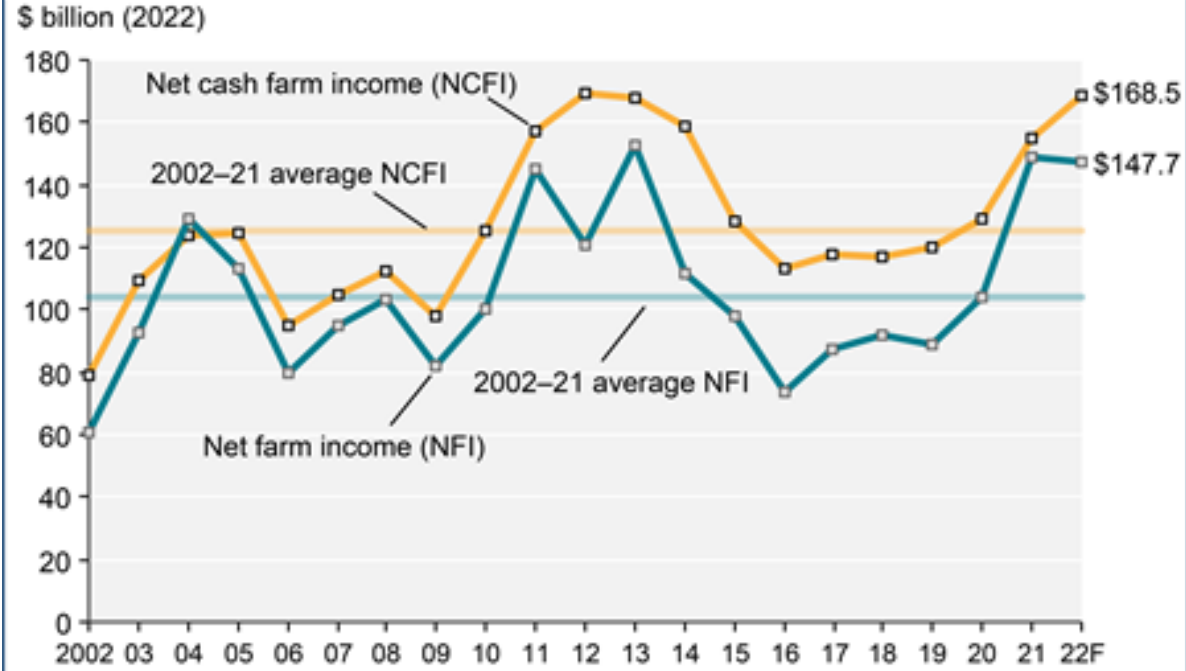


# **Local Land Supply and Demand**

## **Explain Variations in Land Market**

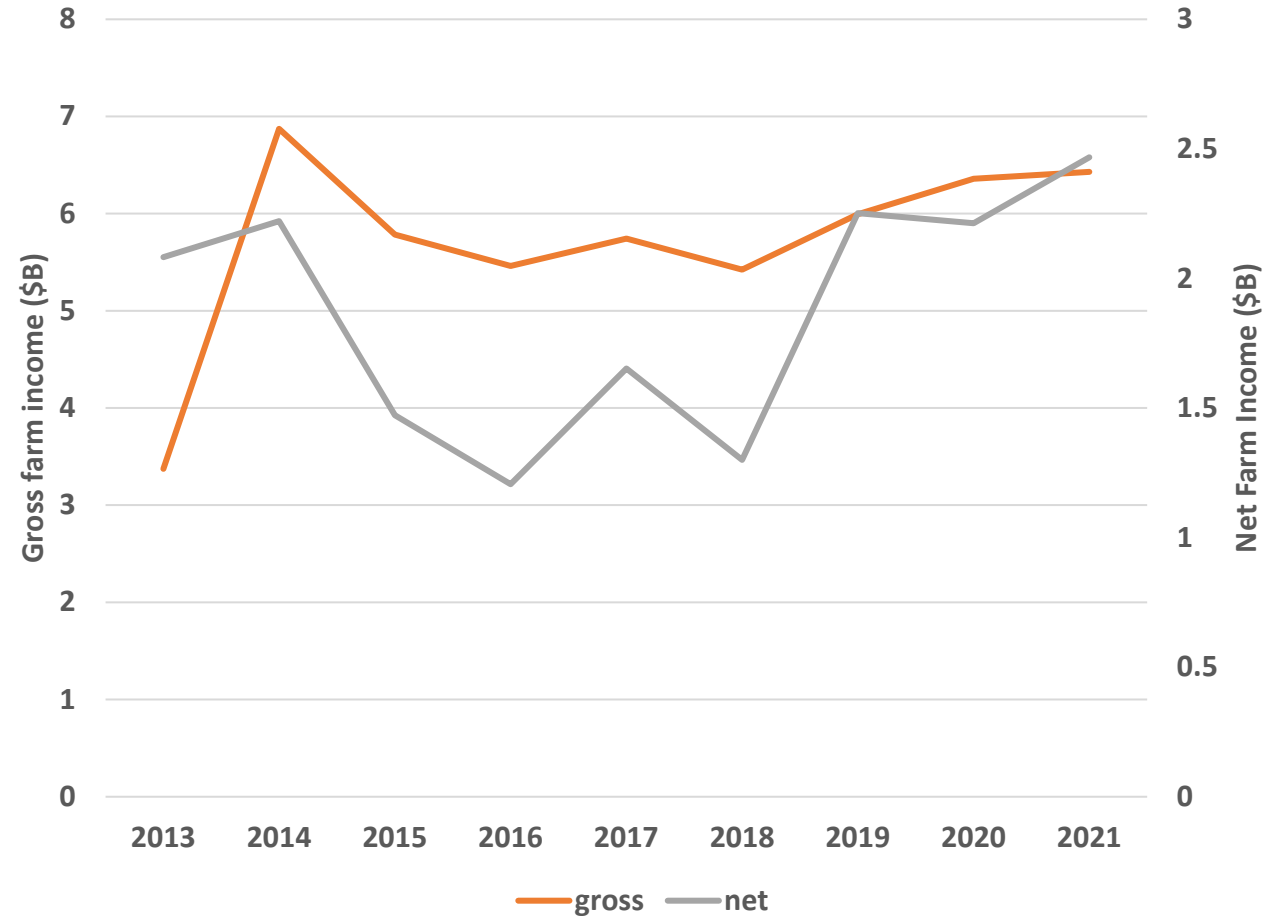
**Land Value = localized net  
income / universal interest rate**

## U.S. net farm income and net cash farm income, inflation adjusted, 2002–22F



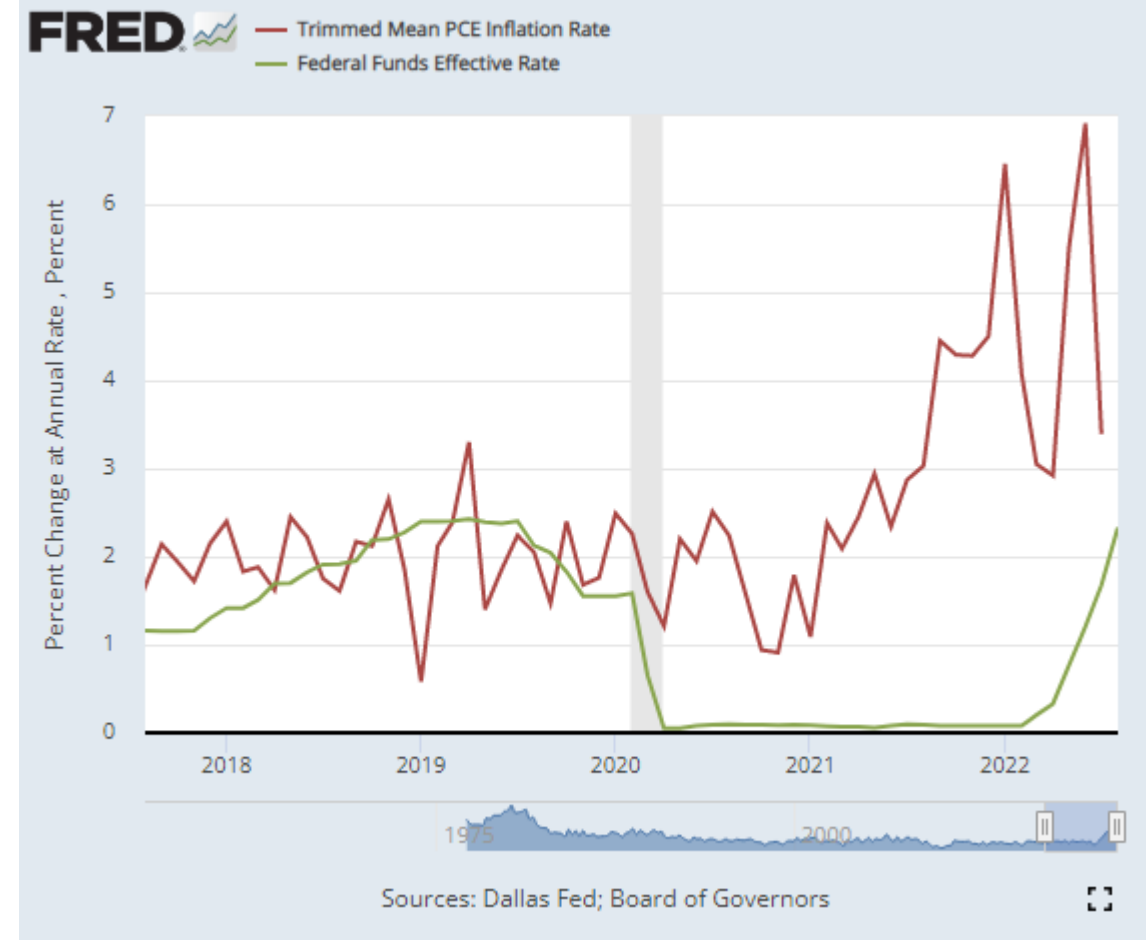
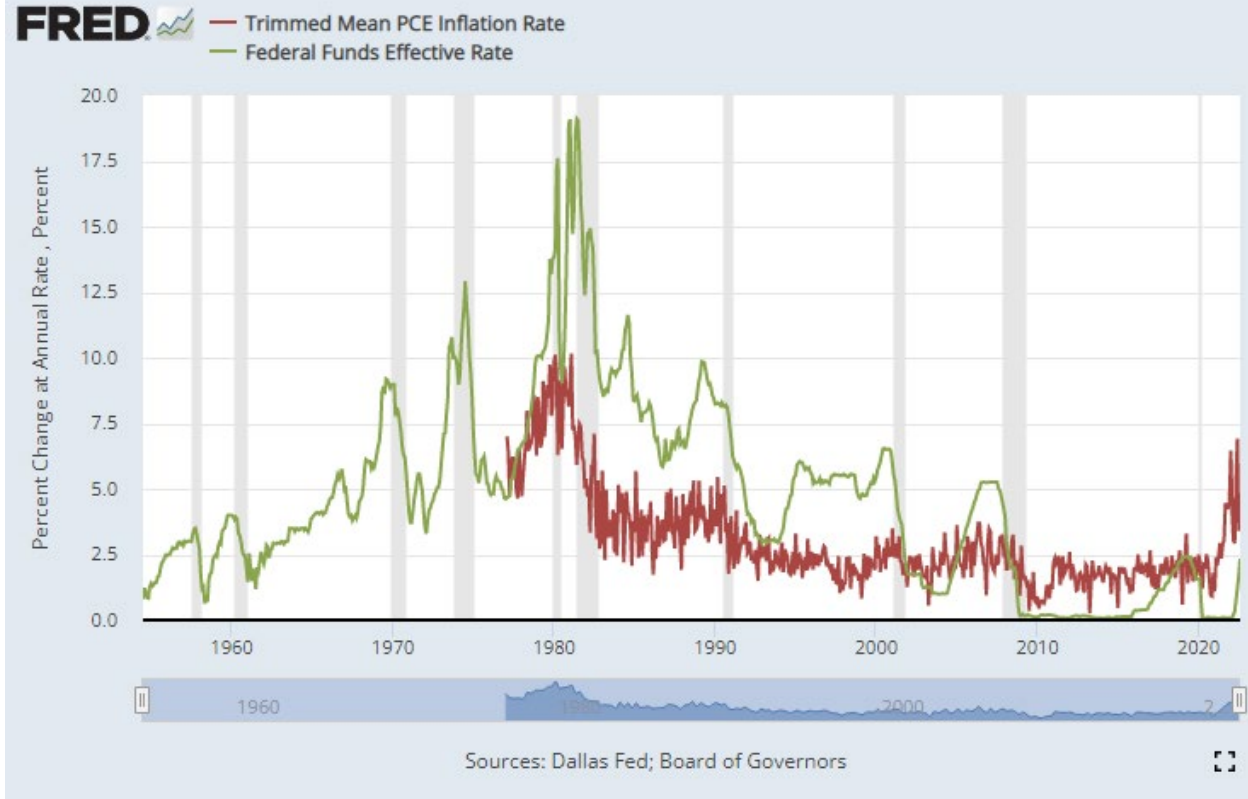
Note: F = forecast. Values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of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

## NYS Farm Income 2013-2021



# Federal Reserve raises interest rates amid stubbornly high prices and recession concerns

Jul 27, 2022 6:55 PM EDT

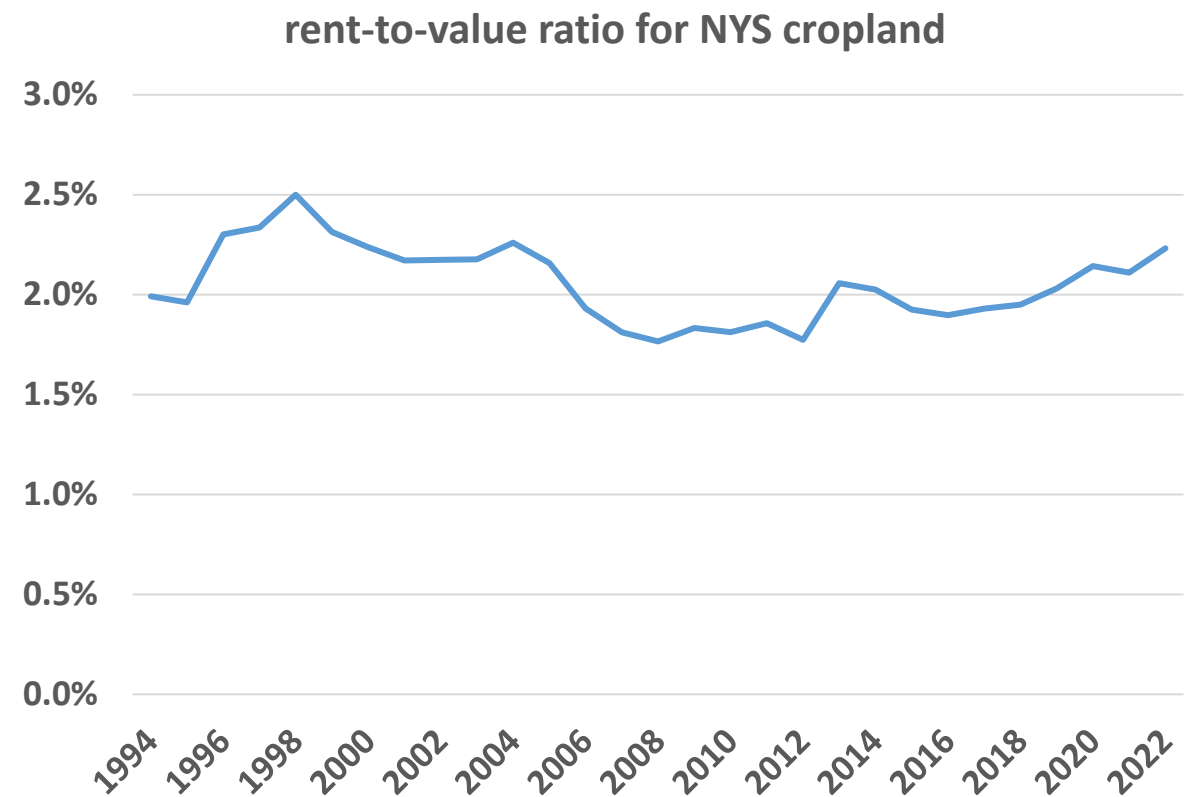
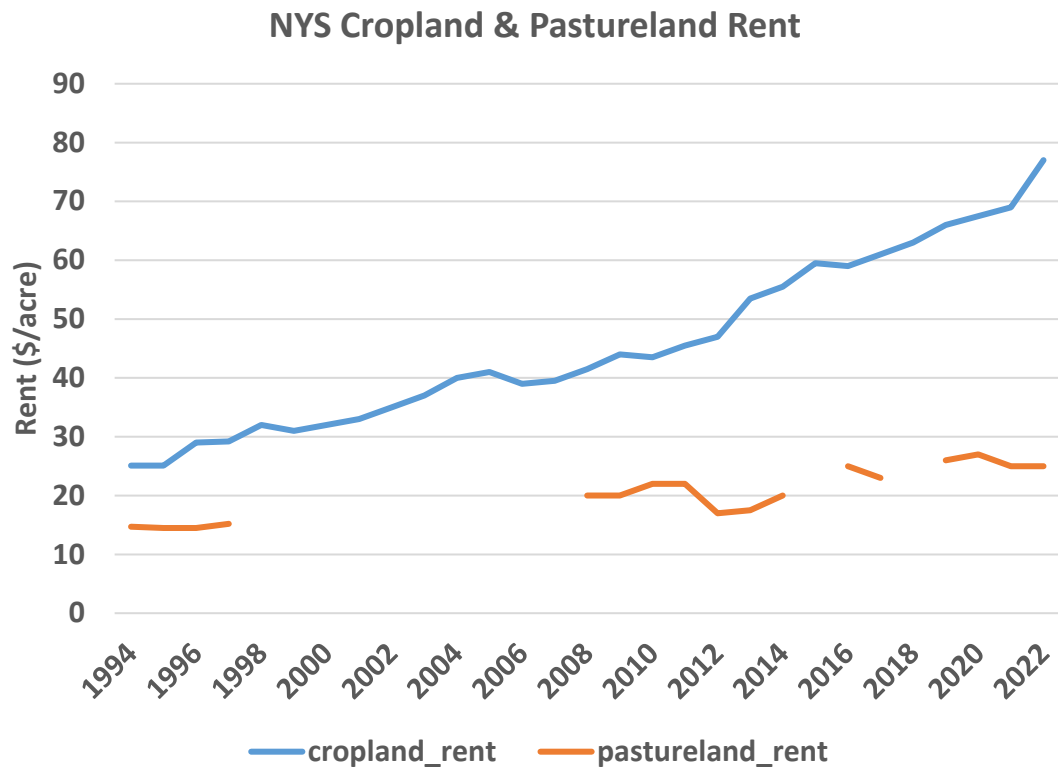






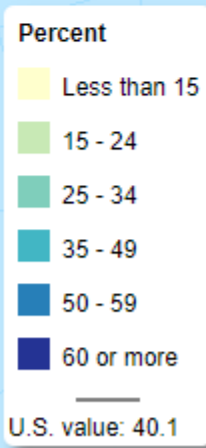
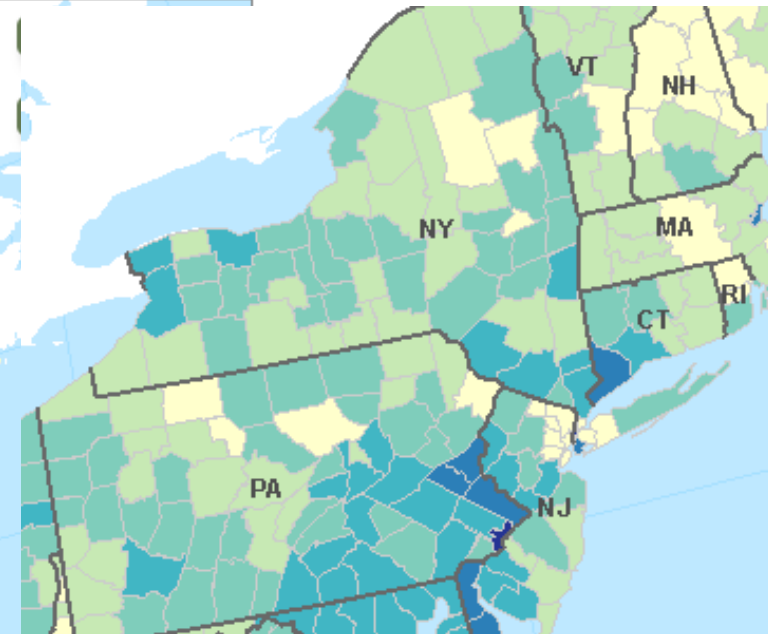
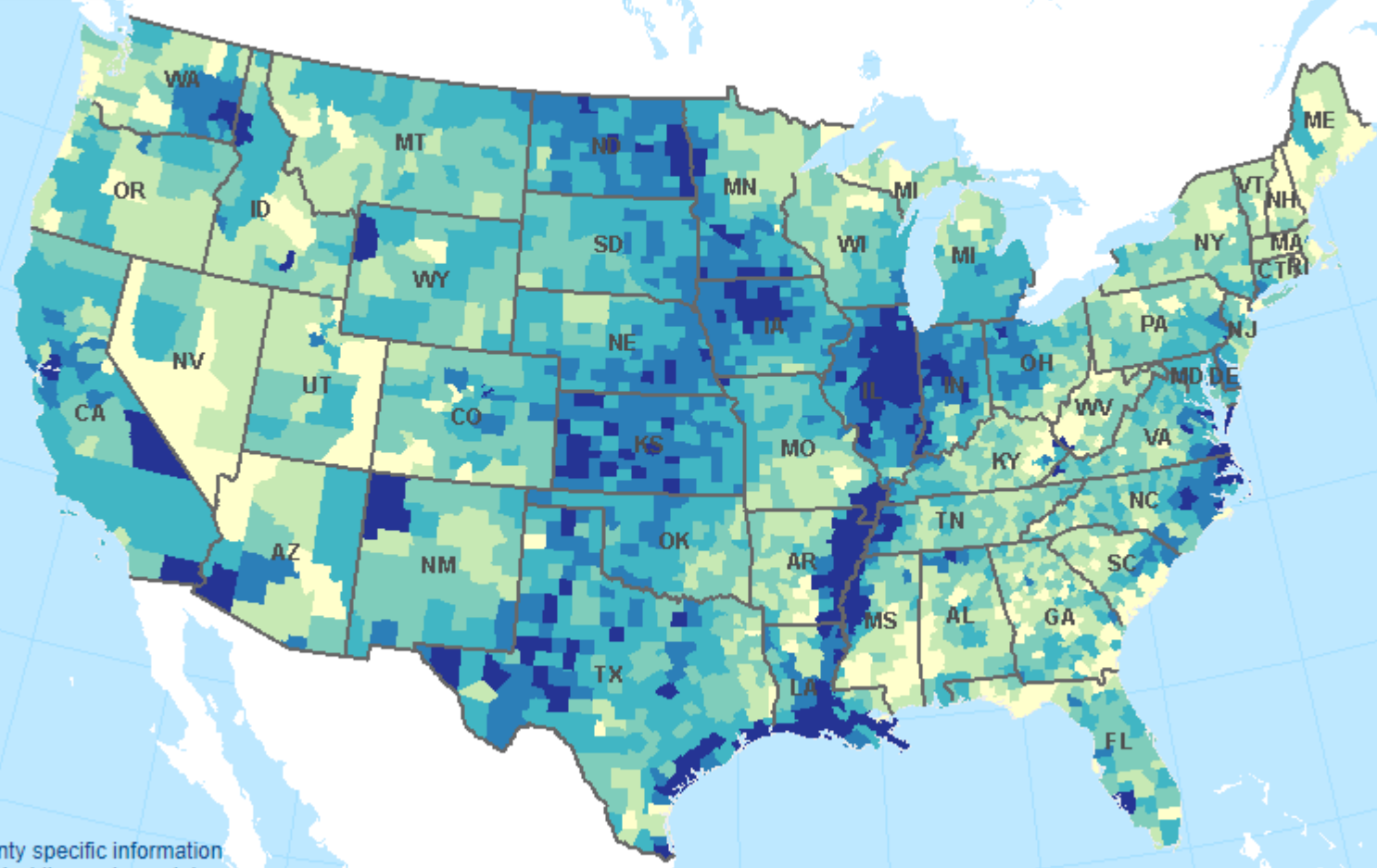
# Cropland Rent & Rent-to-Value Ratio

USDA NASS June Area Survey



# Percent of Land in Farms Rented or Leased: 2017

▶ Select Map to Display



Click on map for county specific information  
To pan, click and hold while moving pointer

NASS map ID: 17-M090

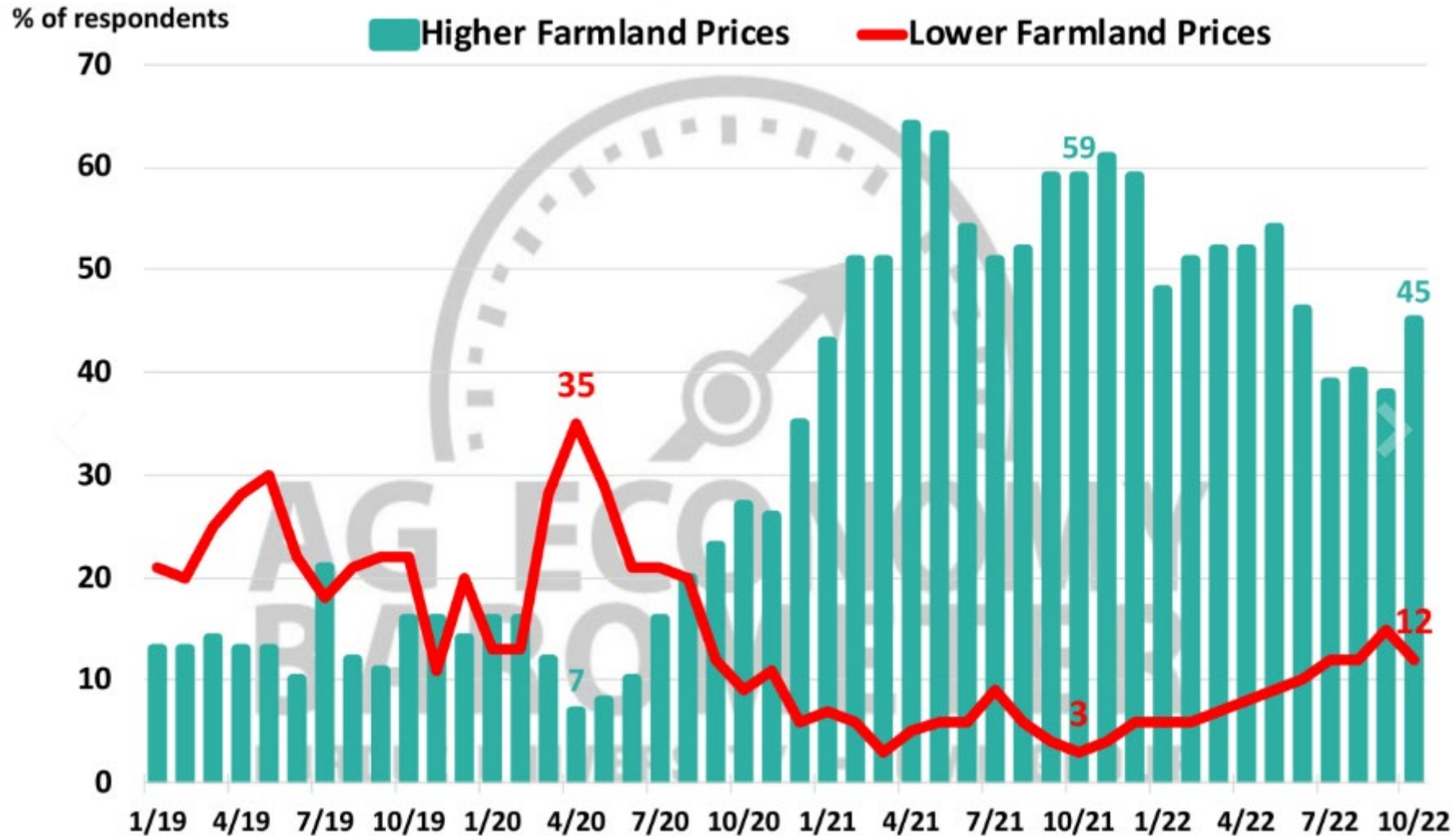
# TOTAL CROPLAND RETURN

<i>Region</i>	<i>1-year</i>	<i>5-year</i>	<i>10-year</i>	<i>15-year</i>	<i>20-year</i>
Appalachia	10.18%	4.61%	4.24%	3.40%	5.28%
<b>Corn Belt</b>	<b>15.09%</b>	<b>7.12%</b>	<b>6.45%</b>	<b>7.95%</b>	<b>9.08%</b>
<b>Delta</b>	<b>8.41%</b>	<b>6.04%</b>	<b>6.61%</b>	<b>6.80%</b>	<b>8.17%</b>
<b>Lake States</b>	<b>13.91%</b>	<b>6.13%</b>	<b>6.56%</b>	<b>6.27%</b>	<b>7.89%</b>
Mountain	11.86%	6.61%	6.87%	5.45%	8.27%
Northeast	8.10%	4.14%	3.45%	1.76%	4.59%
Northern Plains	20.29%	8.01%	8.59%	10.93%	11.80%
<b>Pacific Northwest</b>	<b>13.46%</b>	<b>9.75%</b>	<b>9.87%</b>	<b>9.86%</b>	<b>11.17%</b>
<b>Pacific West</b>	<b>11.27%</b>	<b>8.13%</b>	<b>7.90%</b>	<b>7.02%</b>	<b>9.04%</b>
<b>Southeast</b>	<b>8.81%</b>	<b>4.55%</b>	<b>4.37%</b>	<b>3.04%</b>	<b>5.22%</b>
Southern Plains	12.19%	7.37%	6.46%	6.46%	8.11%
NCREIF Total Farmland	10.21%	6.54%	8.99%	10.30%	12.78%
NCREIF Annual Cropland	14.43%	8.00%	7.77%	9.46%	11.14%
NCREIF Permanent Cropland	4.05%	4.42%	10.83%	11.67%	14.74%

*Source: USDA, NCREIF, and TIAA Center for Farmland Research*

Source: Bruce Sherrick (U. Illinois); Peoples Company      Data Source: USDA NASS, NCREIF

# Farmland Price Expectations, 12 Months Ahead



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



# Why Investors Buy Farmland?

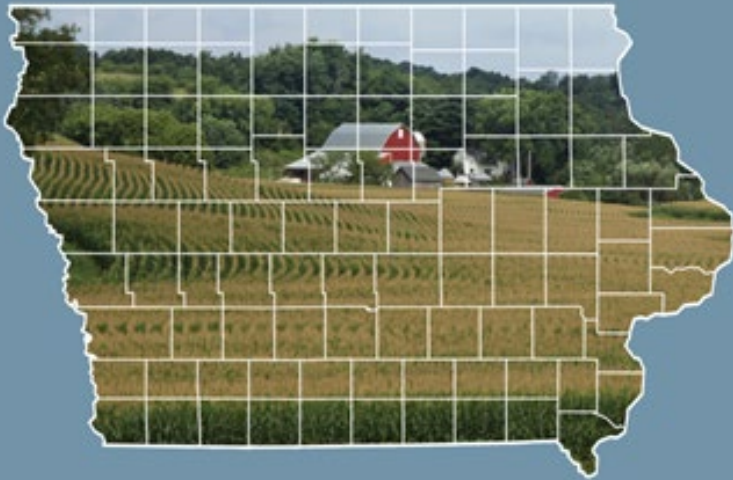
- Beta

- 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

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



FM 1893 August 2018

IOWA STATE UNIVERSITY  
Extension and Outreach

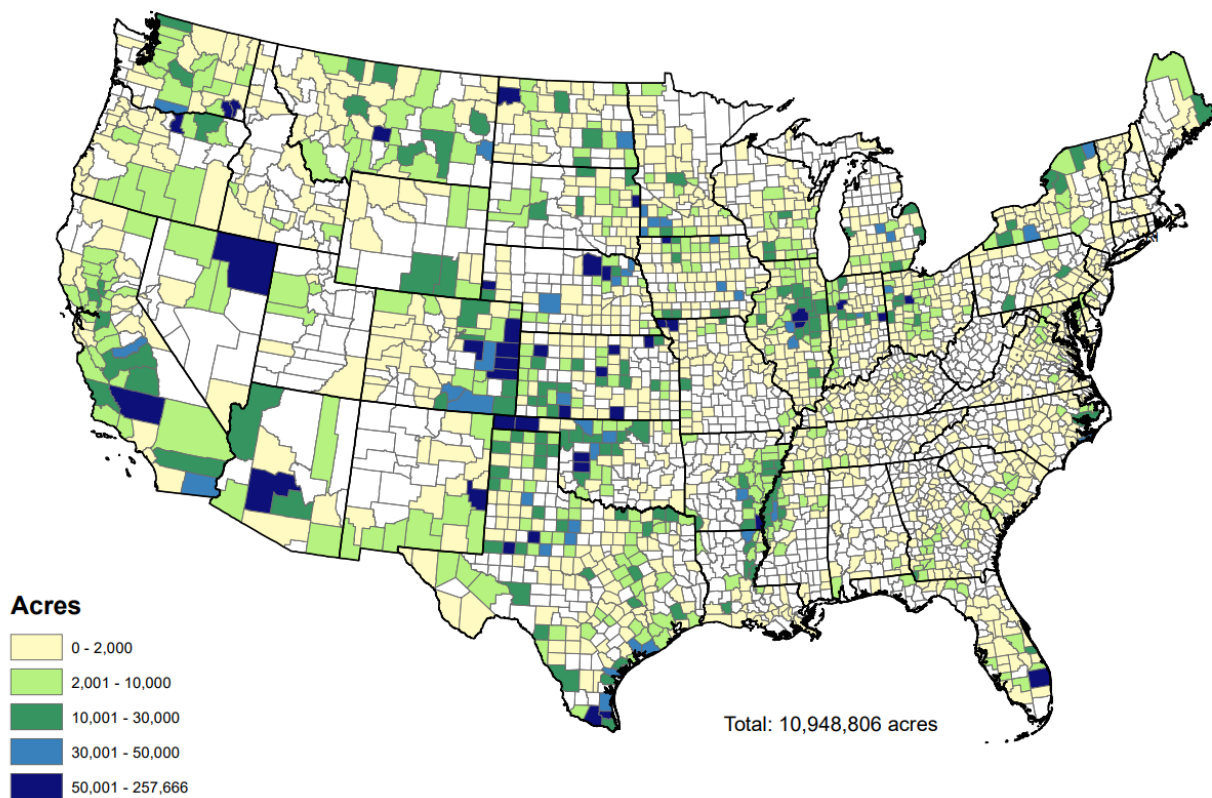
- **82% of Iowa land is debt-free**
- 60% of land owned by owners 65+ years old, one-third of land owned by 75+ years old, 13% of land owned by women landowners 80+ years old
- Ownership continues to shift from sole ownership to trusts and corporations
- **53% of Iowa land rented out – mainly cash rent**
- 34% of 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**

**I will still lead the 2022 survey (will be published next June)  
one of the kind in the nation; mandated by Iowa Code  
statistically representative of all Iowa acres & landowners**

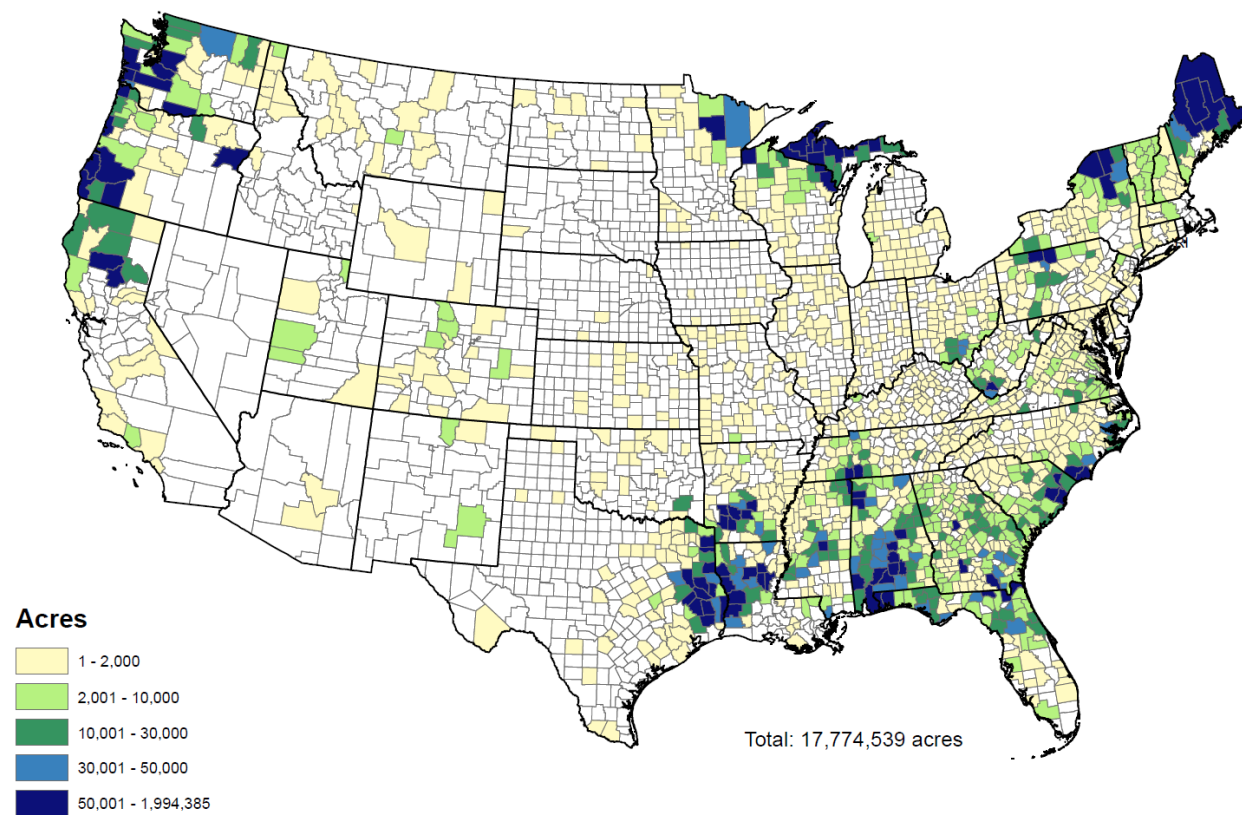
# Foreign holdings of cropland and forest land as of December 2020

- USDA AFIDA report

**Figure 4** County Concentration of Foreign Holdings of Crop Land as of December 31, 2020



**Figure 6** County Concentration of Foreign Holdings of Forest Land as of December 31, 2020





# Foreign ownership of US farmland



Florida Gov. Ron DeSantis calls out the Chinese Communist Party for buying giant chunks of farmland and property in his state, saying it's a 'huge problem'

By Stephen M. Lepore For Dailymail.Com  
15:57 EDT 23 Jul 2022 , updated 21:12 EDT 23 Jul 2022



## Why A Secretive Chinese Billionaire Bought 140,000 Acres Of Land In Texas

John Hyatt Forbes Staff

*I write about wealth, billionaires and their companies.*

Follow

Aug 9, 2021, 07:10am EDT



The inside story of Sun Guangxin's plan for a wind farm in the Lone Star state and how it incurred the wrath of U.S. lawmakers and environmentalists, becoming a flashpoint in U.S.-China relations.



**TOM COTTON**  
SENATOR FOR ARKANSAS

AUGUST 02, 2022

## COTTON, TUBERVILLE INTRODUCE BILL TO PROHIBIT THE CHINESE COMMUNIST PARTY FROM PURCHASING AMERICAN LAND

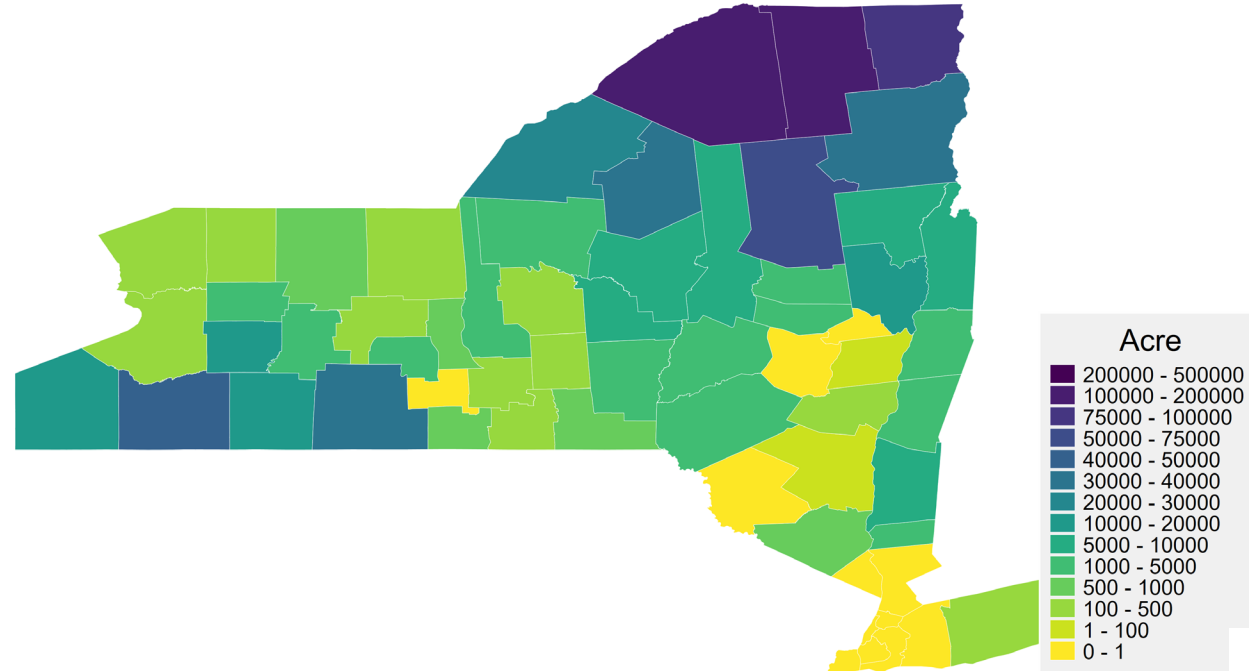
FOR IMMEDIATE RELEASE

Contact: [James Arnold](#) or [Mary Collins Atkinson](#) (202) 224-2353

August 2, 2022

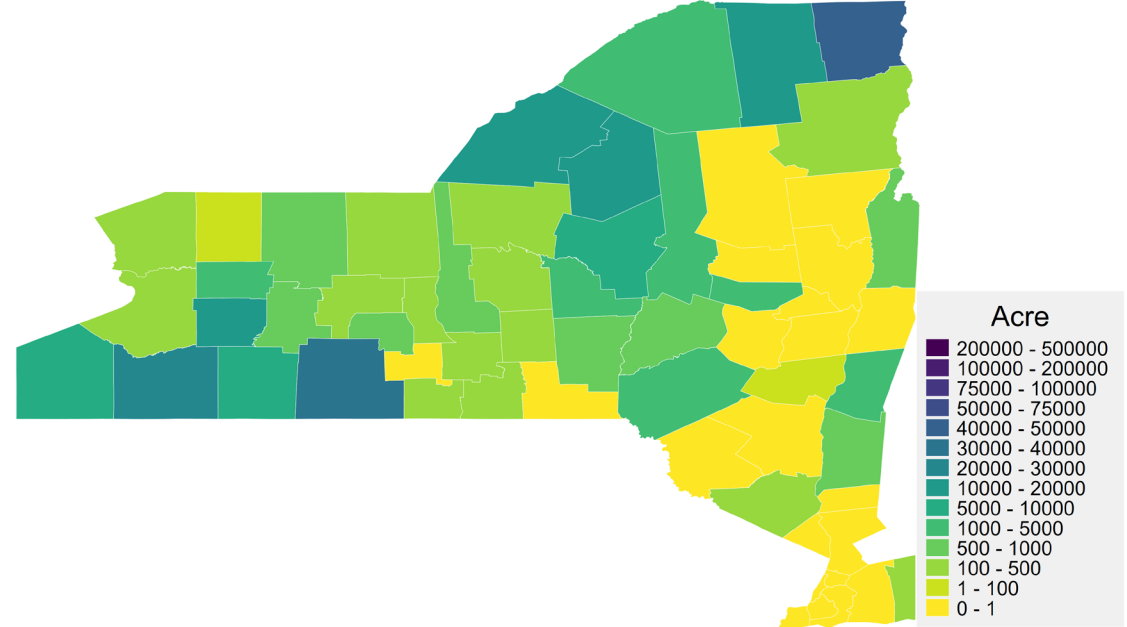


### Foreign ownership of NYS ag & non-ag land by all countries as of 2020

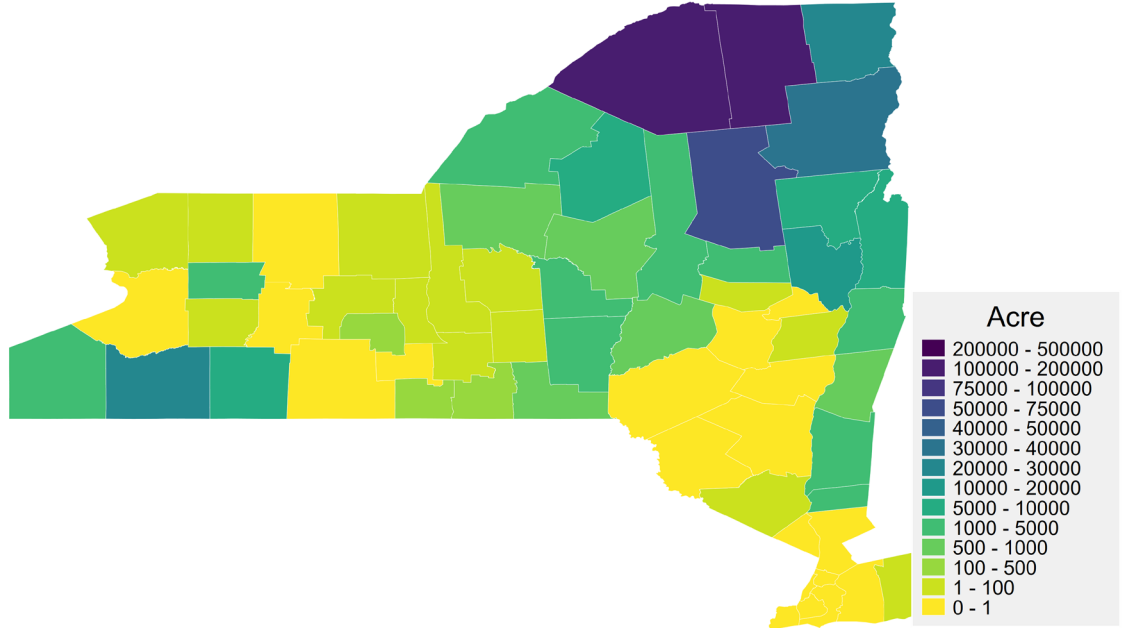


Source: AFIDA Database; Created by Wendong Zhang (Cornell) & Mykel Taylor (Auburn)

### Foreign ownership of NYS cropland by all countries as of 2020



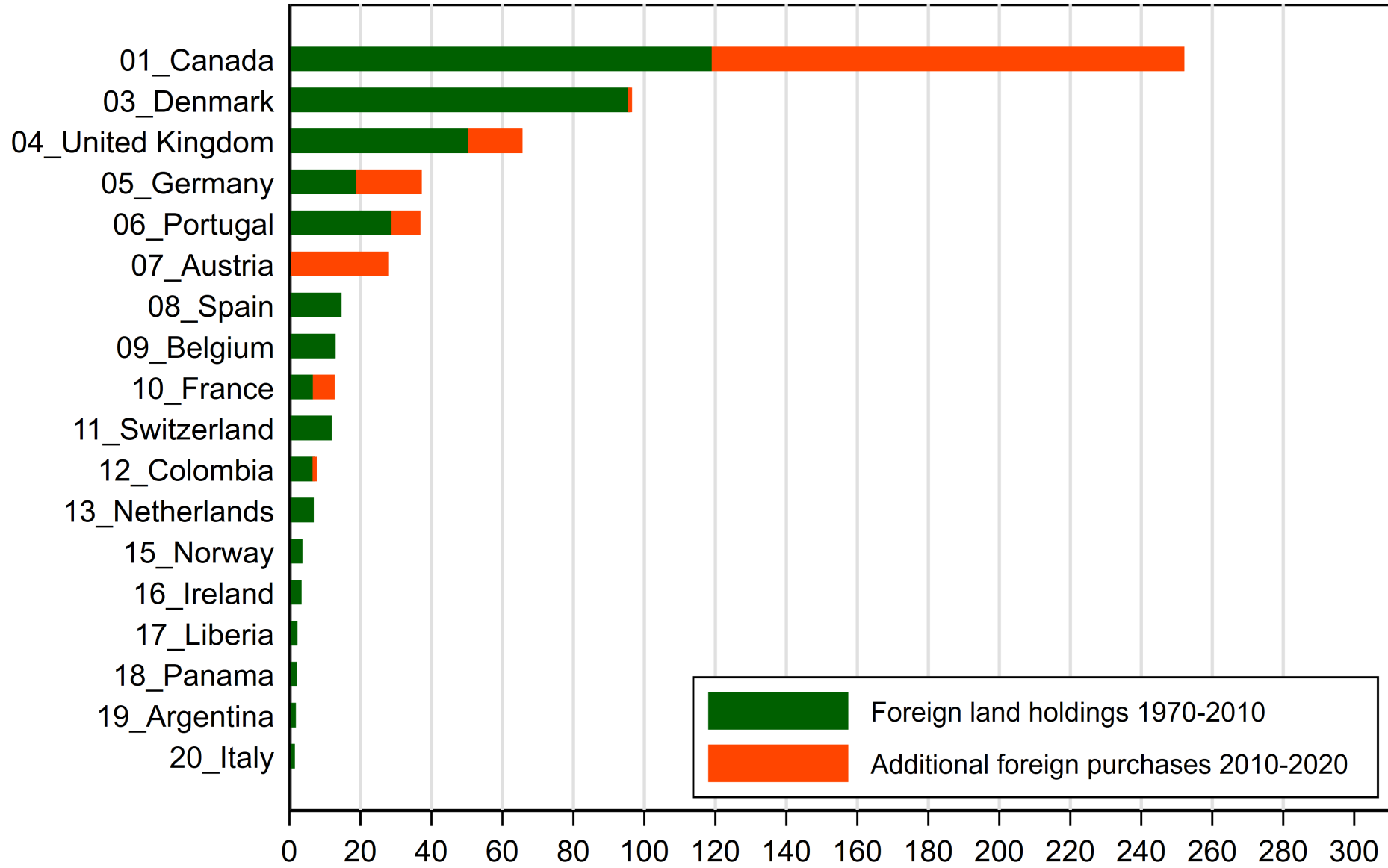
### Foreign ownership of NYS forest land by all countries as of 2020



Source: AFIDA Database; Created by Wendong Zhang (Cornell) & Mykel Taylor (Auburn)

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

# Top 25 Foreign Countries by NYS Farmland Ownership in 2020



Thousands of acres of NYS farmland owned by a foreign country

Source: AFIDA Database; Created by Wendong Zhang (Cornell) & Mykel Taylor (Auburn)

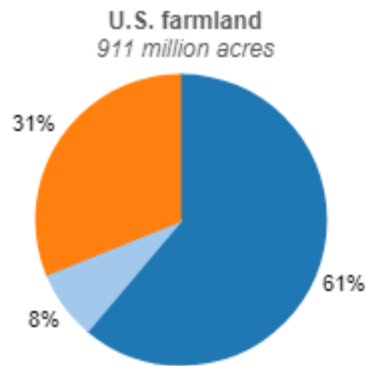


# Visualizing U.S. Farmland Ownership, Tenure, and Transition

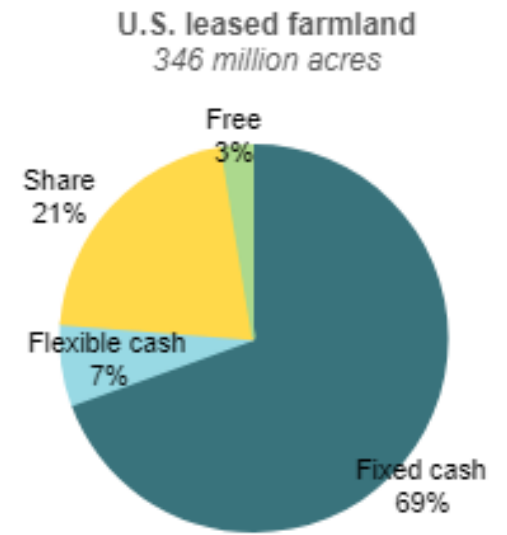
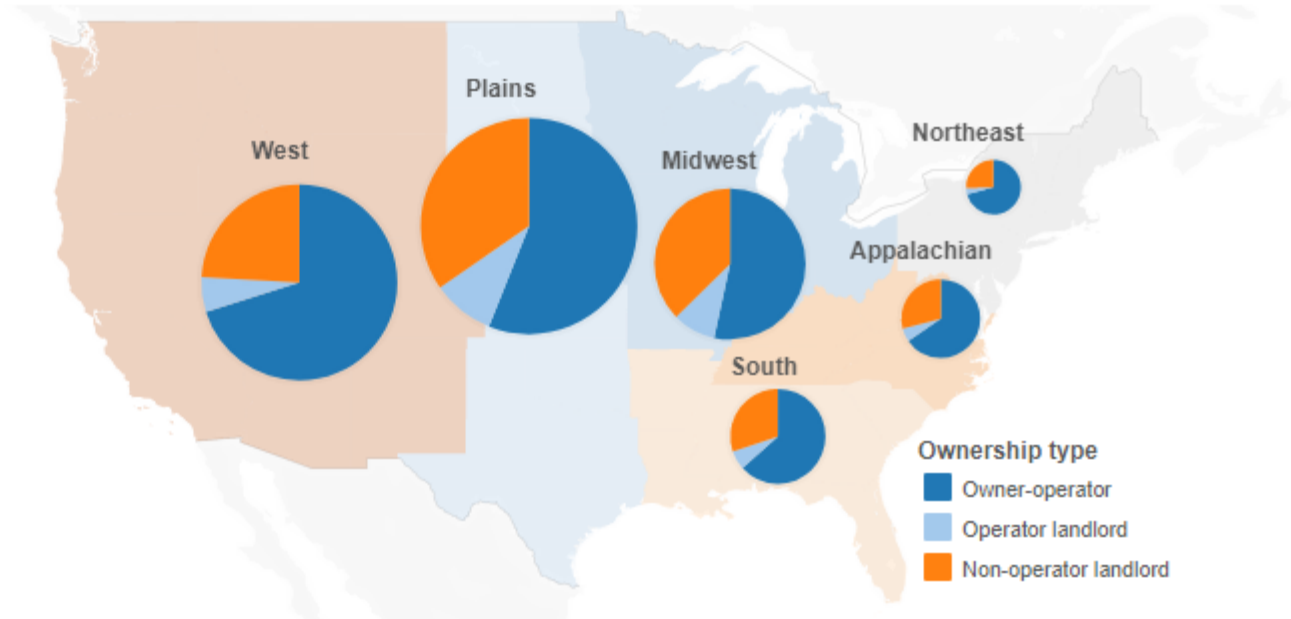
- Overview
- Who owns U.S. farmland?
- Non-operator landlords
- Leasing agricultural land
- Expected land transfers
- About the companion report

## Farmland ownership and rental

In 2014, 61 percent of U.S. farmland was operated by the landowner. Renting farmland is more common in the Midwest and Plains regions. Farmland ownership is concentrated among older operators and landlords, and male operators.



61 percent of U.S. farmland is owner-operated, or owned by its respective farm operator. Eighty percent of rented land (31 percent of all farmland) is owned by non-operator landlords.



## Northeast leased farmland

Fixed Cash: 71%  
Flexible Cash: 5%  
Crop Share: 5%  
Free: 19%

Note: Survey data on farmland ownership is available for the United States and 6 regions; summary statistics do not include Alaska and Hawaii. Rented land includes land that is subleased.

### Non-operator landlords are more likely to be of a relatively advanced age

Operators 55 and older account for nearly 80 percent of all owner-operated land; almost 70 percent of all farmland owned by non-operating landlords is owned by people who are 65 and older. Nearly 90 percent of owner-operated land is associated with a male principal operator; non-operator owned acreage is more equally divided by gender.

<https://www.ers.usda.gov/data-products/data-visualizations/other-visualizations/visualizing-us-farmland-ownership-tenure-and-transition/>



# Central NY Farmland Cash Rental Rate Survey Findings

- [https://dyson.cornell.edu/wp-content/uploads/sites/5/2021/09/EB-2021-02\\_Central-NY-Farmland-Cash-Rental-Rate-Survey-Findings-VD.pdf](https://dyson.cornell.edu/wp-content/uploads/sites/5/2021/09/EB-2021-02_Central-NY-Farmland-Cash-Rental-Rate-Survey-Findings-VD.pdf)

Jennifer Ifft and Nicole Tommell

**Table 1. Chenango County Results**

	Low	Medium	High
	Cropland		
Rental rate	\$31	\$68	\$105
Share of total cropland	28%	42%	30%
Average silage yield - tons/acre	13	18	24
	Pasture		
Rental rate	\$22	\$32	\$43

64 people responded to the survey, but only 56 provided information on their occupation. The majority were farmers, but many other groups were represented. Each respondent listed the counties they were familiar with, for a total of 80 county-level observations

# How to determine cropland rent – Iowa resource – Alejandro Plastina

Presentation: Cash Rent Consideration

<https://www2.econ.iastate.edu/faculty/plastina/presentations/Plastina-220210.pdf>

Information File and Excel Decision Tool on How to Compute a Cropland Cash Rent

<https://www.extension.iastate.edu/agdm/wholefarm/html/c2-20.html>

Farm Building Rental Rate Survey (2014)

<https://aglease101.org/wp-content/uploads/2020/10/NCFMEC-07.pdf>

Custom Rate Survey

<https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>

# Ongoing Collaborative Effort with the Northeast Chapter of ASFMRA to co-develop an annual Land Trends Report



American Society  
of Farm Managers  
& Rural Appraisers



## Region 1 - Cropland Cash Rent

County	Low	Average	High	Trend
Cottonwood	150-200	200-250	250-300	Slightly Lower
Jackson	165-225	225-250	250-300	Lower
Lac Qui Parle	150-175	175-200	200-240	Stable to Slightly Lower
Lincoln	140-165	165-200	200-250	Stable
Lyon	190-215	215-250	250-290	Stable
Murray	150-225	225-250	250-300	Slightly Lower
Nobles	160-215	215-265	265-300	Slightly Lower
Pipestone	190-210	210-240	240-265	Stable to Slightly Lower
Redwood	200-235	235-265	265-300	Stable to Slightly Higher
Rock	175-225	225-275	275-300	Stable to Slightly Lower
Yellow Medicine	145-200	200-250	250-290	Stable

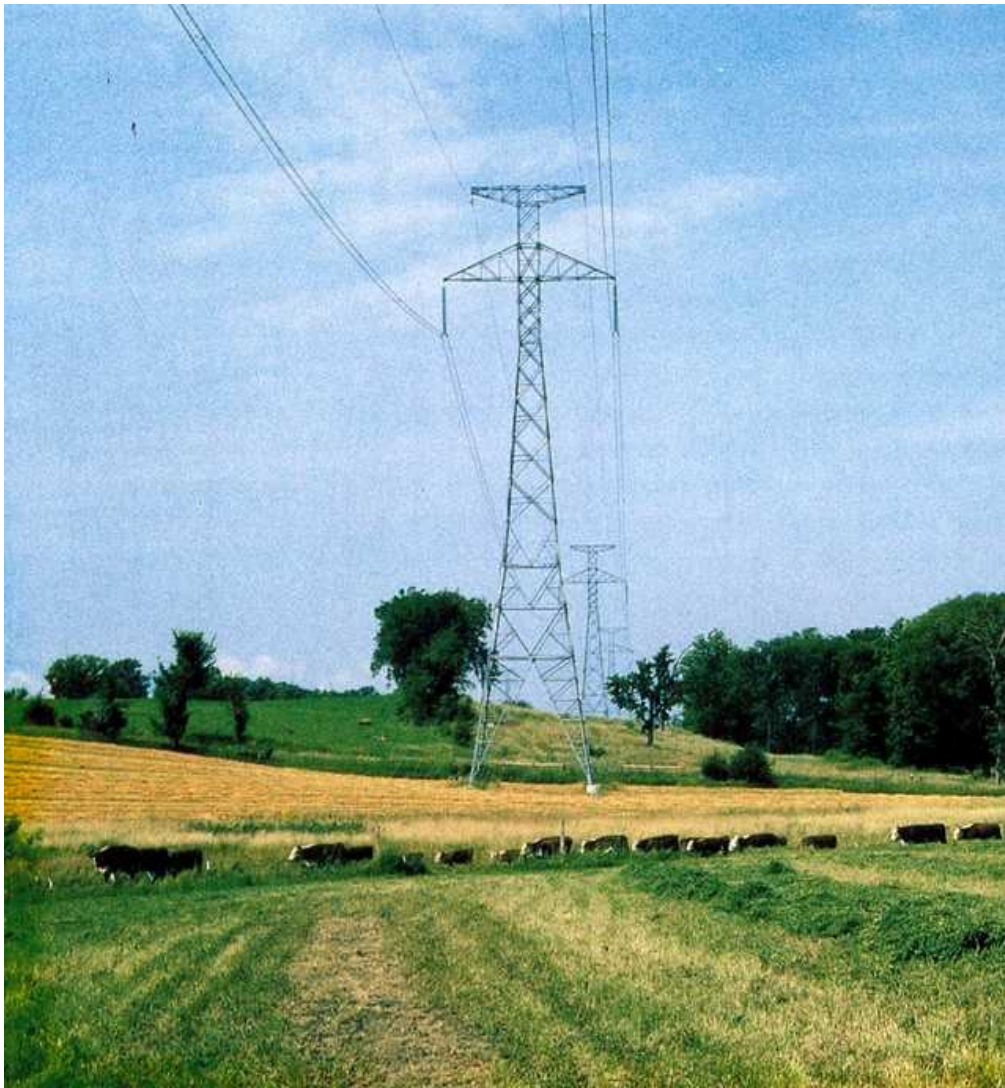
\*\*Cash Rents are indicative of land that is professionally managed by ASFMRA Chapter Members

## Region 1 - Cropland Sales (per tillable acre)

County	*Qualified	Low	High	Mean	Median	Sales Activity	Value Trend
	Sales						
Cottonwood	9	\$5,375	\$8,250	\$7,000	\$6,975	Lower	Slightly Lower
Jackson	19	\$4,000	\$8,850	\$7,000	\$7,200	Higher	Stable to Slightly Higher
Lac Qui Parle	13	\$4,000	\$7,000	\$5,220	\$5,050	Lower	Slightly Lower
Lincoln	20	\$2,500	\$8,500	\$5,650	\$6,000	Higher	Higher
Lyon	20	\$4,000	\$8,500	\$6,375	\$6,275	Slightly Higher	Stable
Murray	8	\$2,600	\$7,425	\$6,500	\$5,500	Lower	Lower
Nobles	25	\$4,625	\$12,200	\$7,550	\$7,650	Steady	Stable
Pipestone	14	\$4,700	\$10,000	\$7,325	\$7,200	Steady	Higher
Redwood	23	\$4,575	\$8,675	\$7,200	\$7,200	Higher	Stable
Rock	17	\$5,200	\$13,700	\$9,750	\$9,900	Steady	Stable to Slightly Higher
Yellow Medicine	19	\$4,200	\$7,525	\$5,850	\$5,800	Slightly Lower	Stable

\*Qualified Sales are subjective to the Regional Contributors





**Source:** MINN Post (2020)

<https://www.minnpost.com/mnopedia/2020/02/in-the-1970s-some-minnesota-farmers-were-very-upset-about-a-plan-to-route-power-lines-across-their-fields/>



**Source:** Green Tech Media (2020)

<https://www.greentechmedia.com/articles/read/midwest-grid-operators-seek-to-unlock-clean-energy-transmission-on-the-seam>



**Source:** University of Nebraska-Lincoln (2017)

<https://cropwatch.unl.edu/2017/look-avoid-power-line-deaths-harvest>



# Results: Baseline

Farmland Values	
Dependent variable	log of price
Sample	Pooled sample
Distance to TMLs	-0.0099*** (0.0008)
Gross acres	-0.0565*** (0.0070)
Gross acres <sup>2</sup>	0.0005*** (0.0002)
Land percentage tillable	0.2131*** (0.0127)
Average NCCPI for agriculture	0.8483*** (0.0306)
% of Prime farmland	0.0440** (0.0180)
Soil texture: % of clay	0.3476*** (0.1016)
Soil texture: % of silt	-0.1447 (0.1183)
Soil texture: % of loam	-0.0193 (0.0178)
Average land slope	0.0025*** (0.0006)
Population in Urban Areas	0.0070*** (0.0004)
Distance to highway	-0.1330*** (0.0118)
Distance to railway	-0.0583*** (0.0047)
Distance to waterbody	0.0905*** (0.0151)
Distance to biodiesel	-0.0184*** (0.0008)
Distance to Grain Warehouse	-0.0427*** (0.0035)
County FE	YES
Year FE	YES
No. of Observations	18580
Adj. R-sq	0.423

**Premium:** Farmland value decreases by 0.99% every one kilometer further away from the TMLs.

**Disamenity:** Housing price increases 1.21% every one kilometer away from the TMLs.

House Prices	
Dependent variable	log of price
Sample	Pooled sample
Distance to TMLs	0.0121*** (0.0037)
Age	-0.0065*** (0.0007)
Age <sup>2</sup>	0.0000* (0.0000)
No. of stories	0.0569** (0.0283)
No. of total rooms	0.0259*** (0.0035)
No. of total bedrooms	0.0139** (0.0069)
No. of full bath	0.2443*** (0.0114)
Distance to hospital	-0.0055*** (0.0010)
Distance to school	0.0129*** (0.0022)
Distance to university	-0.0052*** (0.0007)
County FE	YES
Year-Quarter FE	YES
No. of Observations	919521
Adj. R-sq	0.300

ABASHIDZE, NINO. Essays on Economic and Health Effects of Land Use Externalities. (Under the direction of Dr. Harrison Fell).

frequently. Furthermore, there appears to be no empirical research that quantifies the effect of ground-level solar installations on local property values. In the first essay of my dissertation, I examine the effect of utility-scale, ground-level solar systems on agricultural land values. Agricultural transactions data are spatially linked to data on solar farm installations and are analyzed in a hedonic framework. The results provide no evidence that the construction of a solar farm creates any positive or negative spillover effects on nearby agricultural land values through either production process channels or changes in aesthetic views of the land. However, the estimates suggest that landowners value being in close proximity to transmission infrastructure after a solar farm is built in the area. This suggests that the solar farm construction in the area signals suitability of the land for solar development and thus increasing the option value of the land.

# NINO ABASHIDZE

## Postdoctoral Research Associate

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Natural Resources  
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Wendiam Patrick McCracken Sawadgo



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Phone: (334) 844-3538

[Auburn University](#)

[Alabama Cooperative Extension System](#)

# What drives landowners' conservation decisions? Evidence from Iowa

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**Abstract:** Conservation practices such as no-till and cover crops have been shown to have on- and off-farm benefits. However, when benefits of a practice do not go to the provider, underinvestment may occur. Farmland rental arrangements where tenants may not reap the benefits of conservation investments are a commonly cited barrier to conservation practice adoption in agriculture and may result in lower adoption rates on rented land than on owner-operated fields. This issue is especially important since more than half of Midwestern farmland is rented out. This article examines the factors driving adoption of four key conservation practices—no-till, cover crops, buffer strips, and ponds/sediment basins—using a statistically representative survey of Iowa landowners. We find evidence supporting the hypothesis that adoption is lower on rented land for cover crops, buffer strips, and sediment basins, but not for no-till. Our results also show that the large proportion of the state's land owned by nonoperating landowners and absentee landowners could present a barrier to increasing adoption of conservation practices. Furthermore, landowners seem open to increasing the use of cover crops in the immediate future, and a sizable number are even willing to incentivize tenants by paying for part of the cover crop planting cost. Finally, almost half of landowners would be willing to increase the area of their land under conservation practices if they could receive conservation-related tax credits or deductions, suggesting a potential policy strategy to increase adoption.

**Key words:** absentee landowners—conservation practice—cover crops—land tenure—non-operating landowners—no-till

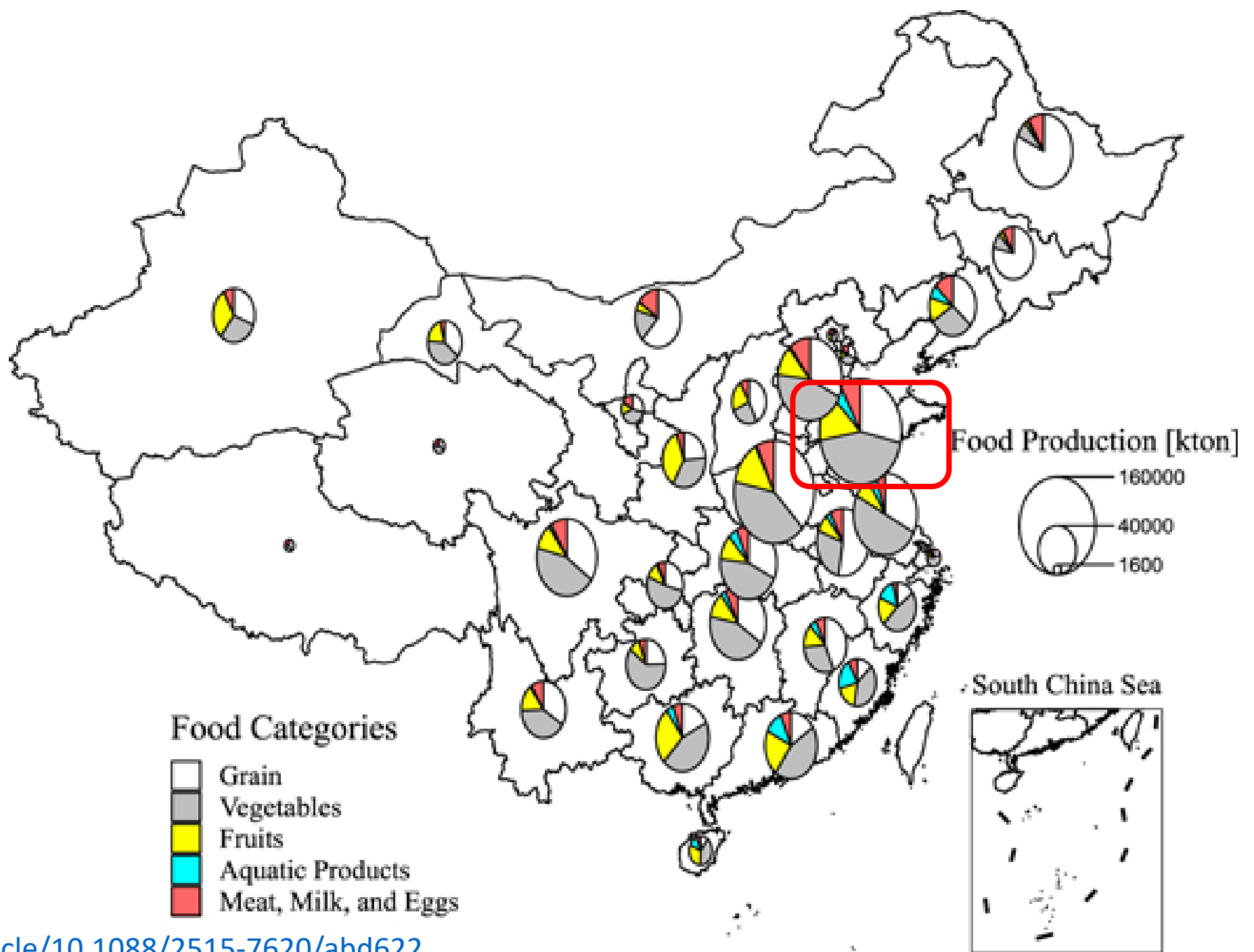


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# Extension Work on Conservation

## Voices of Iowa Women Landowners on Conservation

PUBLISHED  
6/15/2022

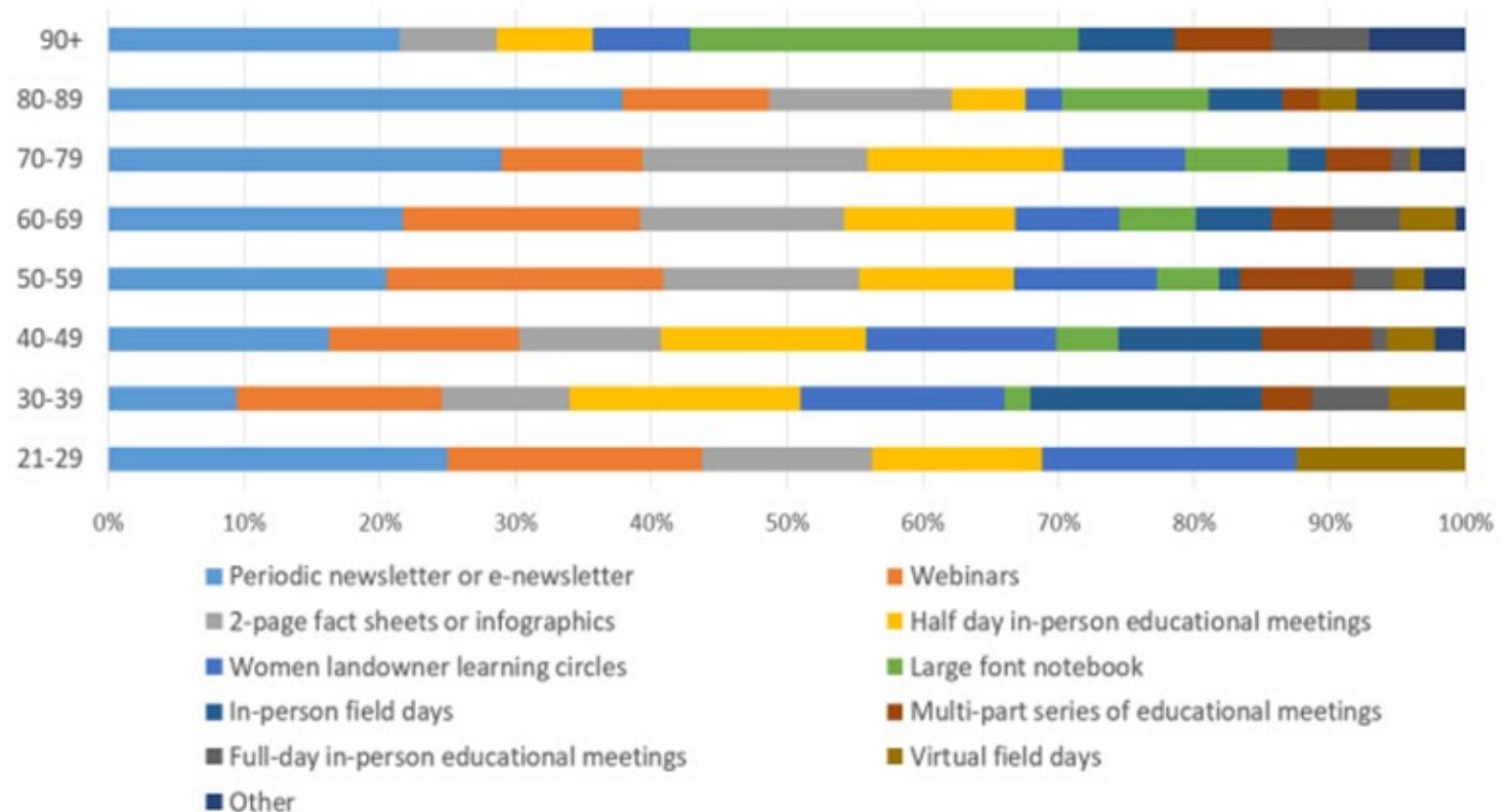


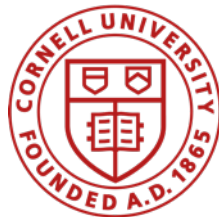
Figure 2. Women landowners' preferred methods to receive information and educational programming by age group.

# Thank you!

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