

2. Kansas Ag Land Values Update

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Mykel Taylor joined the Department of Agricultural Economics as an Assistant Professor in 2011. Her research and extension programs are focused in the areas of crop marketing and farm management. She grew up on a cattle ranch in Montana and attended Montana State University majoring in Agribusiness Management. Her PhD in Economics is from North Carolina State University. Mykel has worked in extension positions at both Kansas State University and Washington State University. Some of her current research areas include measuring basis risk for commodity grains, understanding the implications of food safety and country of origin labeling on meat demand, and estimating land values for crop and pasture land in Kansas.

Abstract/Summary

This presentation covers recent information on the land market in Kansas, trends in rental rates, and discusses where land values and rental rates might be headed in the near future.

Kansas Agricultural Land Values

Mykel Taylor

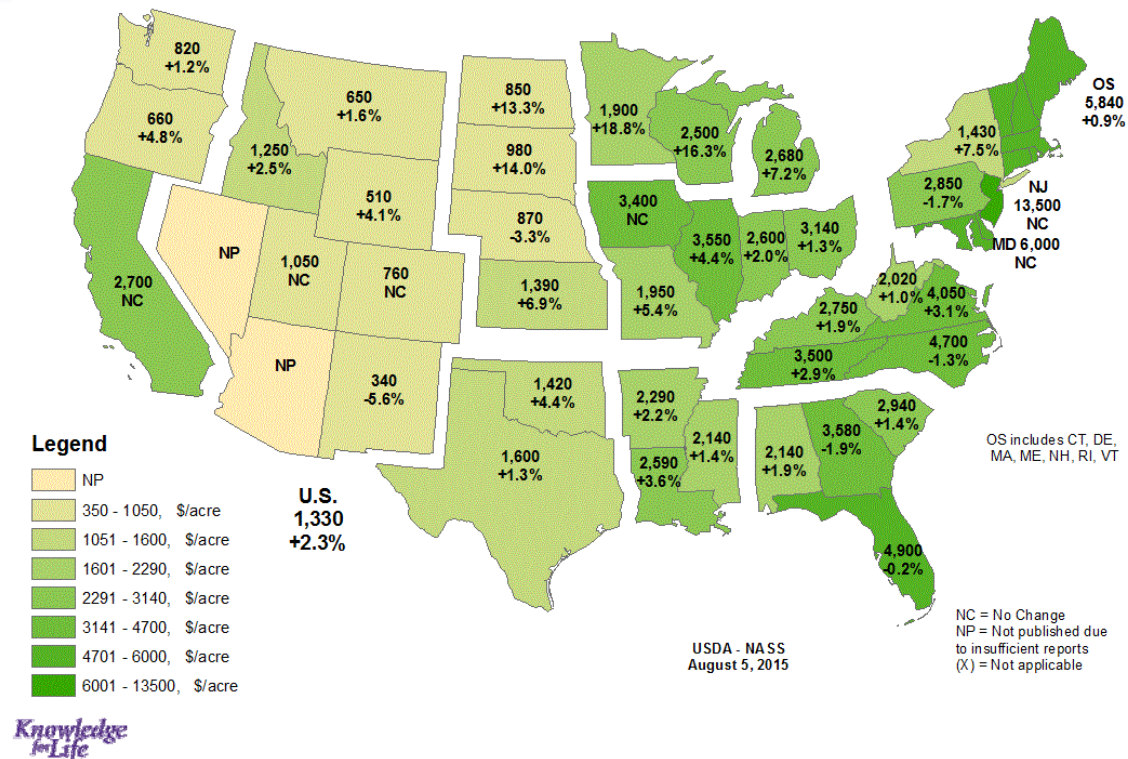
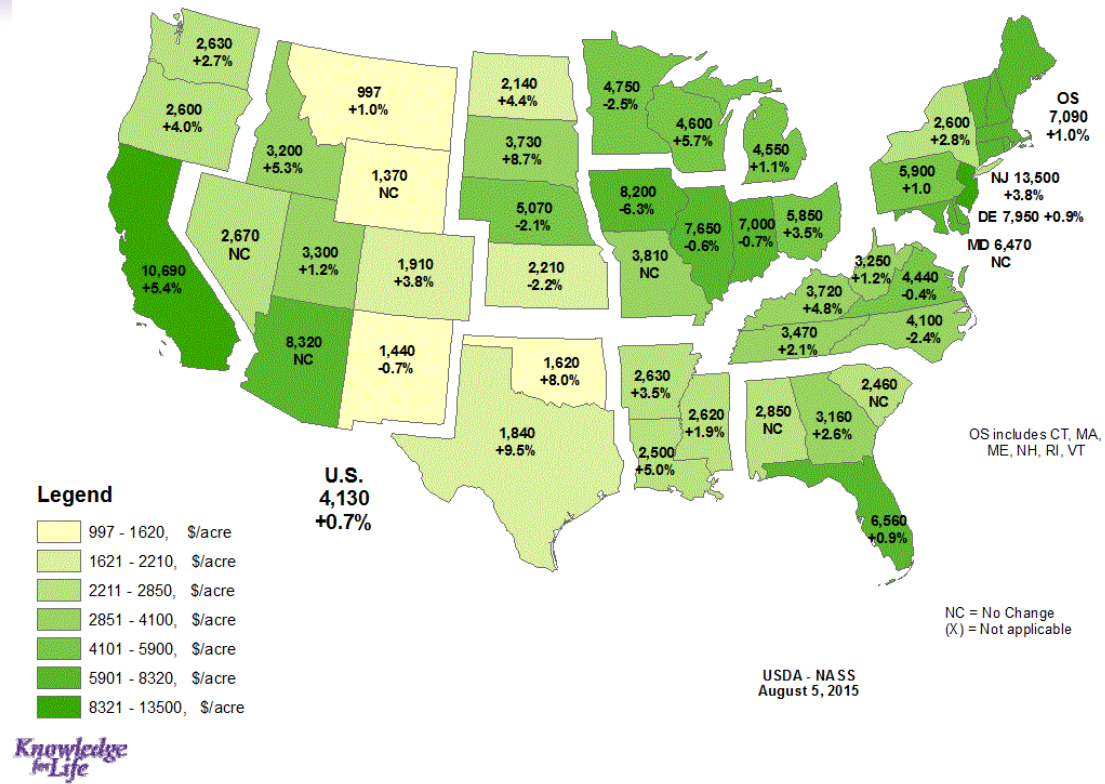
Department of Agricultural Economics

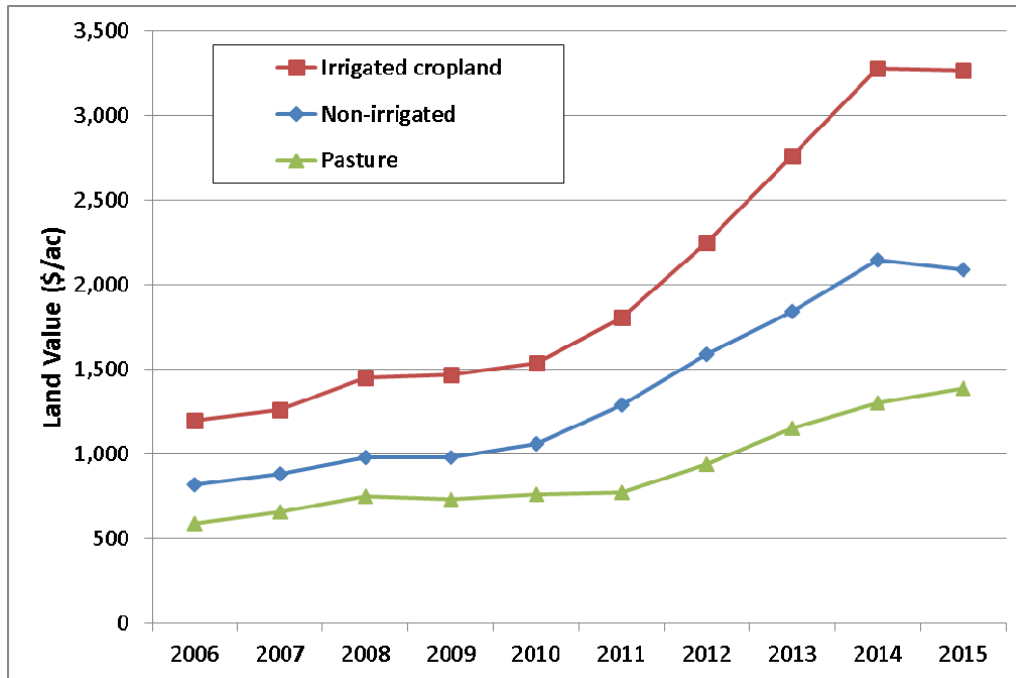
Risk and Profit Conference
Manhattan, KS
August 20-21, 2015



AG LAND VALUE SURVEYS

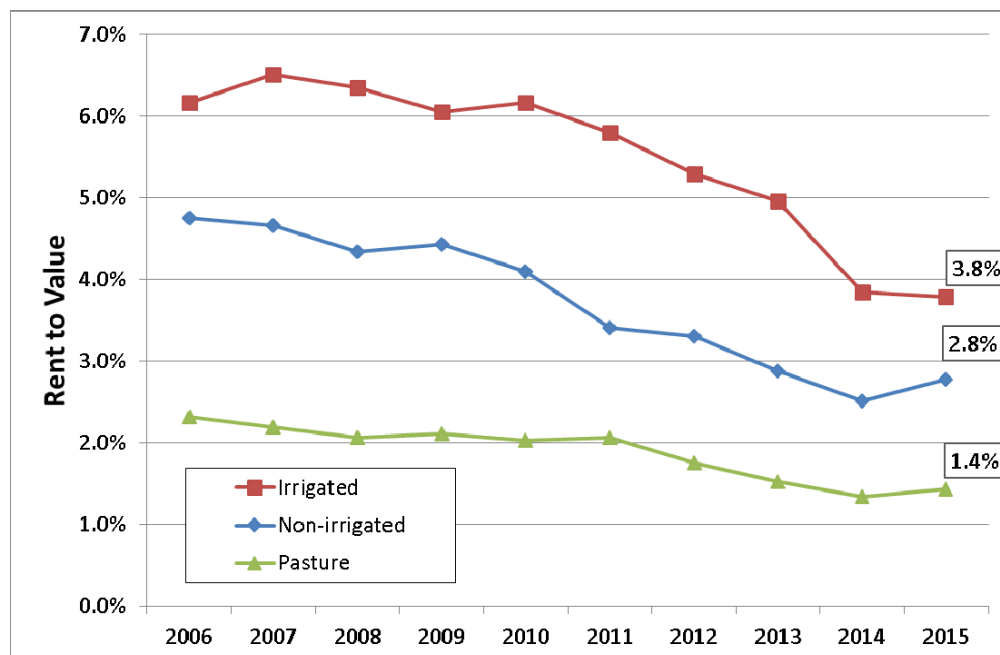






Source: USDA-NASS

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Source: USDA-NASS

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MARKET-BASED LAND VALUES



- Source for market transaction data
 - Property Valuation Department, Topeka
- 2010-14 sales data
 - County location
 - Acres in sale
 - Mixture of irrigated, non-irrigated and pasture
 - Soil types found on parcel
 - Enrollment in government set-asides
 - Value of improvements



- Data were 'cleaned' to remove outliers
 - Removed parcels under 40 acres
 - Bare land sales only (no houses)
 - Arm's length sales only
- Other aspects of data
 - Wyandotte and Johnson counties not in dataset
 - Soil type data used to create a productivity measure (AUM capacity)



2014	Average
Acres in Sale, 2014	229.7
CRP Contracts, 2014	1.80%
Sales Per County, 2014	15.0
All Years	
Total Sales Transactions:	8,743
2014	17.8%
2013	16.1%
2012	19.3%
2011	20.5%
2010	26.3%



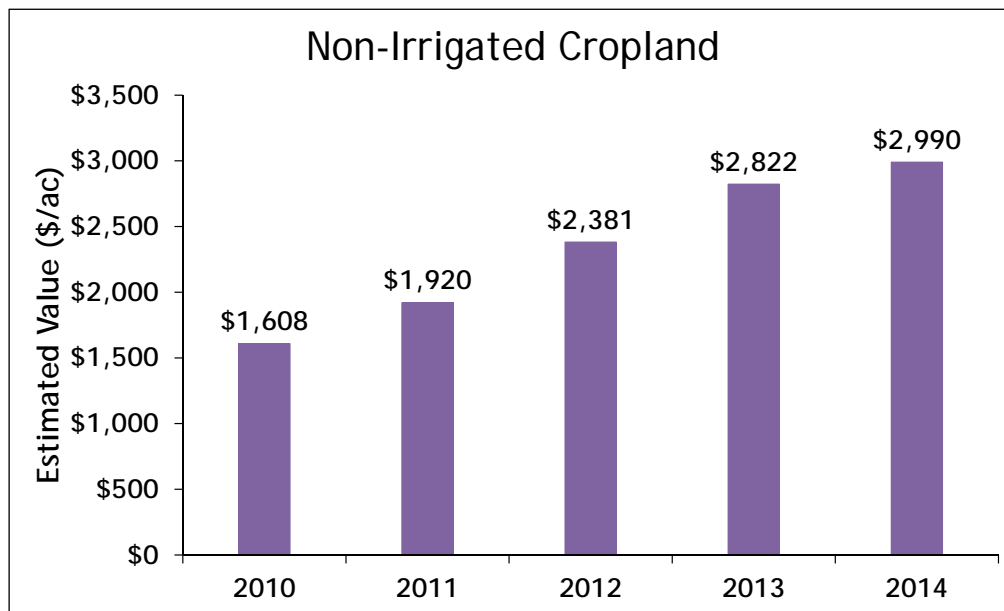
Land Type	Average \$/ac	% of All Transactions
Non-Irrigated	\$2,833	54.7%
Irrigated	\$3,478	4.9%
Pasture	\$1,991	40.4%
All Cropland and Pasture	\$2,524	100%

Land Type	2014 Data Sample Average \$/ac	2014 USDA- NASS \$/ac
Non-Irrigated	\$2,833	\$2,150
Irrigated	\$3,478	\$3,280
Pasture	\$1,991	\$1,300

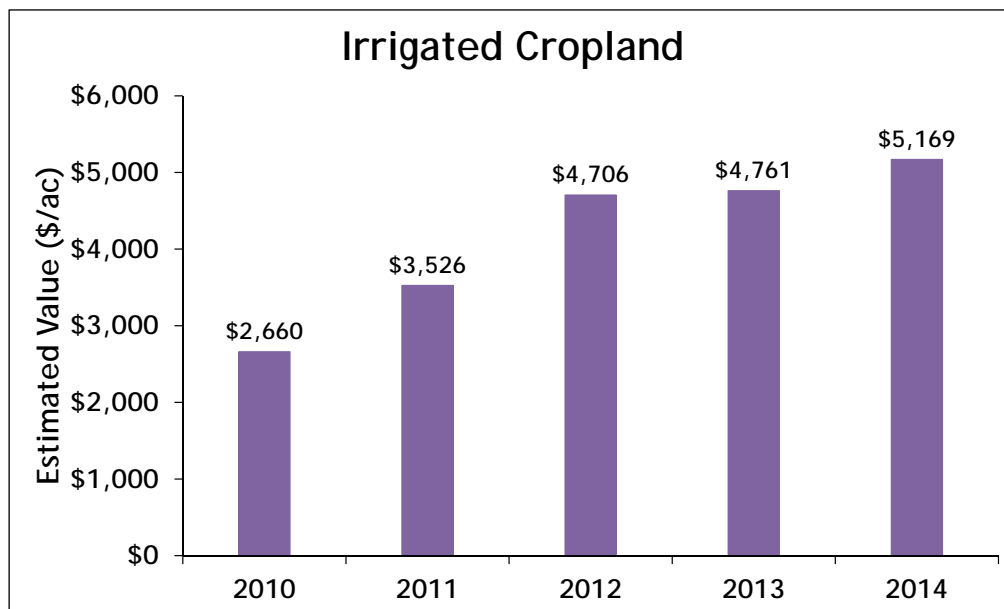
- Use of a regression model to estimate land values
 - Alternative to summary statistics (average, range)
 - Accounts for variability in land found in sample

- Allows specification of unique characteristics of land parcels
 - Location (rain fall, taxes, proximity to development)
 - Parcel size, size squared
 - Productivity by soil type (AUM)
 - Land type (dryland, irrigated, pasture)
 - When the sale occurs (year, quarter)
 - CRP enrollment

LAND MODEL RESULTS

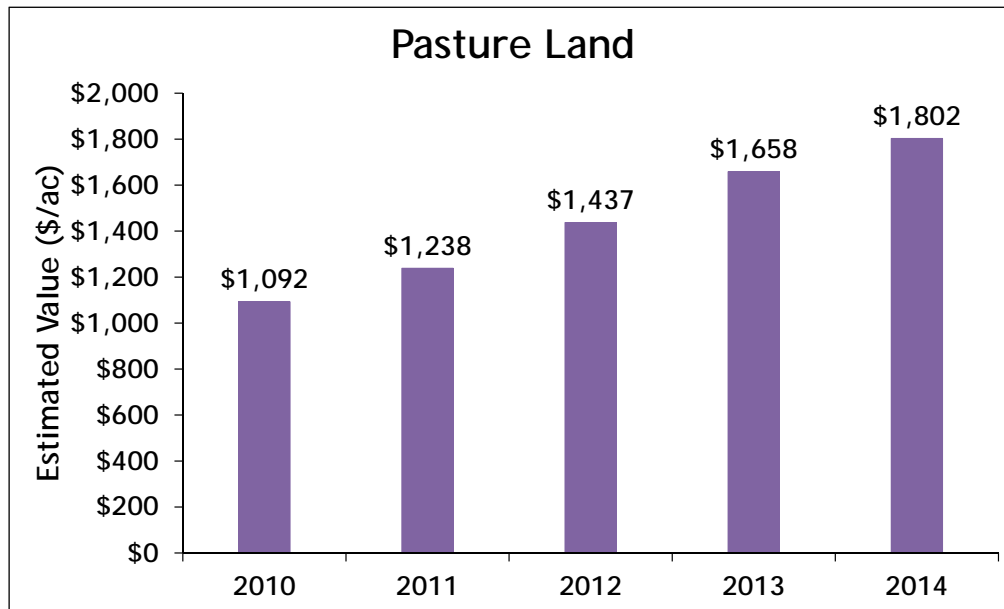


Source: Taylor, 2015



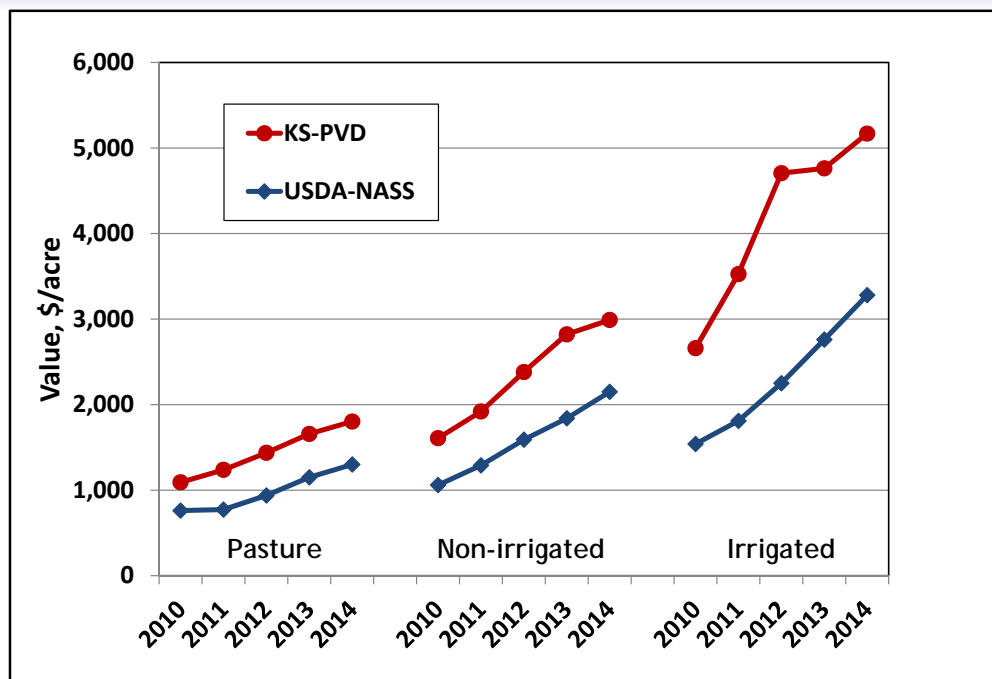
Source: Taylor, 2015





Source: Taylor, 2015

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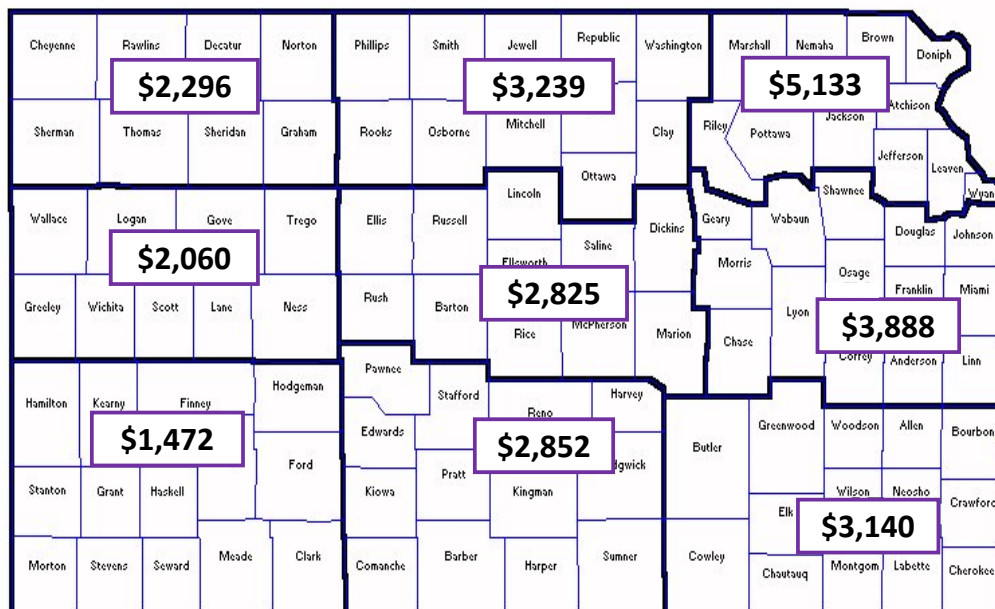


Source: Taylor, 2015

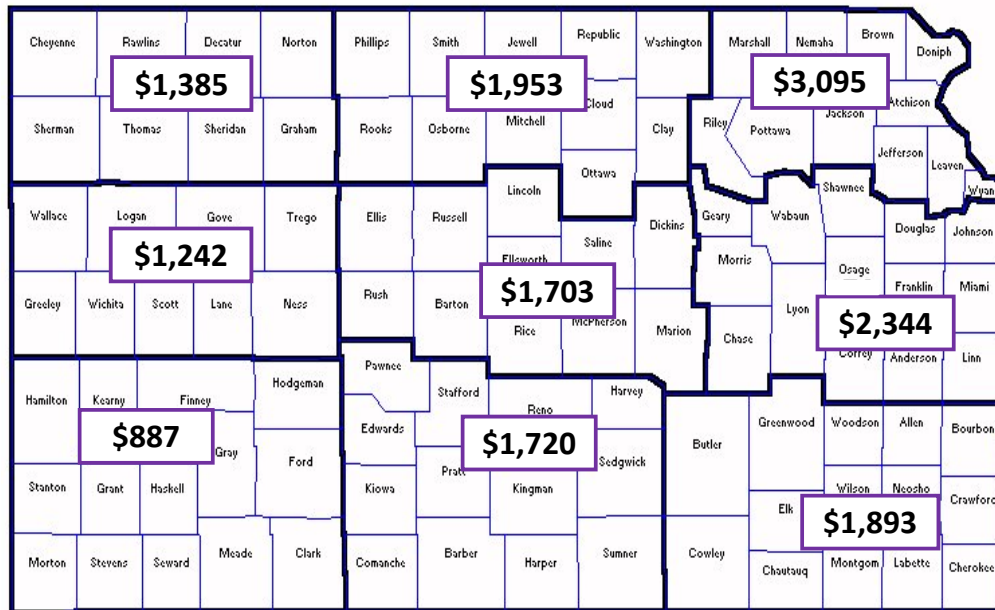
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Year	Non-Irrigated	Irrigated	Pasture
	<u>Annual % Change in Value</u>		
2010-11	19%	33%	13%
2011-12	24%	34%	16%
2012-13	19%	1%	15%
2013-14	6%	9%	9%

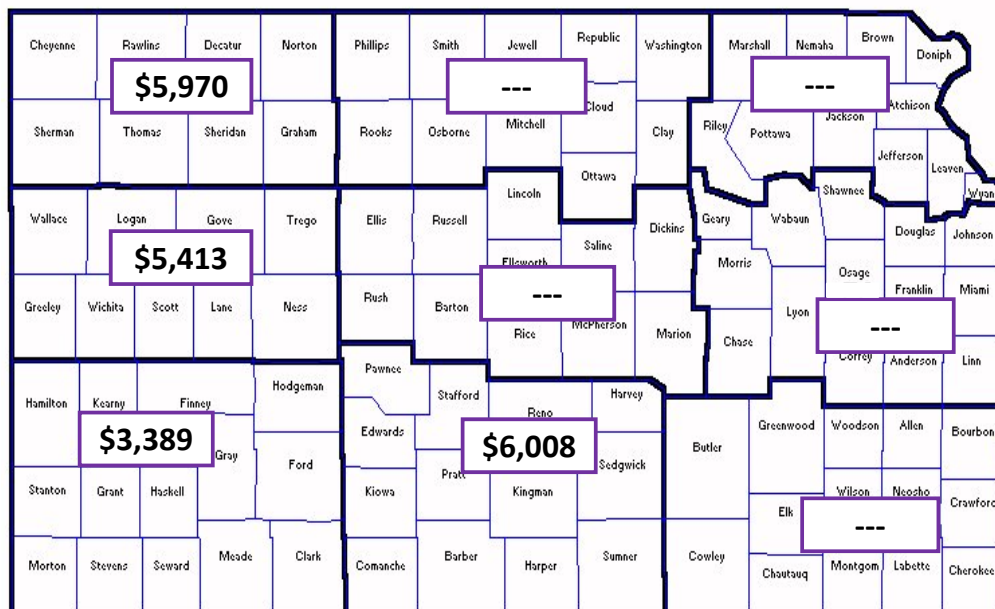
2014 Non-Irrigated Land Values



2014 Pasture Land Values

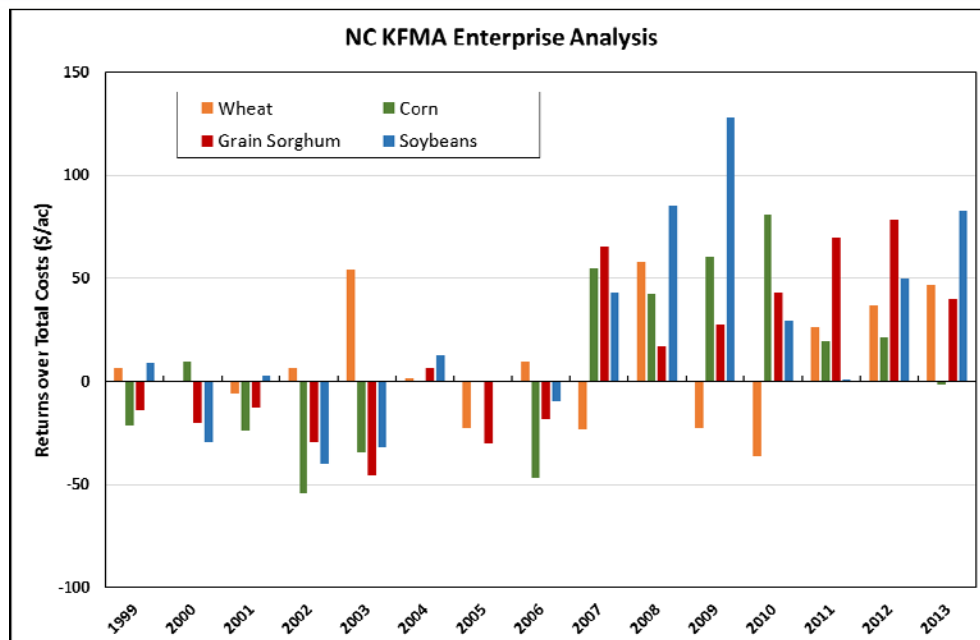


2014 Irrigated Land Values

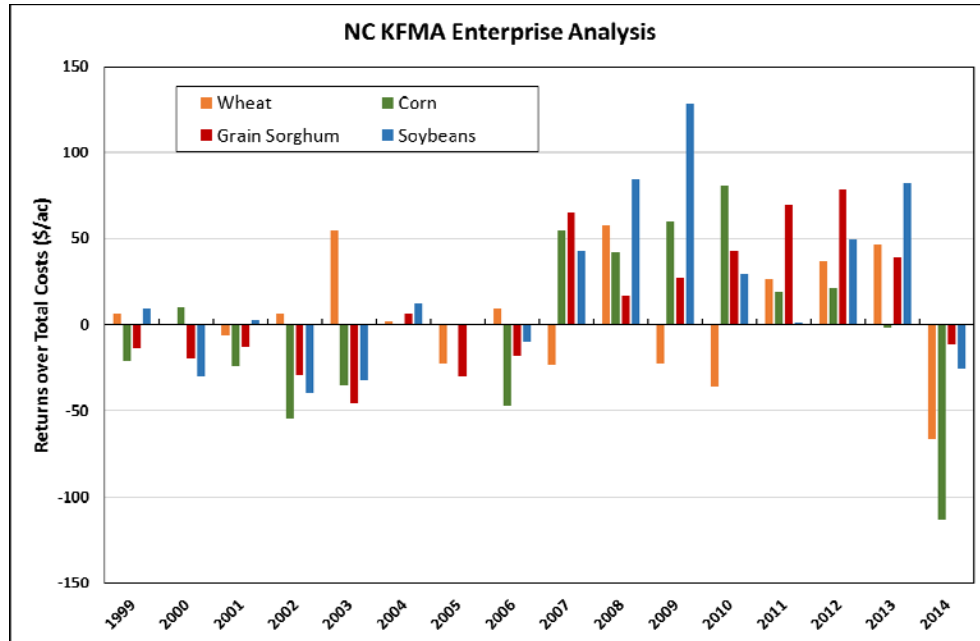


RENTS AND NET FARM INCOME

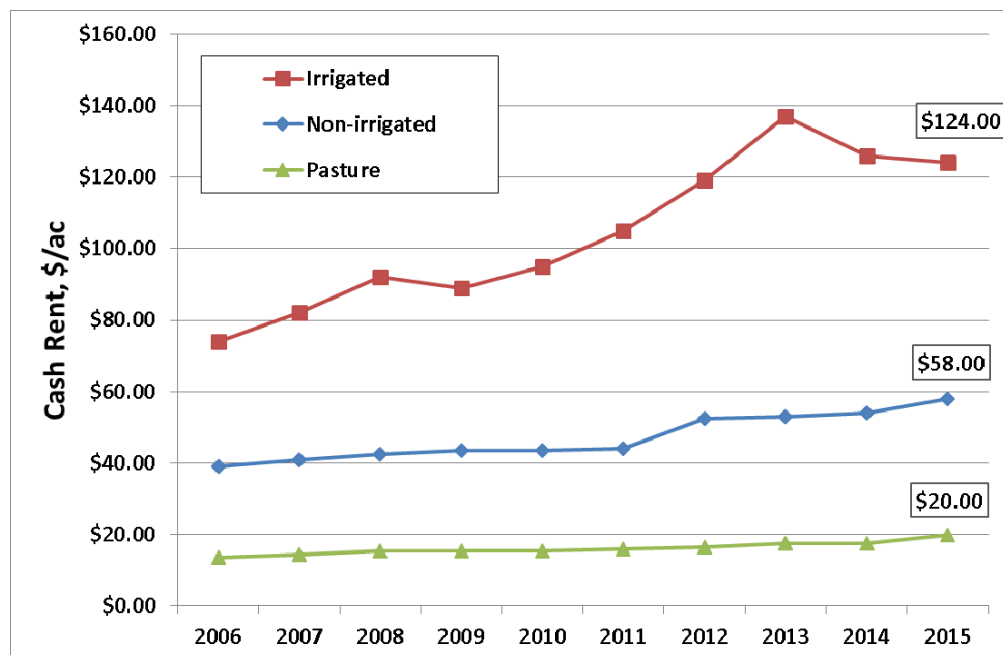
Returns to Farming



Source: KS Farm Management Association



Source: KS Farm Management Association



Source: USDA-NASS

- Survey results tend to lag market due to
 - Survey reflect average rents paid (masks quality differences)
 - Doesn't consider when the rental rates were negotiated
 - May include non-market activities
- Are there alternatives to the USDA-KASS survey?

- Another way to obtain an estimate of cash rental rates for cropland
 - Budgeting approach that reflects *expected* returns to farming
 - Marginal rental rate versus average rental rate
- Calculate crop share revenues based on long-term profit expectation and apply a risk premium

- Crop share revenues
 - Used predicted crop share % obtained by budgets using current inputs costs and production practices
 - County-level yields from a 20 year trend
 - Expected cash prices from futures and local basis
 - Adjust expected revenues down by 15% risk premium
- Biggest different between 2014 and 2015 cash rent projections...

- Expected crop prices dropped significantly between 2014 and 2015

Year	Expected Prices (\$/bu)			
	Wheat	Corn	Soybeans	Grain Sorghum
2014	6.61	4.60	10.70	4.35
2015	5.79	4.09	9.30	3.94
\$ change	-0.82	-0.51	-1.40	-0.41

Note: Prices are the average price of harvest futures contracts in preceding November

Non-Irrigated Rental Rates

Region	2014 KSU (\$/ac)	2015 KSU (\$/ac)	Change in Rent (%)
Northwest	70.90	38.75	-45.3
West Central	65.51	30.18	-53.9
Southwest	57.29	22.03	-61.5
North Central	102.55	69.31	-32.4
Central	86.27	53.79	-37.6
South Central	69.29	42.61	-38.5
Northeast	167.65	119.50	-28.7
East Central	103.84	63.84	-38.5
Southeast	55.83	31.64	-43.3

Source: Taylor, 2015



Irrigated Rental Rates

Region	2014 KSU (\$/ac)	2015 KSU (\$/ac)	Change in Rent (%)
Northwest	179.13	112.75	-37.1
West Central	141.00	81.00	-42.6
Southwest	139.54	71.62	-48.7
North Central	239.88	167.13	-30.3
Central	183.20	114.20	-37.7
South Central	147.64	77.45	-47.5

Note: Estimated values reflect tenant-owned pivot

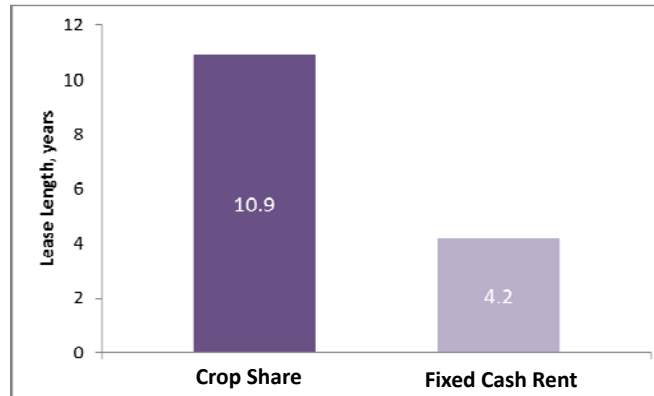
Source: Taylor and Tsoodle, 2015



- Has every farmer dropped their cash rents for 2015?
- Answer: no

- Residual cash from better revenue years will allow farmers to be competitive a little longer
 - Neighbors with more carry-over cash will keep bids high
 - But adjustments will occur if commodity prices remain low

- Contracts length in Kansas averages 3 to 5 years
 - Farmers are locked in for the short run
 - Adjustments will be made as the contracts are renewed

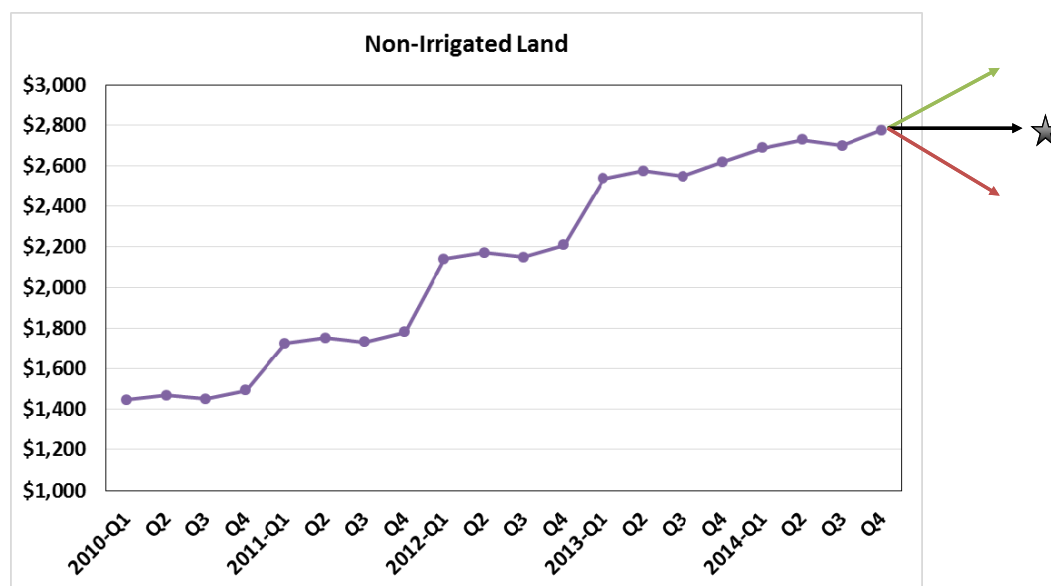


Source: KS Farm Management Association

SUMMARY LAND VALUES & RENTS

- Land values are up for 2014, but rate of growth has slowed for all land types
- Appears to be reflecting 2014 net farm income and expected income for 2015
- Are we headed for a big drop in land values?
 - Not likely, due to continued low interest rates
 - Would also need a large increase in supply of land on market to see a repeat of 80's decline in values

Non-Irrigated Land Values



Kansas Agricultural Land Values

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- 2014 Kansas Agricultural Land Values
http://www.agmanager.info/farmmgmt/land/county/CountyValues_April_2015.pdf
- 2014/15 Rental Rates for Non-Irrigated Cropland
[http://www.agmanager.info/farmmgmt/land/county/CountyNon-irrigatedRents\(Jan2015\).pdf](http://www.agmanager.info/farmmgmt/land/county/CountyNon-irrigatedRents(Jan2015).pdf)
- 2014/15 Rental Rates for Irrigated Cropland
http://www.agmanager.info/farmmgmt/land/county/CountyIrrigatedRents_Feb-2015.pdf

LAND RESOURCES



- New mapping program from UM
- Business Environmental Risk Management
 - <http://ims.missouri.edu/berm/>



BERM
Business Environmental Risk Management
Information for Managing the Effect of Agriculture on the Environment

BERM Analysis Area Selection

Select your location, then click the **Make Map** button to proceed.

SELECT LOCATION CATEGORY:

County
Township/Range/Section
Zip Code

Make Map

Select a County:

Adair

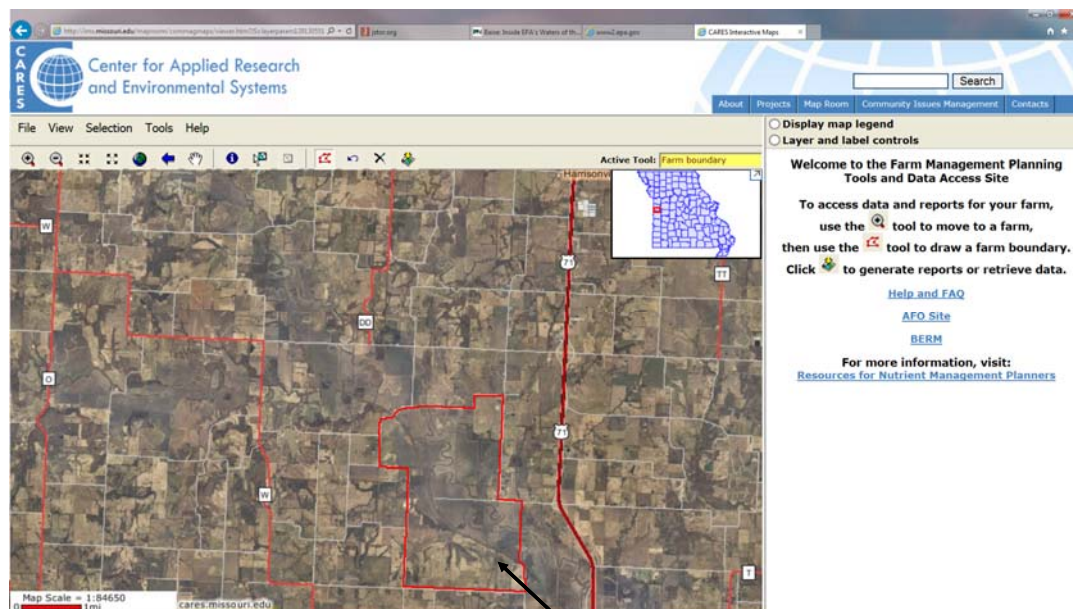
Select county

For more information contact Ray Massey at the Commercial Agriculture Program
This website hosted by the Center for Applied Research and Environmental Systems (CARES)

CARES | about CARES | projects | map room

U UNIVERSITY OF MISSOURI - COLUMBIA

Center for Applied Research and Environmental Systems
(573) 882-7458 | 130 Mumford Hall, Columbia, MO 65211
Division of Applied Social Sciences, College of Agriculture, Food and Natural Resources



Select farm

BERM

Business Environmental Risk Management

BERM Analysis Report

Geographic Summary

Analysis Area: 1,775.9 Acres **Legal Description (Central Section):** Sec. 15, T35N, R27W, 5th PM
County(s): Cedar **Latitude/Longitude (Center of Map):** 37° 48' 7.3" N 93° 53' 54.5" W
Latitude/Longitude (Decimal): 37.8020 N -93.8929 W

Hydrologic Summary

Streams: [LEARN MORE](#)

Total Stream (ft)	Perennial (ft)	Intermittent (ft)	Canal or Ditch (ft)	Other Stream (ft)
49,093.4	0.0	0.0	0.0	49,093.4

Rivers, Ponds and Lakes: [LEARN MORE](#)

Total Water Acres	River Acres	Pond / Lake Acres	Swamp Acres	Other Water Acres
49.4	44.2	5.3	0.0	0.0

Wetlands: [LEARN MORE](#)

Description	Acres
Inland Forested Wetland	95.4
Inland Herbaceous Wetland	6.0

USDA-NRCS 12-Digit Hydrologic Units: [LEARN MORE](#)

HU ID	HU Name	On Farm Acreage	Total HU Acreage
102901060905	Cedar Creek	1,697.2	21,939
102901060904	Adler Creek	78.7	24,541

Community Concerns Summary [LEARN MORE](#)

Population Within 5 Miles:

Total Persons	Persons per Square Mile
850	10.8

Community Sites Within 5 Miles:

Incorporated Areas	Parks (Public Lands)	Schools	Enrollment	Churches
None	1) Monegaw Prairie Conservation Area	0	0	5

Environmental Concerns Summary

Wells Within 1 Mile: [LEARN MORE](#)

Public Wells	Private Wells
0	5

2006 303(d) List Impaired Water Bodies in Analysis Area 12-Digit Hydrologic Units: [LEARN MORE](#)
(The Clean Water Act section 303 requires states to develop lists of impaired waters, called the 303(d) list, and develop TMDLs for these waters. Listed waters are targeted for clean-up programs.)

Water Body	Pollutant	Source	TMDL
No 303(d) listed water bodies in the evaluation area hydrologic units.			

303 (d) List Impaired Water Bodies in Downstream 12-Digit Hydrologic Units:

Water Body	Pollutant	Source	Priority	TMDL
No 303(d) listed water bodies in downstream hydrologic units.				

Restricted Pesticide Use Areas and Species: [LEARN MORE](#)

(If you farm in a restricted pesticide use area, setbacks for the restricted pesticides apply. The setbacks range from 20 yards to 1/4 mile from the edge of caverns, sinkholes, and surface waters.)

Species	Location	Restricted Pesticides	Restrictions
None			

Karst Features: [LEARN MORE](#)

(The information for land with soil types prone to karst features is only available in selected areas. Click for karst prone soils availability map)

KNOWN Sink Holes Acres in Karst Prone Soils

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Floodplain:

(The available data for floodplain features is incomplete. Click for data availability map)

Acres in 100-Year Floodplain	Additional Acres in 500-Year Floodplain	Acres in Excluded Areas
0.0	0.0	0.0

Warning: The entire analysis area is outside floodplain mapping area

Critical Watersheds: [LEARN MORE](#)

Public Water Supply	Outstanding National Resource Waters
Henry Co. PWS #2 - Truman Reservoir	None

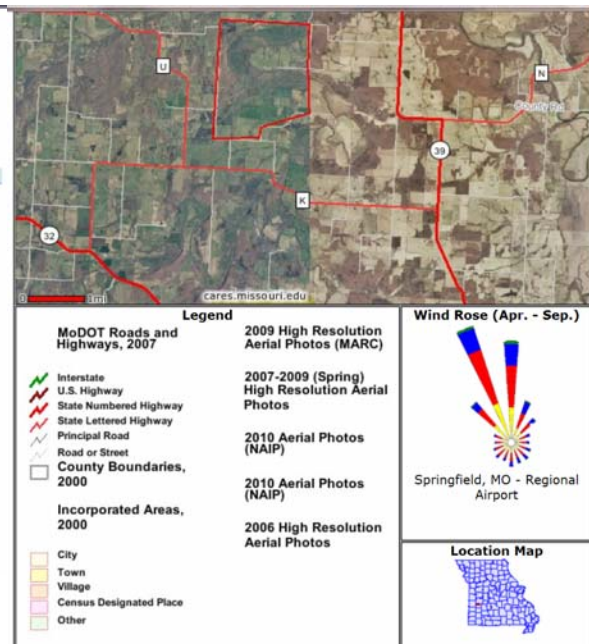
Environmental Concerns Summary - Continued

Slope Classification: [LEARN MORE](#)

Slope Category	Description	Acres	Percent of Area
0% to 3% Slope	Prime Farm Land, Suitable for Land Application	618.0	34.8 %
3% to 6% Slope	Suitable Farm Land, Suitable for Land Application	568.4	32.0 %
6% to 10% Slope	Marginal for Land Application	408.1	23.0 %
10% to 15% Slope	Land Application of Manure not Allowed	123.2	6.9 %
15% or Greater Slope	Unsuitable for Agriculture	57.6	3.2 %

Soils:

Map Unit	Name	Acres	Percent of Area	Hydrologic Group (Dominant Condition)
40004	Barden loam, 2 to 5 percent slopes	54.7	3.1 %	C
40000	Barden silt loam, 1 to 3 percent slopes	1.6	0.1 %	C
70000	Bona gravelly silt loam, 3 to 8 percent slopes	167.3	9.4 %	B
70001	Bona gravelly silt loam, 8 to 15 percent slopes	23.8	1.3 %	B
71750	Cleora fine sandy loam, 0 to 2 percent slopes, frequently flooded	0.0	0.0 %	B
70054	Cliquot gravelly loam, 3 to 20 percent slopes, very stony	15.9	0.9 %	C
70007	Cliquot gravelly loam, 8 to 15 percent slopes	17.1	1.0 %	C
70040	Cliquot-Bolivar complex, 3 to 8 percent slopes	117.3	6.6 %	C
70053	Courtois silt loam, 2 to 5 percent slopes	52.8	3.0 %	C
70008	Goss gravelly silt loam, 3 to 8 percent slopes	128.5	7.2 %	C



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