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Kansas Agricultural Land Rental Rates and Land Values

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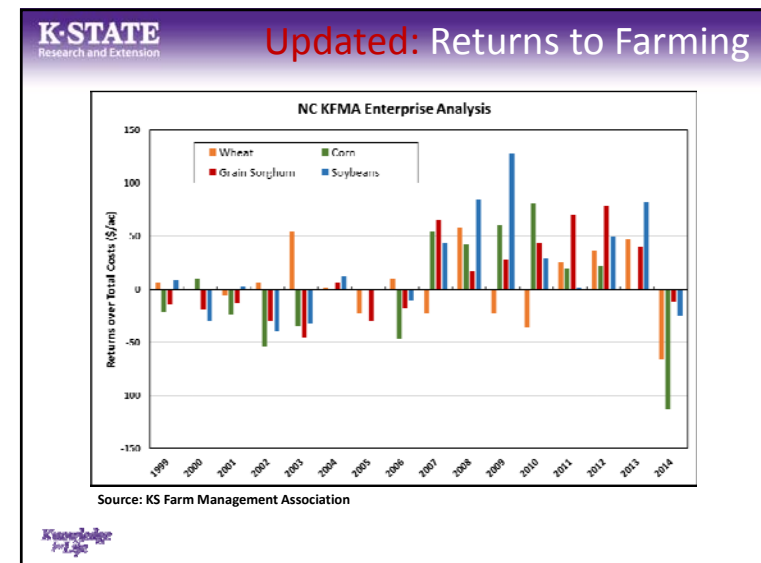
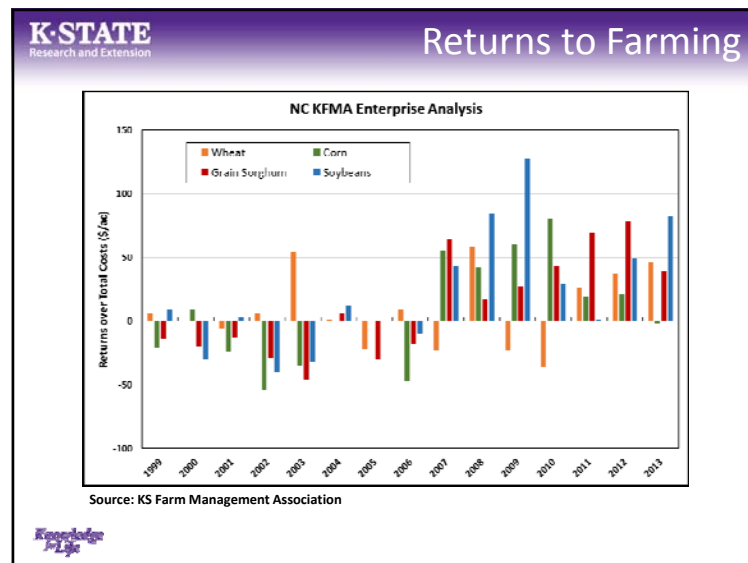
Winter Meetings 2016

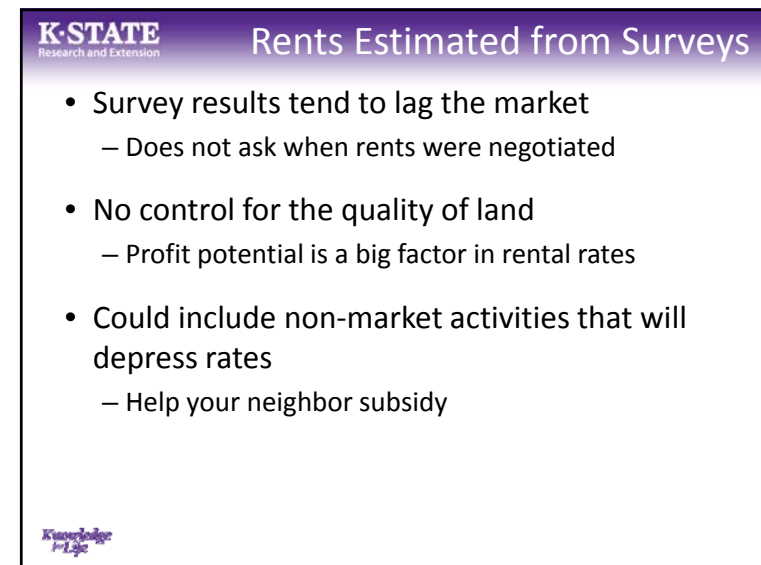
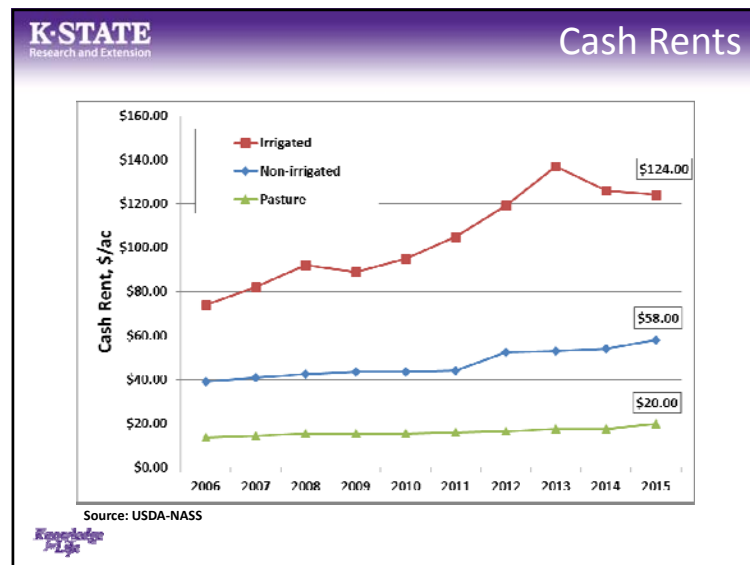
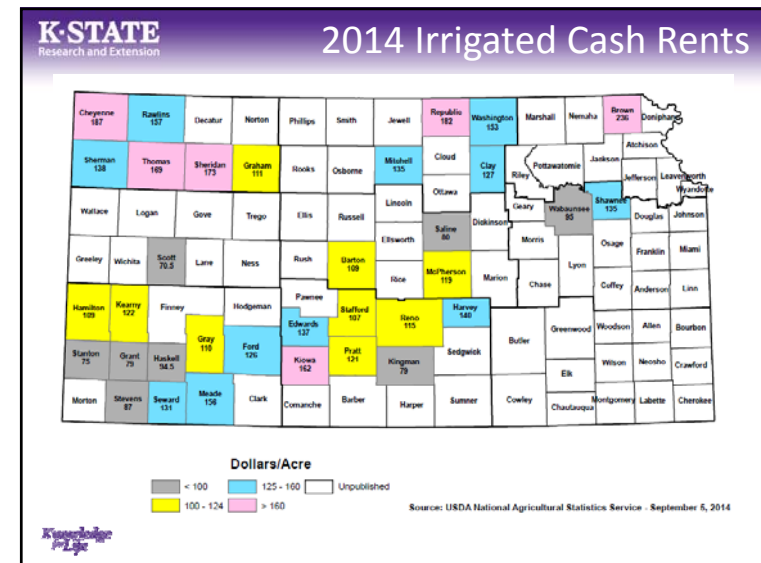
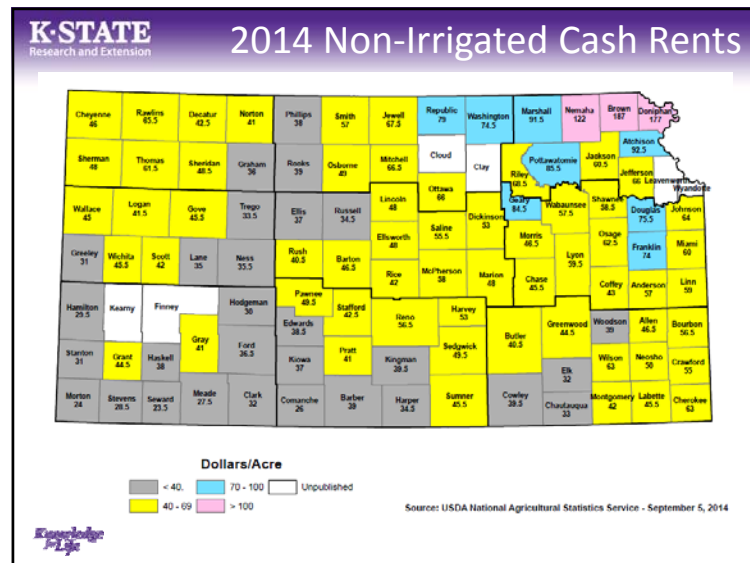
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RENTS AND NET FARM INCOME

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Rental Rates

- 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?

Rents Estimated from Budgets

- Use a budgeting approach that reflects *expected* returns to farming
 - County average yields
 - Futures prices with basis adjustments
- Production practices based on information from KSRE agronomists
 - Custom rates for machinery costs
- Calculate shares based on contributions of operator and landowner
 - Use equitable shares to estimate a cash rent

Projected Rental Rates

- 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

Projected Rental Rates

- 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
- Biggest different between 2014 and 2016 cash rent projections...

Projected Rental Rates

- Expected crop prices dropped significantly between 2014 and 2016

Year	Harvest Futures Prices (\$/bu)			
	Wheat	Corn	Soybeans	Grain Sorghum
2014	\$7.02	\$4.71	\$11.45	\$4.71
2015	5.99	4.17	10.14	4.17
2016	5.04	3.95	8.83	3.95
\$ change	-1.98	-0.76	-2.62	-0.76

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

Projected Rental Rates

- What do they represent?
- Budgeting approach with expected prices and county yields gives an estimate of
 - What a representative farmer could afford to pay
- Ignores
 - Working capital (carry over from previous years)
 - Debt obligations and other cash outlays
 - Alternative rental arrangements (subsidization)

Non-Irrigated Rental Rates

Region	2014 KSU (\$/ac)	2015 KSU (\$/ac)	2016 KSU (\$/ac)
Northwest	70.90	38.75	26.50
West Central	65.51	30.18	19.60
Southwest	57.29	22.03	13.30
North Central	102.55	69.31	49.20
Central	86.27	53.79	37.91
South Central	69.29	42.61	29.67
Northeast	167.65	119.50	103.48
East Central	103.84	63.84	54.69
Southeast	55.83	31.64	27.08

Non-Irrigated Rental Rates

NW District	2013	2014	2015	2016
Cheyenne	66.00	45.30	30.50	20.50
Decatur	88.20	67.80	46.00	31.60
Graham	71.60	54.10	36.90	25.40
Norton	81.50	69.30	47.10	32.50
Rawlins	73.40	57.60	39.10	26.60
Sheridan	78.70	62.10	42.20	29.10
Sherman	64.80	44.70	30.20	20.50
Thomas	70.00	56.00	38.00	26.00

Non-Irrigated Rental Rates

WC District	2013	2014	2015	2016
Gove	75.20	54.40	35.40	23.20
Greeley	59.80	40.70	26.40	17.20
Lane	60.60	41.30	26.80	17.30
Logan	70.90	46.20	30.00	19.50
Ness	63.50	39.30	25.50	16.40
Scott	79.80	60.00	39.10	25.60
Trego	65.30	46.30	30.20	19.60
Wallace	64.20	41.60	26.90	17.40
Wichita	74.50	48.00	31.30	20.40

Non-Irrigated Rental Rates

SW District	2013	2014	2015	2016
Clark	54.10	38.50	23.60	14.00
Finney	70.50	40.40	24.90	15.10
Ford	72.20	44.00	27.00	16.30
Grant	48.60	29.30	18.00	10.90
Gray	73.00	46.10	28.40	17.20
Hamilton	51.70	31.10	19.10	11.50
Haskell	57.00	37.90	23.30	14.10
Hodgeman	65.00	35.70	21.90	13.10
Kearny	61.60	34.60	21.30	12.80
Meade	56.60	30.90	19.00	11.40
Morton	46.90	28.20	17.40	10.60
Seward	56.50	34.60	21.30	12.90
Stanton	59.30	36.90	22.70	13.70
Stevens	53.50	33.20	20.50	12.50

Non-Irrigated Rental Rates

NC District	2013	2014	2015	2016
Clay	94.60	115.80	79.90	56.30
Cloud	89.20	108.80	75.10	53.40
Jewell	92.40	109.10	75.40	53.70
Mitchell	87.30	105.40	72.80	51.70
Osborne	76.90	86.00	59.50	42.40
Ottawa	74.70	92.50	63.70	45.10
Phillips	77.70	84.00	57.90	41.40
Republic	95.50	115.60	79.50	56.40
Rooks	66.80	66.20	45.70	32.60
Smith	87.20	98.60	68.10	48.60
Washington	102.30	123.00	84.80	59.90

Non-Irrigated Rental Rates

C District	2013	2014	2015	2016
Barton	60.40	72.20	48.20	34.10
Dickinson	79.70	98.50	65.70	46.00
Ellis	63.70	55.00	36.70	25.90
Ellsworth	70.80	80.00	53.40	37.60
Lincoln	75.60	86.90	58.00	40.90
Marion	64.10	88.40	58.90	41.50
McPherson	67.80	91.80	61.30	43.10
Rice	69.50	90.20	60.10	42.50
Rush	58.70	63.10	42.20	30.00
Russell	70.70	69.40	46.40	32.90
Saline	72.60	91.30	60.80	42.50

Non-Irrigated Rental Rates

SC District	2013	2014	2015	2016
Barber	44.50	59.40	38.70	26.60
Comanche	39.90	48.20	31.40	21.80
Edwards	53.00	56.50	36.80	25.80
Harper	42.40	57.90	37.70	26.00
Harvey	66.90	90.50	59.00	41.40
Kingman	45.90	62.30	40.60	27.90
Kiowa	52.00	51.30	33.50	23.40
Pawnee	61.80	63.70	41.50	29.20
Pratt	55.20	69.30	45.20	31.40
Reno	56.40	75.90	49.50	34.50
Sedgwick	56.00	76.10	49.60	34.70
Stafford	56.50	70.20	45.80	32.00
Sumner	50.70	68.40	44.60	31.00

Non-Irrigated Rental Rates

NE District	2013	2014	2015	2016
Atchison	172.50	180.50	125.80	109.30
Brown	202.90	213.20	148.50	129.30
Doniphan	229.60	239.60	166.70	145.90
Jackson	150.20	157.30	109.80	94.90
Jefferson	161.80	170.10	118.60	102.90
Leavenworth	149.20	157.20	109.80	94.50
Marshall	143.20	152.20	106.60	91.80
Nemaha	164.00	172.00	120.00	104.10
Pottawatomie	147.40	155.70	108.80	94.00
Riley	125.80	134.30	94.20	80.90
Wyandotte	141.50	151.30	105.70	90.70

Non-Irrigated Rental Rates

EC District	2013	2014	2015	2016
Anderson	72.90	92.60	58.30	50.10
Chase	70.80	91.50	57.80	49.20
Coffey	71.30	91.30	57.60	49.10
Douglas	138.10	122.00	76.60	66.10
Franklin	114.90	102.80	64.80	55.30
Geary	117.90	104.60	66.20	56.70
Johnson	123.20	109.30	68.80	58.90
Linn	69.10	89.10	56.30	47.70
Lyon	70.20	89.90	56.80	48.30
Miami	125.20	110.00	69.20	59.40
Morris	94.40	83.70	53.00	45.40
Osage	113.70	98.40	62.00	53.10
Shawnee	142.80	125.80	79.00	68.20
Wabaunsee	122.30	106.90	67.30	58.10

Non-Irrigated Rental Rates

SE District	2013	2014	2015	2016
Allen	64.70	63.00	32.60	27.80
Bourbon	64.80	61.90	32.10	27.20
Butler	70.30	67.10	34.70	30.00
Chautauqua	51.20	46.90	24.30	20.80
Cherokee	69.20	67.20	34.80	29.60
Cowley	55.40	53.60	27.90	23.80
Crawford	71.50	68.80	35.60	30.50
Elk	63.60	60.40	31.30	26.70
Greenwood	72.70	70.40	36.40	31.10
Labette	59.00	56.50	29.20	25.10
Montgomery	61.20	57.90	29.90	25.70
Neosho	60.10	57.50	29.70	25.40
Wilson	64.30	61.60	31.90	27.40
Woodson	65.40	63.10	32.60	28.00

Returns to Land

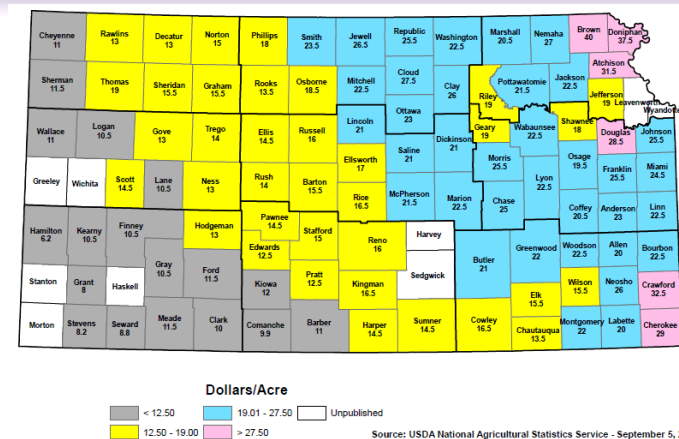
- Has every farmer dropped their cash rents for 2016?
- Answer: No, but they are starting to...
- What is keeping the adjustment from occurring quickly?

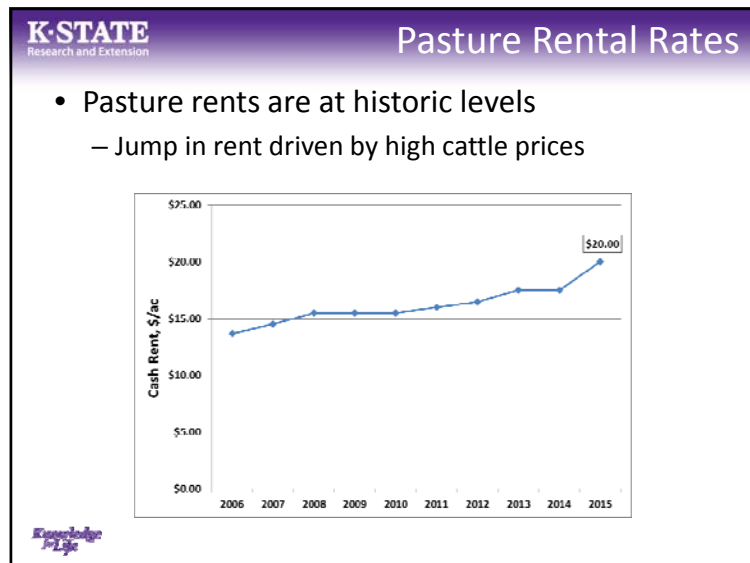
Returns to Land

- 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

PASTURE RENTAL RATES

2014 Pasture Cash Rents





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Bluestem Pasture Report

Year	\$/acre
2015*	19.18
2013	20.10
...	...
2009	18.60
2008	19.00
2007	17.60
2006	17.60

* Includes all native pasture types
 **Full summer season (combined with and w/out care)

Source: www.nass.usda.gov/Statistics_by_State/Kansas/Publications/Economics_and_Misc/Bluestem/

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River Valley District Survey 2015

Average	Low-Average	High-Average	Minimum	Maximum	Count
\$27.22	\$20.37	\$32.79	\$11.00	\$54.00	57

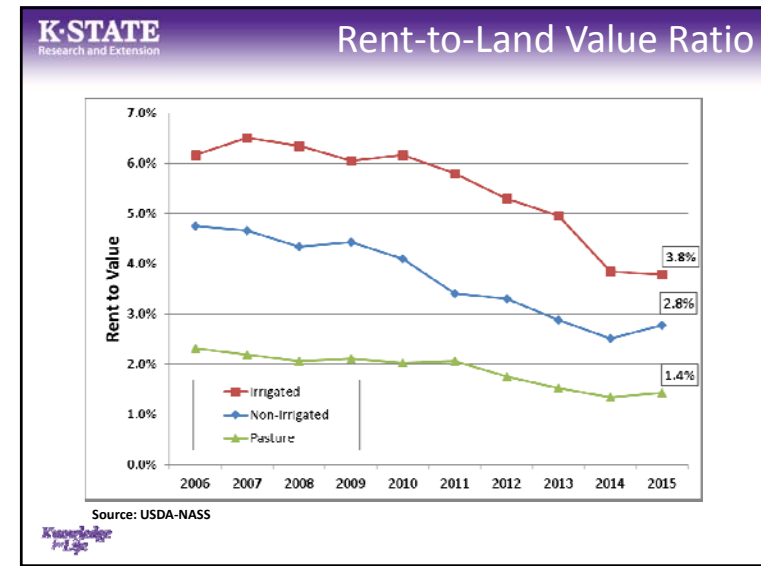
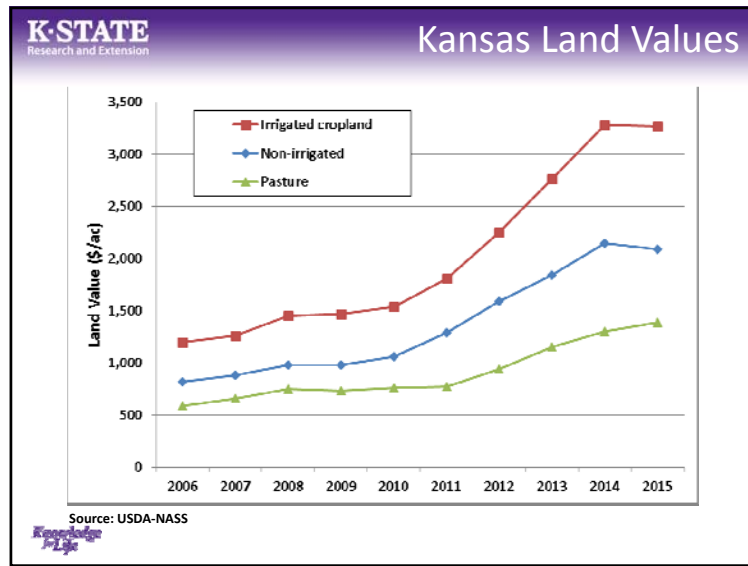
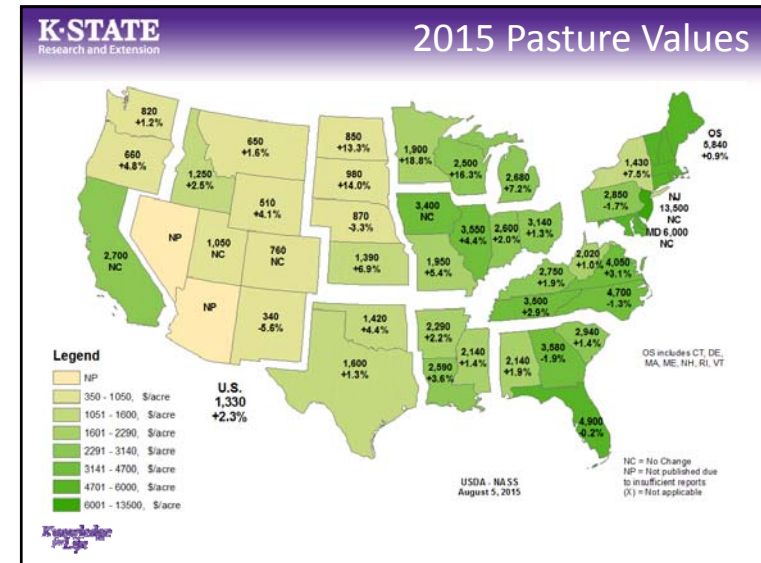
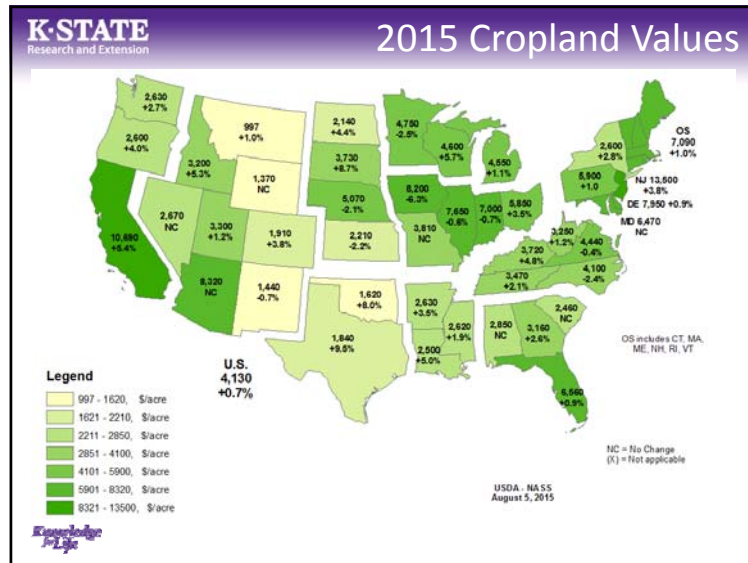
- Clay, Cloud, Washington, and Republic Counties
- 5 ½ month grazing season
- Stocking rates
 - Pairs averaged 6.2 acres (3.5 to 10)
 - Stockers averaged 3.2 acres (2 to 5)

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AG LAND VALUES FROM SURVEYS

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MARKET-BASED LAND VALUES

Kansas Land Values

- Source for market transaction data
 - Property Valuation Department, Topeka
- 2010-2014 and 2015 (Q1-Q2) sales data
 - STR location
 - Acres in sale
 - Mixture of irrigated, non-irrigated and pasture
 - Soil types found on parcel
 - 20-year average rainfall by section
 - Enrollment in government set-asides
 - Value of improvements

PVD Sales Data 2010-14

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%

PVD Sales Data 2010-15 (Q1-2)

All Years	Average	
Acres in Sale	156.3	
CRP Contracts	1.50%	
Sales Per County	136.9	
Total Sales Transactions:	14,374	
All Years	% of Total	Total Acres
2015 Q1-Q2	10.2%	--
2014	15.7%	354,356
2013	16.0%	362,948
2012	17.0%	383,119
2011	17.6%	401,975
2010	23.3%	518,322

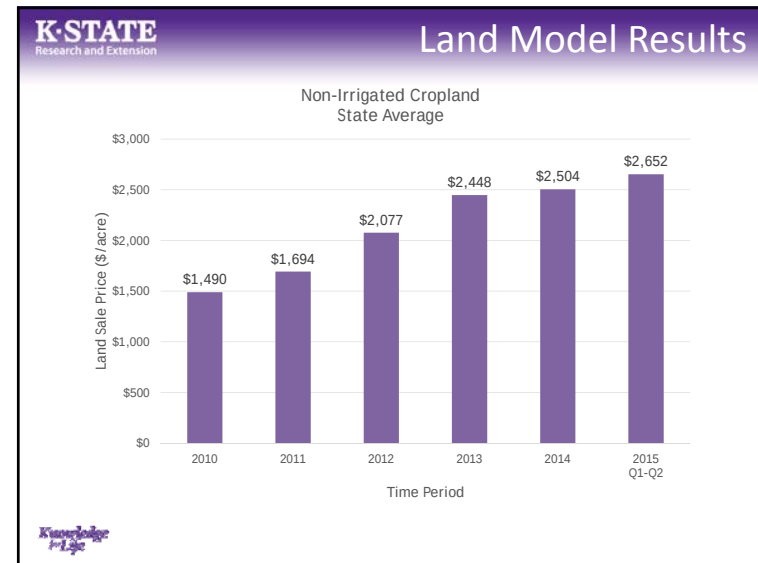
K-STATE Research and Extension PVD Sales Data 2014 & 2015 Q1-2		
2014	Average \$/ac	% of All Transactions
Non-Irrigated	\$2,730	54.7%
Irrigated	\$3,464	4.9%
Pasture	\$2,035	40.4%
All Cropland and Pasture	\$2,743	100%
2015 Q1-Q2	Average \$/ac	% of All Transactions
Non-Irrigated	\$2,289	47.6%
Irrigated	\$3,484	11.3%
Pasture	\$1,765	41.1%
All Cropland and Pasture	\$2,513	100%

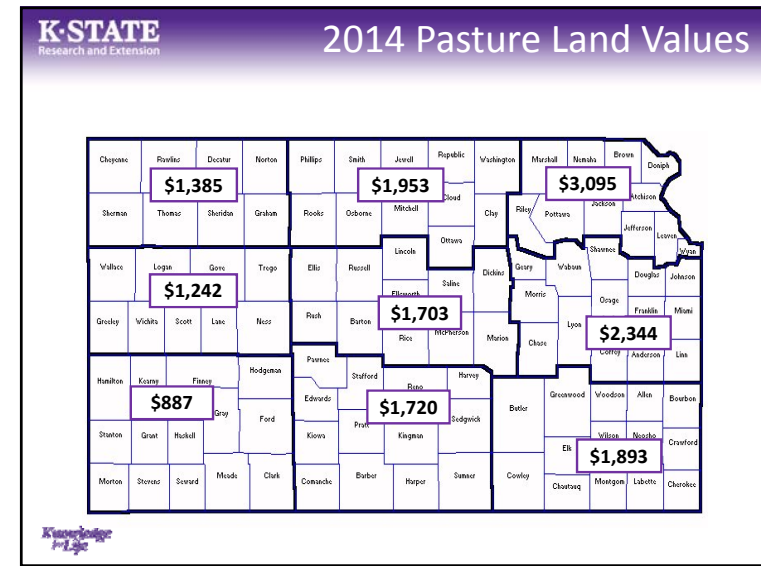
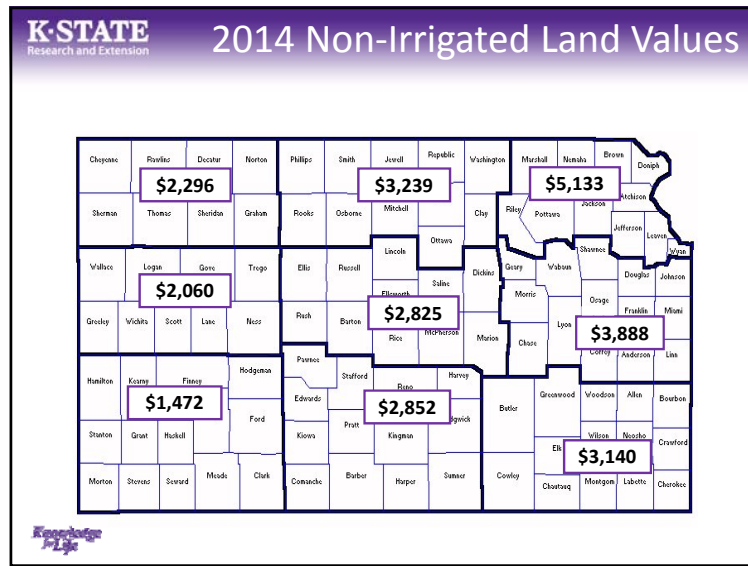
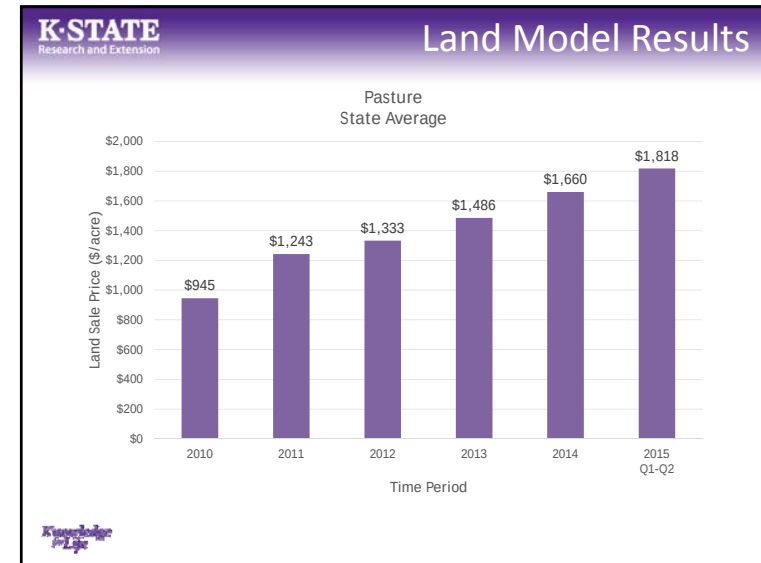
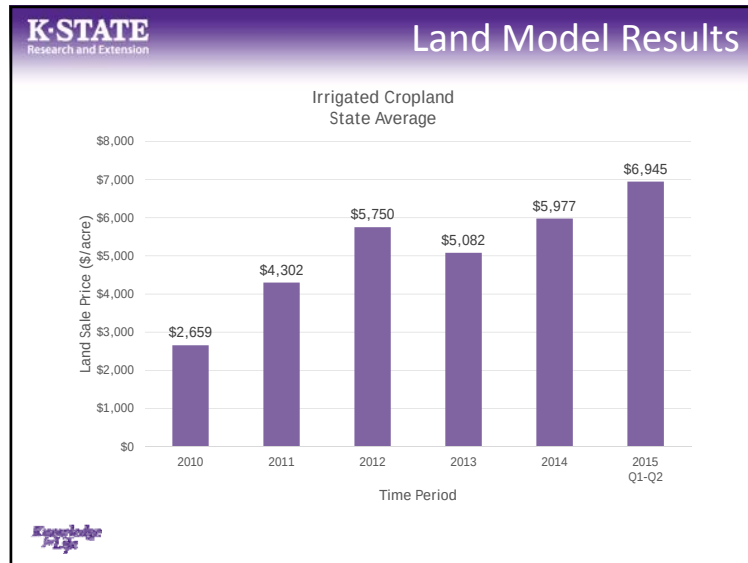
K-STATE Research and Extension Land Model		
Land Type	2014 Data Sample Average \$/ac	2014 USDA-NASS \$/ac
Non-Irrigated	\$2,833	\$2,150
Irrigated	\$3,478	\$3,280
Pasture	\$1,991	\$1,300

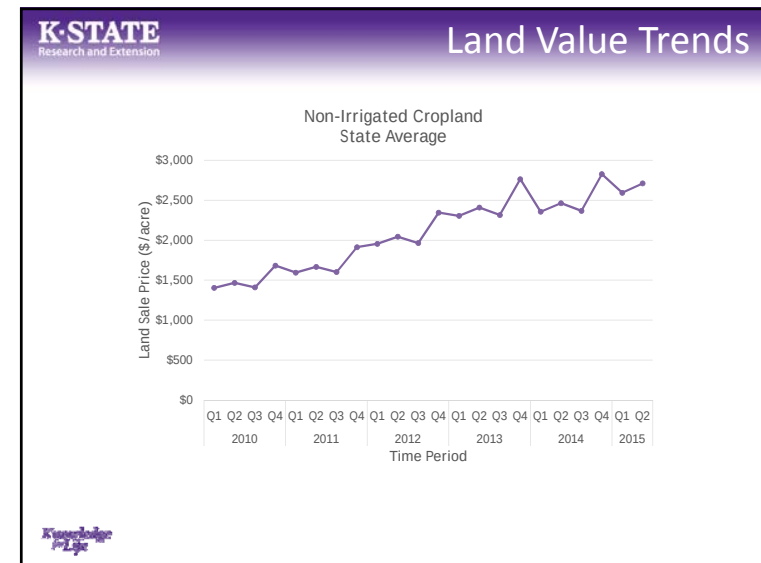
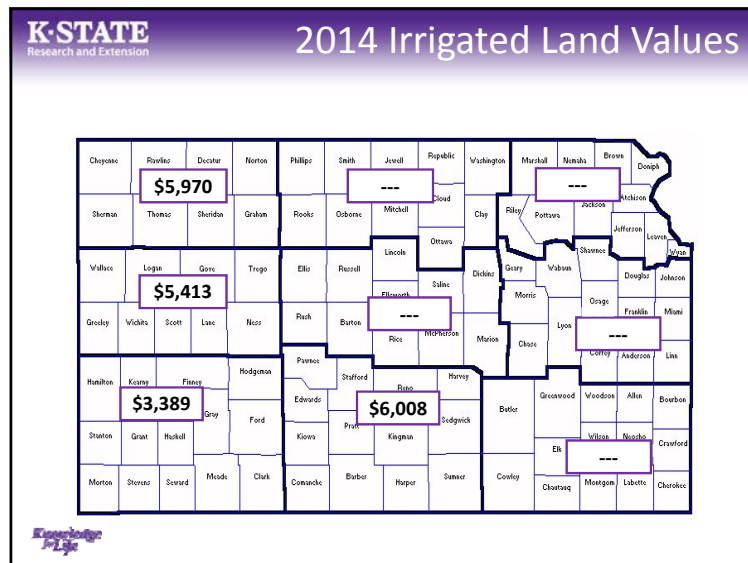
- Use of a regression model to estimate land values
 - Alternative to summary statistics (average, range)
 - Accounts for variability in land found in sample

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LAND MODEL RESULTS







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Land Price Expectations

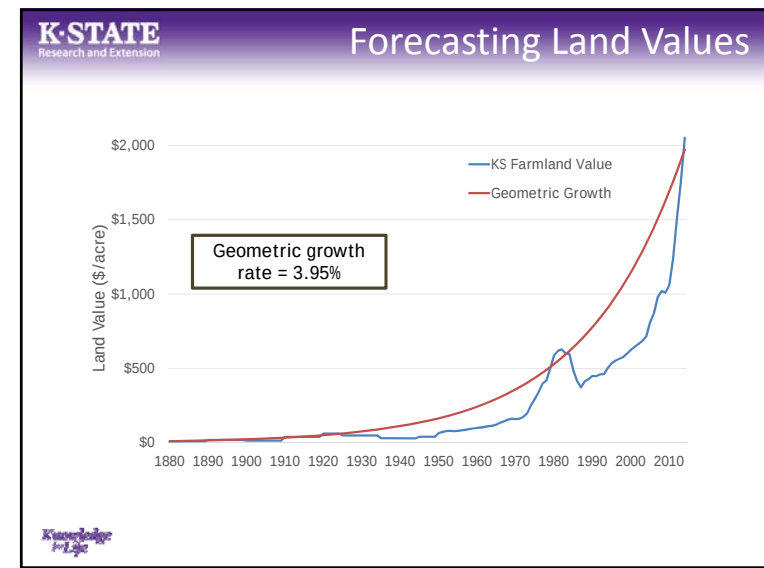
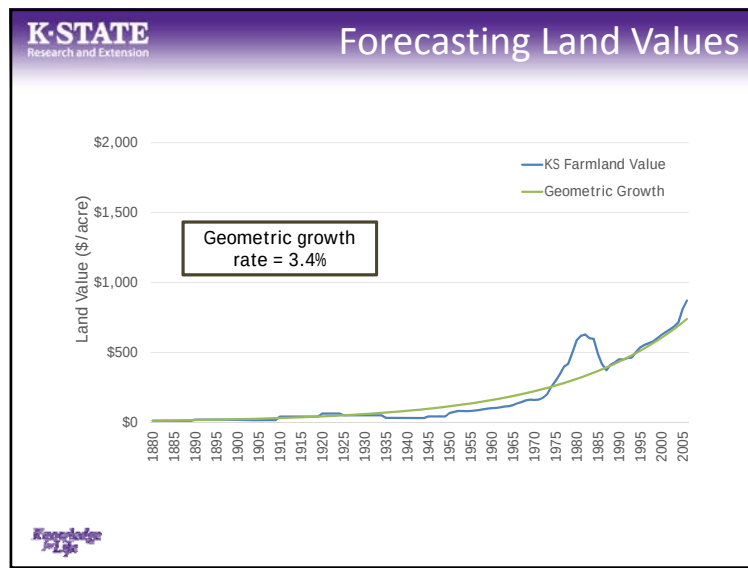
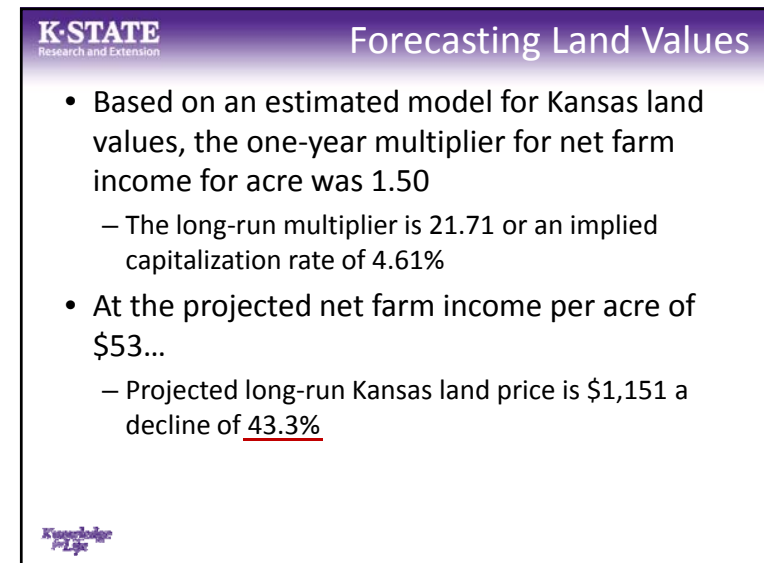
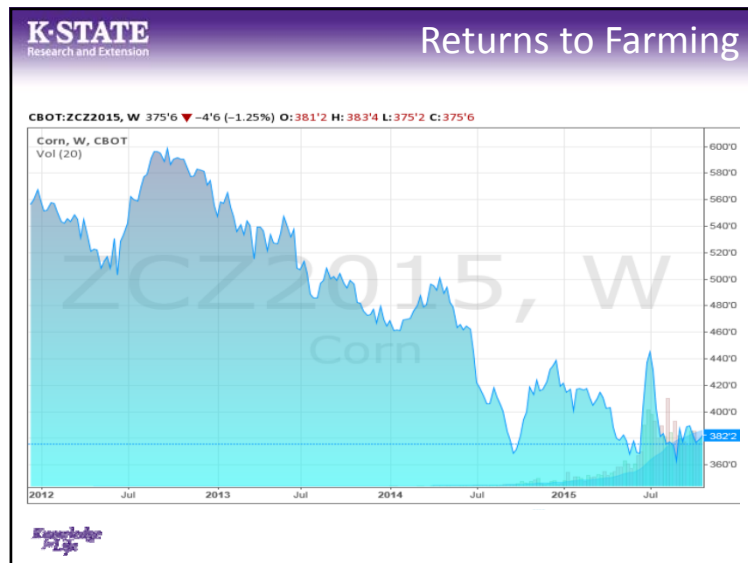
- Actual land sales are not falling off as quickly or dramatically as we expected
- Lender's surveys and USDA surveys indicated an expectations of lower land values
- Not showing up in the data. Why?
 - Slowdown hasn't happened yet
 - I can't measure no-sales

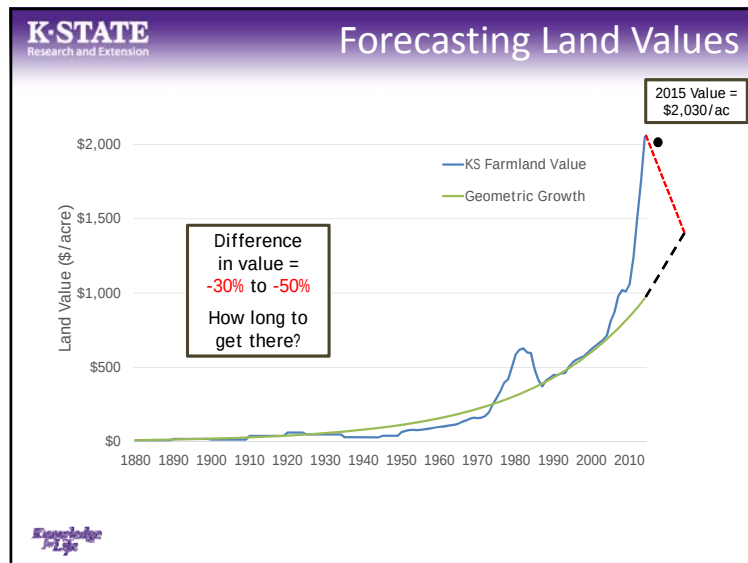
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LAND VALUE PROJECTIONS

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Kansas Agricultural Land Values and Rental Rates

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Online Resources

- 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

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