

A photograph of a farm scene featuring a red barn, a tall metal silo, and a green field under a blue sky with white clouds. The text is overlaid on this image.

# Outlook for Irrigated and Non-Irrigated Cash Rents in Kansas

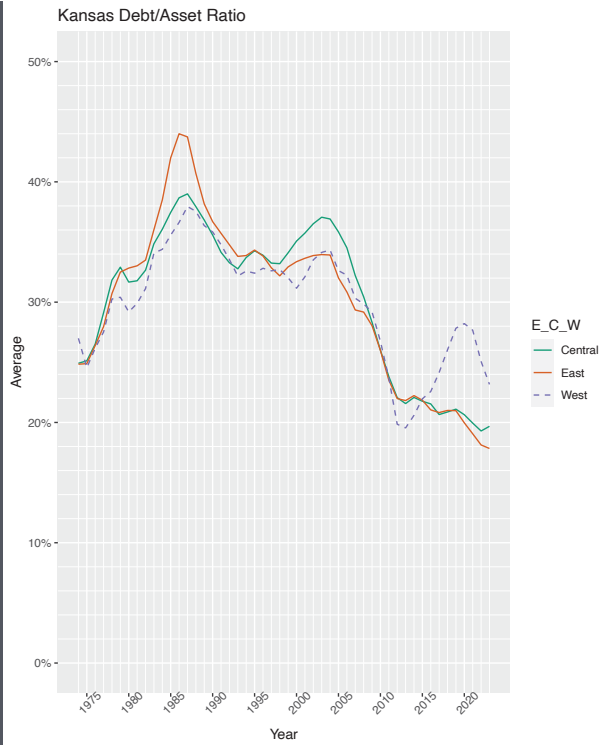
2024 Ag Lenders Conference

Gregg Ibendahl and Daniel O'Brien - K-State

2024-09-26

First, an overview of KFMA farm financials

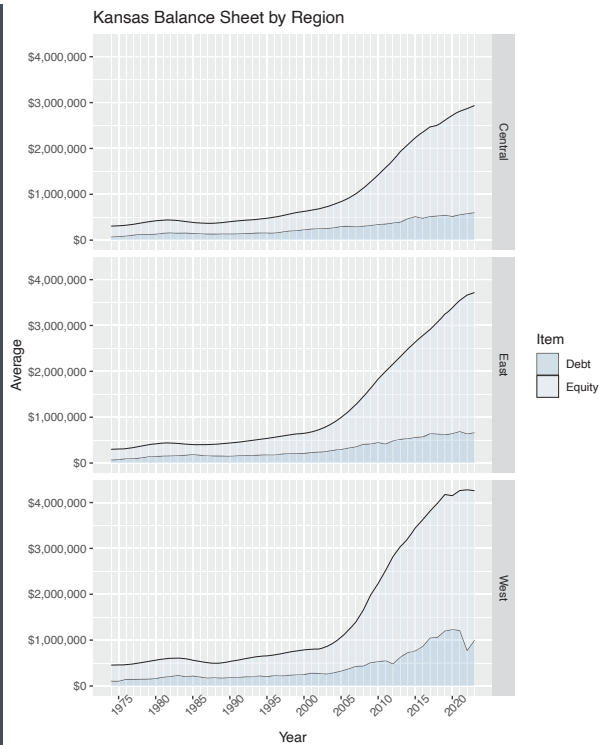
- Debt levels
- Interest costs
- Net Farm Income
- Farm Expenses



## Debt/Asset Ratio

- D/A ratios remain at historic lows (KFMA 50 year history)
- Not quite the same in western Kansas  
 -Possible explanations
- Increase in asset values?
- Decrease in debt?
- Is the D/A ratio a leading or trailing indicator of farm financial problems?

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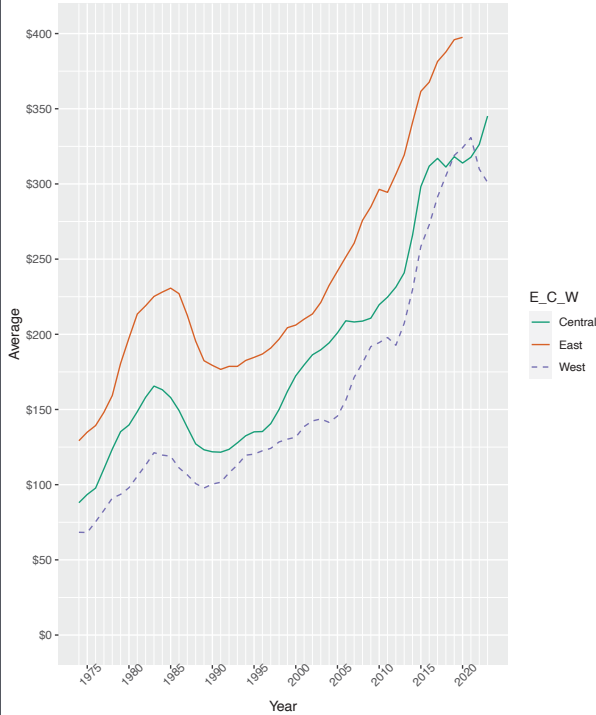


## KFMA Balance Sheet

- Most of improvement in D/A ratio can be attributed to increase in land values
- Additional debt varies by region
- Some improvement in western Kansas

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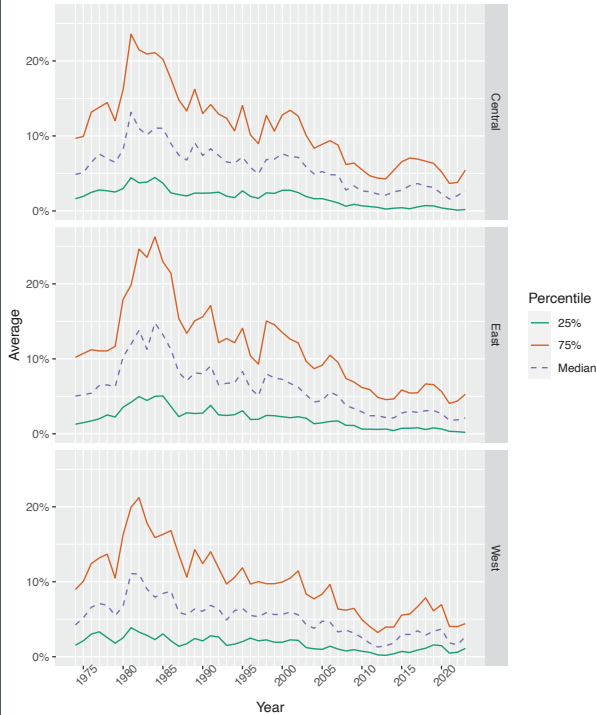
Kansas Farm Debt per Crop Acre



## Farm Debt per Acre

- Farms have increased their debt levels on a per crop acre basis
  - Decrease in western Kansas
  - Leveling off in central Kansas
- What are the consequences of higher debt?
  - Farming is more expensive than it's ever been so higher levels of debt might be needed
  - Higher levels of debt can be supported if gross income is also higher
    - Interest expense ratio
  - Lower interest rates allow for higher levels of debt

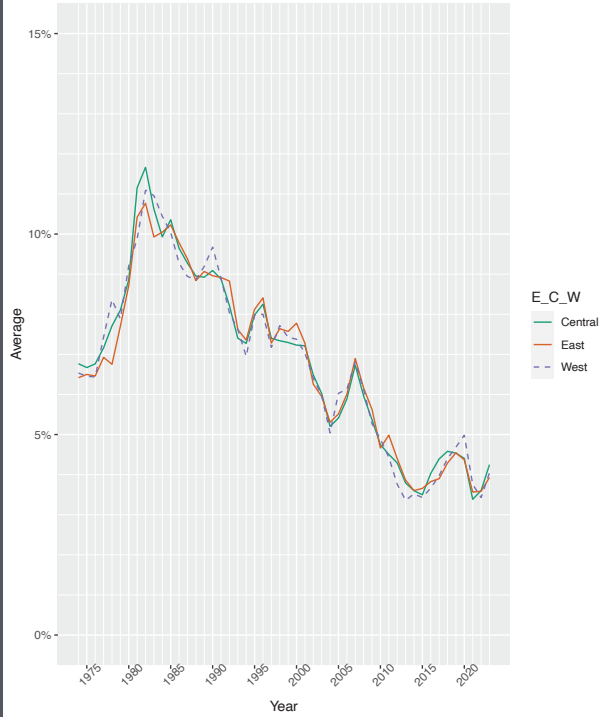
Interest Expense Ratio by Region



## Interest expense ratio

- Ratio is nearly at lowest level in the history of KFMA farms
  - Interest expense / VFP
- 10% is considered the red flag level
  - Interest expense was a big problem in the 1980's farm crisis
    - Farms just couldn't make P and I payments when 10 cents of every dollar the farm produced went to pay interest
    - This is one of the reasons the FFSC set up financial statements the way they did
- Ratio is strong because of:
  - Low interest rates
  - Lower farm revenue will make this ratio worse
- Which way will interest rates go after the election?

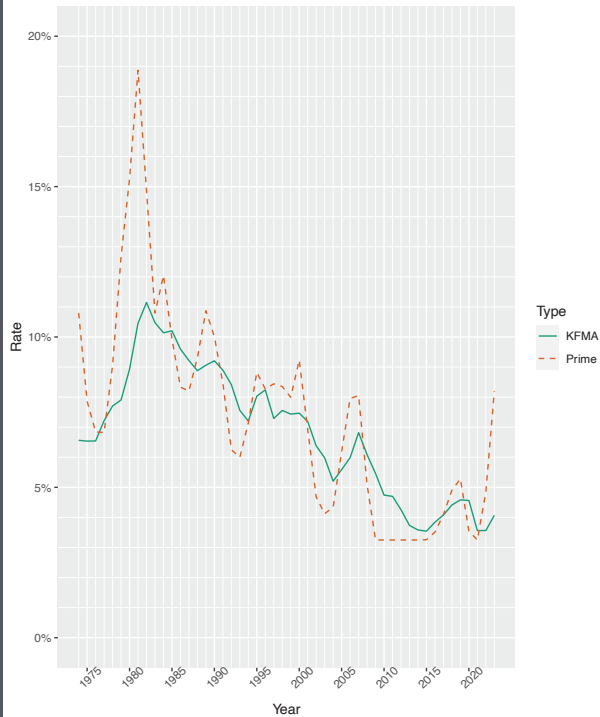
Interest Rate on Farm Debt



## Average farm interest rates

- Interest rates are still at near historic lows on KFMA farms
- Rising interest rates haven't affect the average rate paid by farmers
- This number likely lags the current interest rate because of loans already in place with a fix interest rate

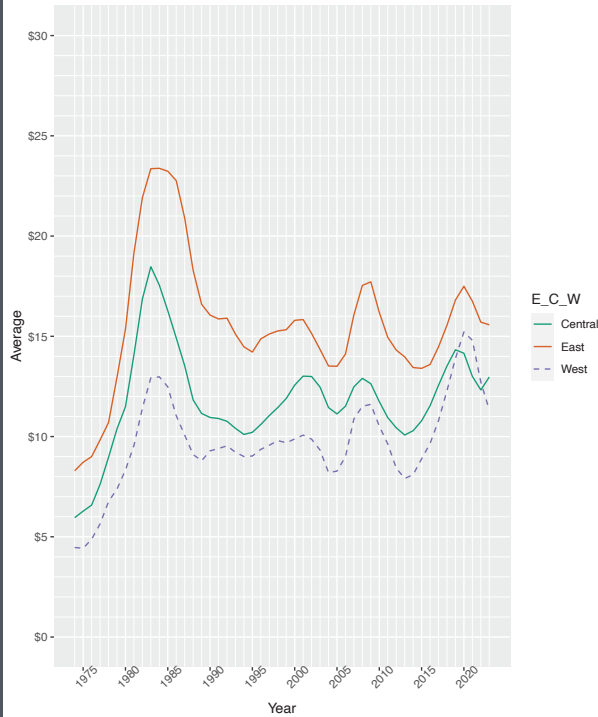
Comparison of Interest Rates



## Comparison of KFMA interest cost and Prime

- Very high correlations
- The fixed debt on a farm reduces the interest rate volatility seen with the Prime rate
- Even with a rate cut, KFMA interest costs are likely to continue to rise

Kansas Farm Interest per Crop Acre



## Interest per crop acre

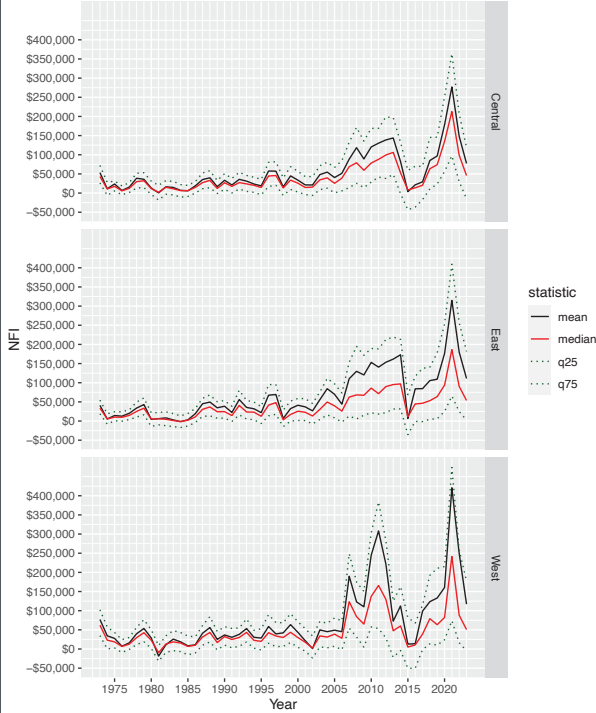
- Despite debt levels per crop acre increasing, the interest per crop acre has remained more stable
- Reflection of lower interest rates than in prior decades
- The lower interest rates (compared to the 1980's) has made debt less important
- Constant debt per acre combined with higher farm revenue (VFP) has helped make the interest expense ratio look very strong

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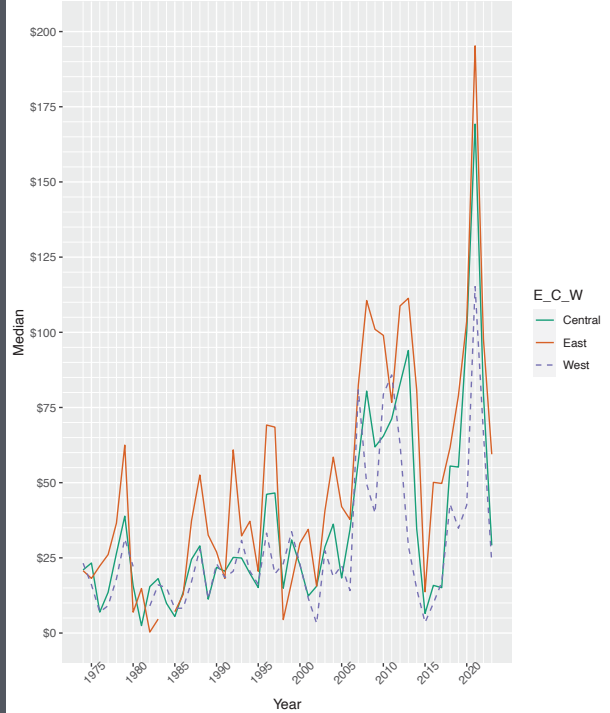
## What about Net Farm Income?

- NFI will drive the cash rental rate

Net Farm Income by Region



Kansas Median NFI per Crop Acre



Things certainly have changed in a couple of months

Memorial Day forecast

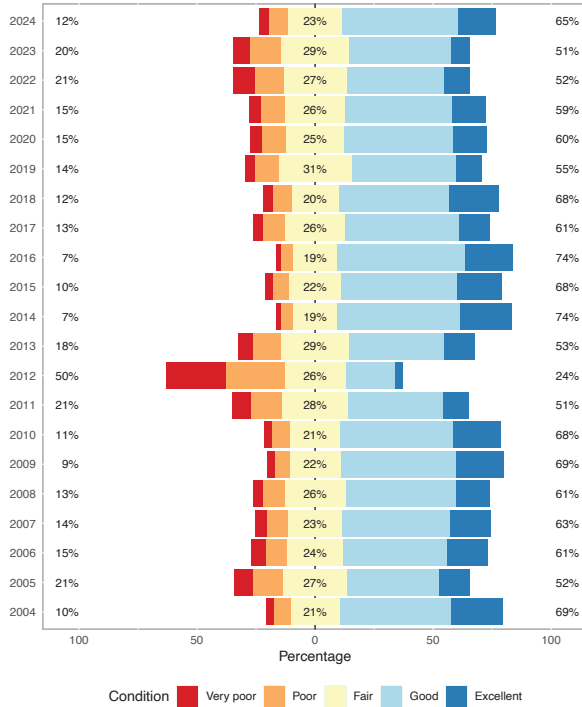
	Net Farm Income - state			
	2022	2023	2024(p)	Est 2025
NFI	\$ 203,445	\$ 89,667	\$ 118,048	\$ 114,965
% Change		-56%	32%	-3%

August forecast

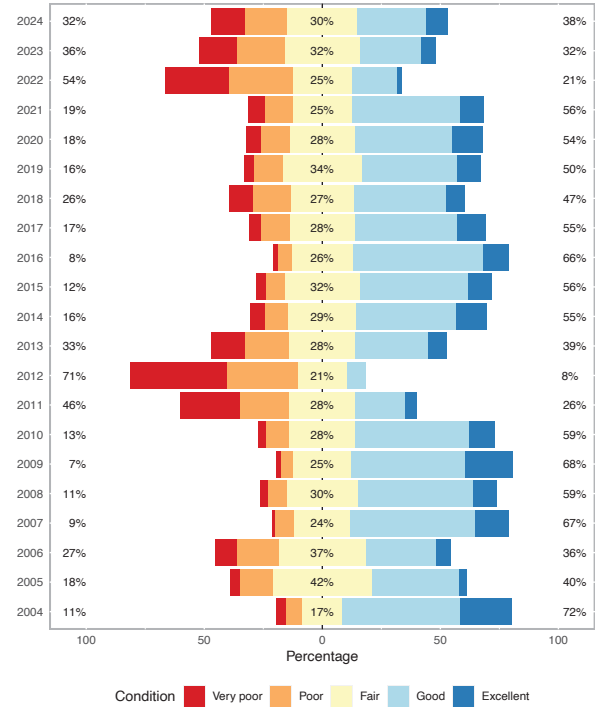
	Net Farm Income - state			
	2022	2023	2024(p)	Est 2025
NFI	\$ 203,445	\$ 89,667	\$ 44,999	\$ 73,473
% Change		-56%	-50%	63%

- Some improvement in input costs
- However, overshadowed by decline in grain prices
- Corn and soybeans look to have record yields

Condition of US Corn as of 9/15/24



Condition of Kansas Corn as of WEEK #37 9/15/24



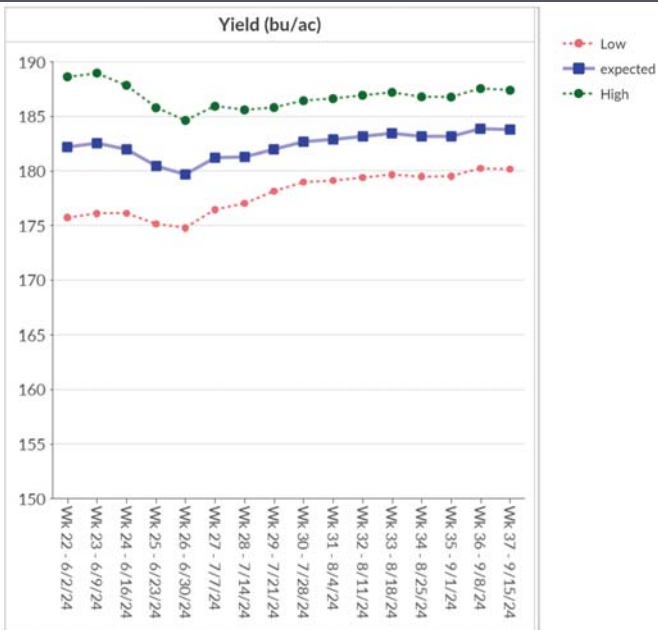
Corn Yields per Acre by State - 9/15/24

Bushels per harvested acre

State	Last year	2024 prediction			R squared
		Lower CI	Predicted	Upper CI	
Colorado	122.0	120.4	126.5	132.6	0.00
Illinois	206.0	217.1	221.6	226.1	0.75
Indiana	203.0	197.4	200.7	204.1	0.77
Iowa	201.0	208.9	212.8	216.7	0.57
Kansas	119.0	117.0	120.5	124.0	0.67
Kentucky	187.0	179.2	181.6	184.0	0.90
Michigan	168.0	177.6	180.0	182.3	0.74
Minnesota	185.0	190.0	193.2	196.4	0.40
Missouri	153.0	184.7	189.3	193.9	0.87
Nebraska	182.0	193.1	195.4	197.7	0.73
North_Carolina	147.0	73.5	82.5	91.5	0.81
North_Dakota	143.0	139.3	143.6	147.8	0.36
Ohio	198.0	171.3	174.0	176.8	0.89
Pennsylvania	157.0	160.5	163.6	166.7	0.78
South_Dakota	152.0	157.3	161.0	164.8	0.51
Tennessee	173.0	151.1	155.0	158.8	0.85
Texas	122.0	117.0	121.5	126.0	0.45
Wisconsin	176.0	176.5	179.2	181.9	0.55

Most states will have very good yields

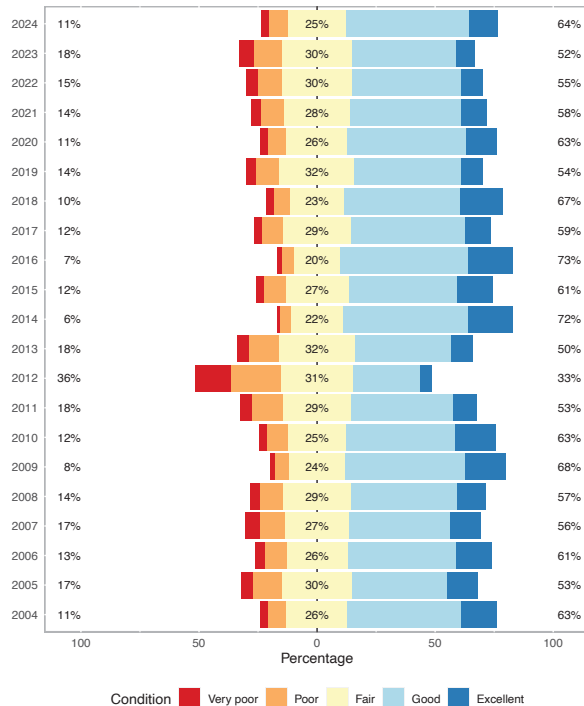
- Likely to be a record US yield in the low 180 range
- Not quite record production due to less acres



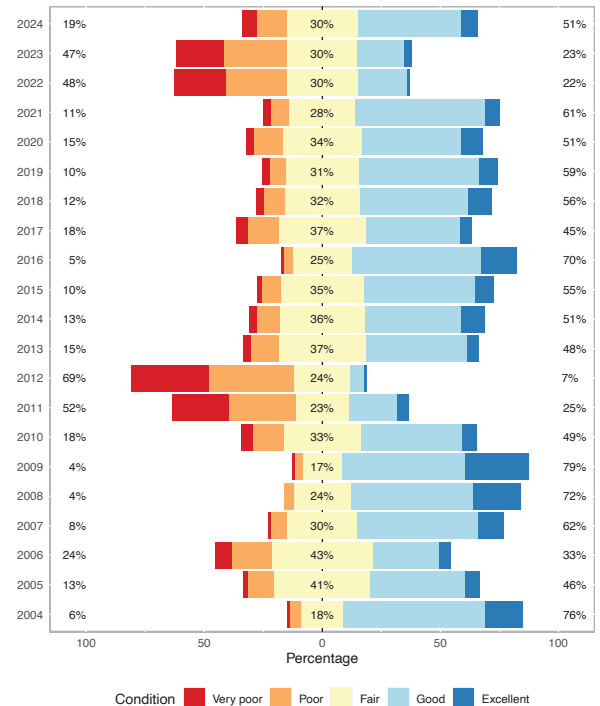
## US yields have been improving each week since the end of June

- Can trend line yields be believed
- My estimate and NASS are almost in perfect agreement

Condition of US Soybeans as of 9/15/24



Condition of Kansas Soybeans as of WEEK #37 9/15/24





Soybean Yields per Acre by State - 9/15/24

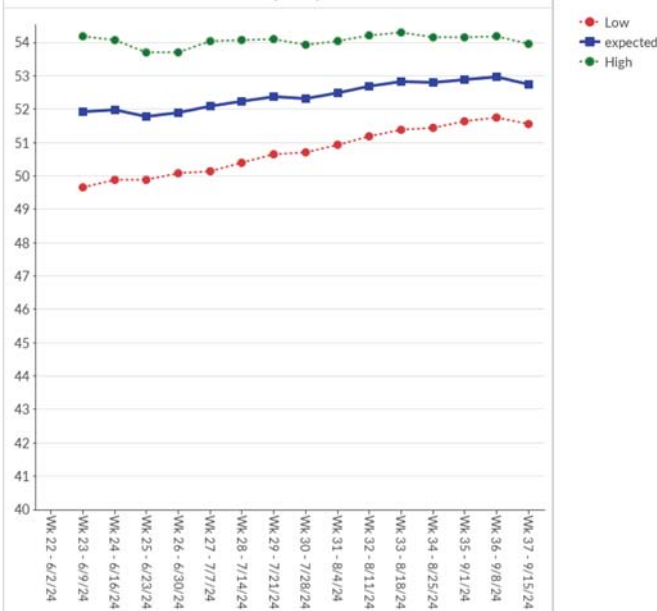
Bushels per harvested acre

State	Last year	2024 prediction			R squared
		Lower CI	Predicted	Upper CI	
Arkansas	54.0	55.0	56.1	57.1	0.49
Illinois	63.0	63.3	64.8	66.4	0.41
Indiana	61.0	59.8	60.8	61.8	0.60
Iowa	58.0	60.7	61.9	63.0	0.70
Kansas	26.0	37.4	38.6	39.7	0.81
Kentucky	55.0	52.1	53.2	54.2	0.76
Louisiana	40.0	55.2	56.9	58.6	0.54
Michigan	46.0	47.8	49.0	50.2	0.37
Minnesota	48.0	48.6	49.6	50.6	0.51
Mississippi	56.0	56.1	57.1	58.2	0.57
Missouri	48.0	51.6	52.9	54.2	0.73
Nebraska	51.5	60.2	61.3	62.3	0.69
North_Carolina	38.5	35.3	36.2	37.2	0.69
North_Dakota	35.5	33.4	34.9	36.3	0.26
Ohio	58.0	51.2	52.5	53.8	0.69
South_Dakota	44.0	43.8	44.9	46.0	0.49
Tennessee	51.0	45.4	46.5	47.7	0.81
Wisconsin	51.0	48.6	50.0	51.3	0.61

## Most states will have very good yields

- Average US yield close to 53 bu/ac
- Soybeans are much tougher to estimate than corn (lower R sq)

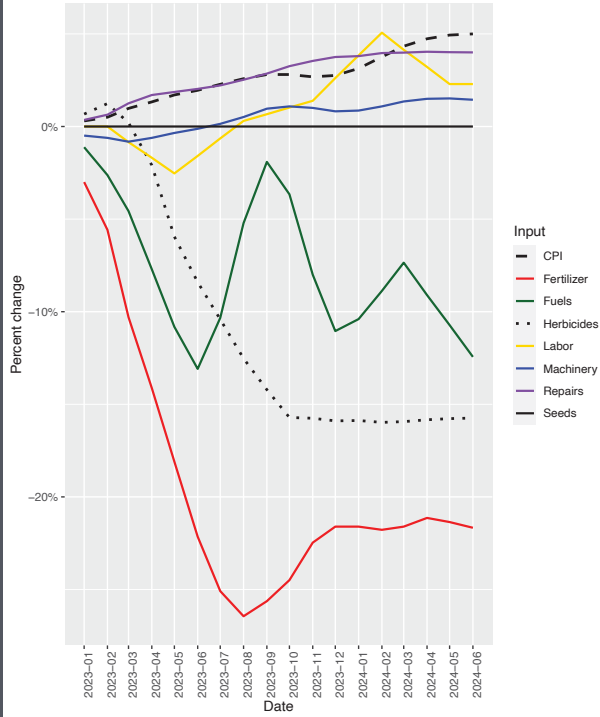
Yield (bu/ac)



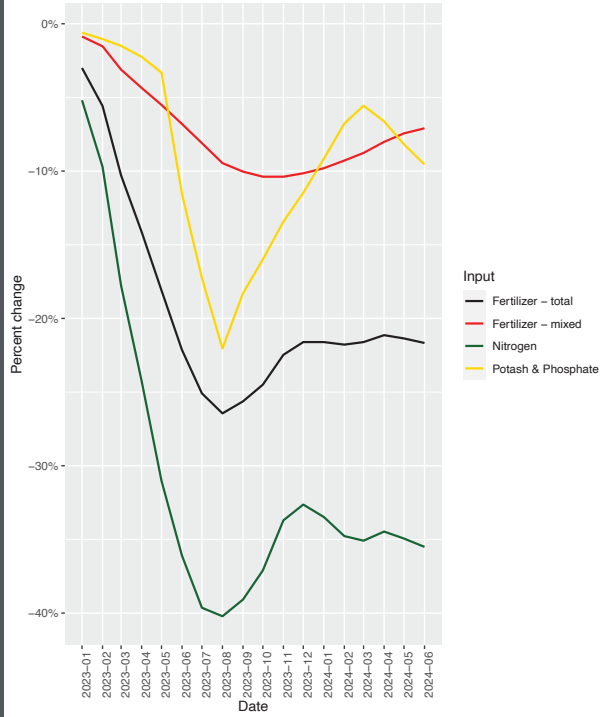
## US yields have been improving each week

- Easily a record US yield
- Total production should also be US record
- Will lack of late rains hurt soybeans?
  - Especially Kansas

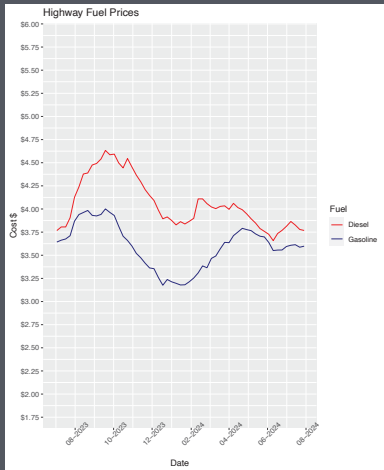
USDA Price Indexes Relative to 2023-01-01



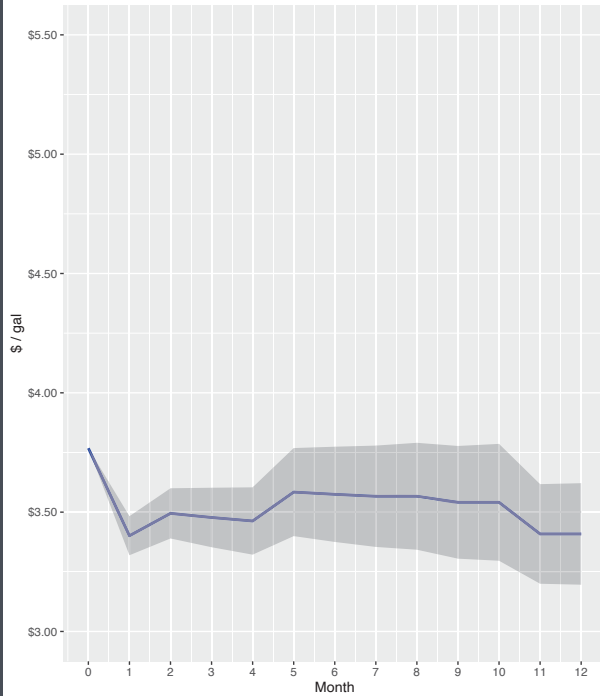
USDA Fertilizer Indexes Relative to 2023-01-01



## Price premium of diesel for last 12 months



Predicted U.S. Highway Diesel Price for Next 12 Months  
confidence interval in gray



## Diesel price prediction for the next 12 months

- Based on oil futures market and the diesel premium
- Assumption that the premium is following the same pattern as last year
- Is the oil futures price too low?
  - should there be a bigger confidence interval on estimate?

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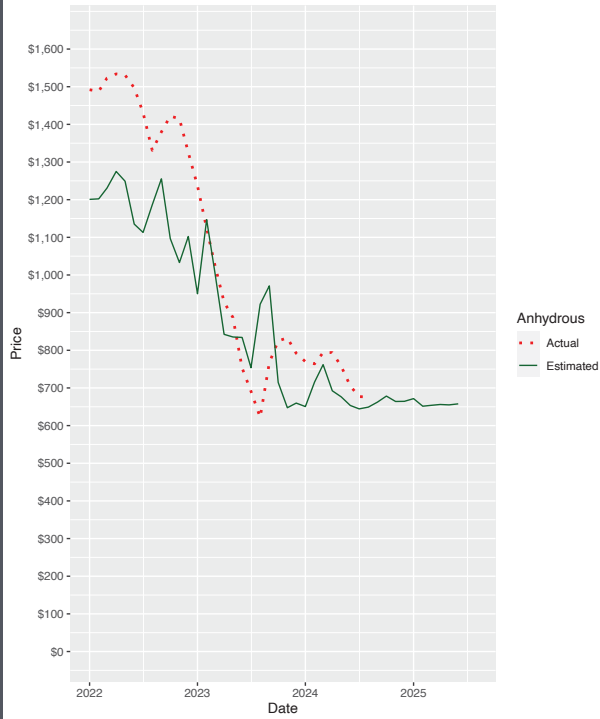
## Latest fertilizer prediction model

Term	Coefficient	P-value
Intercept	-329.04	< 0.001
Oil (lag 6 mo)	2.97	< 0.001
Corn	38.16	0.001
Inflation (lead 2 mo)	200.31	< 0.001

- based on corn futures price
- oil price
  - lag 6 months
- inflation expectations
  - 2 month lead

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Anhydrous Price – Actual vs Predicted



## Prediction for next 12 months

- Using inflation rate of 3%
- Oil prices in the mid \$70's

# More detail on NFI prediction

	2022	2023	2024(p)	Est 2025
<b>Income</b>				
<i>Livestock VFP</i>	\$ 66,754	\$ 99,276	\$ 110,394	\$ 110,394
Corn	262,091	222,807	248,788	289,153
Grain sorghum	37,782	31,646	32,009	39,027
Soybeans	201,404	169,391	230,497	220,852
Wheat	149,723	127,271	98,204	110,797
Govt payment (farm bill only)	24,807	24,193	12,323	19,366
Crop ins proceeds	153,022	124,182	39,536	38,712
<i>Crop VFP</i>	<u>\$ 907,957</u>	<u>\$ 781,420</u>	<u>\$ 744,452</u>	<u>\$ 802,246</u>
<b>TOTAL VFP</b>	<b>\$ 974,711</b>	<b>\$ 880,695</b>	<b>\$ 854,846</b>	<b>\$ 912,641</b>
<b>Expenses</b>				
Seed/Other Crop Expenses	83,903	90,995	93,398	93,398
Crop Insurance	32,778	34,063	34,208	35,918
Fertilizer-Lime	161,985	150,578	143,905	155,417
Gas-Fuel-Oil	41,040	36,604	36,712	36,712
Herbicide-Insecticide	102,769	104,213	108,124	111,368
<i>Total Operating Expenses</i>	<u>\$ 662,490</u>	<u>\$ 667,838</u>	<u>\$ 680,497</u>	<u>\$ 704,780</u>
Interest paid	22,390	27,230	28,592	28,592
Depreciation - machinery	78,256	87,071	91,424	95,995
<b>Total Farm Expenses</b>	<b><u>\$ 771,267</u></b>	<b><u>\$ 791,028</u></b>	<b><u>\$ 809,847</u></b>	<b><u>\$ 839,168</u></b>
<b>Net Farm Income</b>	<b>\$ 203,445</b>	<b>\$ 89,667</b>	<b>\$ 44,999</b>	<b>\$ 73,473</b>

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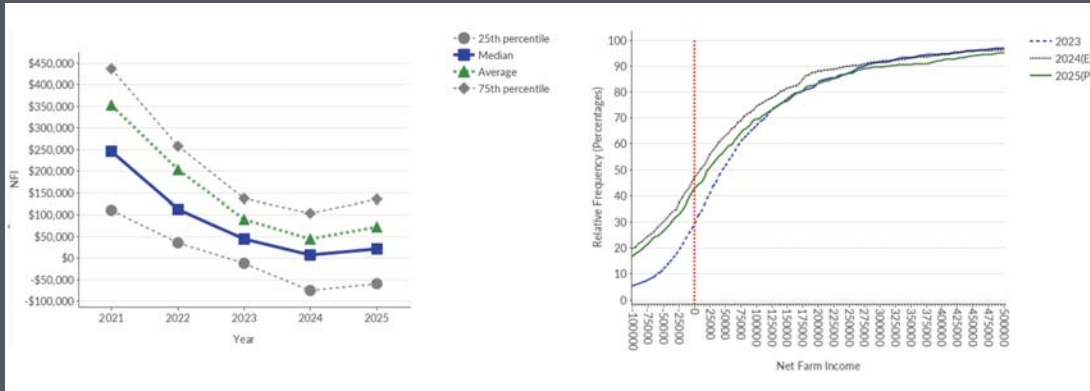
<b>Net Farm Income - state</b>				
	2022	2023	2024(p)	Est 2025
NFI	\$ 203,445	\$ 89,667	\$ 44,999	\$ 73,473
% Change	0	-56%	-50%	63%
<b>Net Farm Income - east</b>				
	2022	2023	2024(p)	Est 2025
NFI	\$ 199,177	\$ 105,391	\$ (7,420)	\$ 31,909
% Change	0	-47%	-107%	-530%
<b>Net Farm Income - central</b>				
	2022	2023	2024(p)	Est 2025
NFI	\$ 160,143	\$ 61,311	\$ 106,460	\$ 109,946
% Change	0	-62%	74%	3%
<b>Net Farm Income - west</b>				
	2022	2023	2024(p)	Est 2025
NFI	\$ 400,164	\$ 141,271	\$ 9,619	\$ 96,075
% Change	0	-65%	-93%	899%

## Summary of NFI

- The next couple of years look challenging based on current prices
- 2024 looks really depressing
- Some bounce back in 2025
  - about to 2023 levels

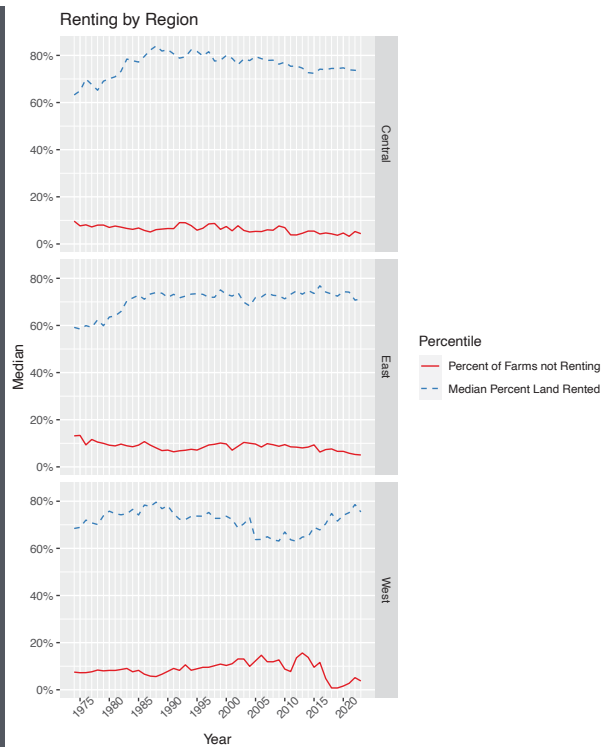
# What is happening at the margins

- 50% of farms could have negative NFI this year and next



Budget Name	Original 2024 budget	August 2024 Revision	\$ change from original
Wheat Cost-Return Budget in Southeast Kansas	15	-24	-39
Wheat (W-S_C-F Rotation) Cost-Return Budget in Southwest KS	-58	-97	-39
Wheat (W-S_C-F Rotation) Cost-Return Budget in Northwest KS	-41	-85	-44
Wheat (W-F) Cost-Return Budget in Southwest KS	-51	-90	-39
Wheat (W-F) Cost-Return Budget in Northwest KS	3	-38	-41
Wheat (Rotation) Cost-Return Budget in South Central KS	62	23	-39
Wheat (Rotation) Cost-Return Budget in Northeast KS	1	-49	-51
Wheat (Rotation) Cost-Return Budget in North Central KS	30	-16	-45
Wheat (Continuous) Cost-Return Budget in South Central KS	-1	-35	-33
Wheat (Continuous) Cost-Return Budget in Northeast KS	-53	-98	-45
Wheat (Continuous) Cost-Return Budget in North Central KS	-42	-81	-39
Irrigated Wheat Cost-Return Budget in Western KS   Limited Irrigation	-316	-366	-51
Corn Cost-Return Budget (W-C-F Rotation) in Northwest Kansas	0	-93	-93
Corn Cost-Return Budget (W-C-F Rotation) in Southwest Kansas	-15	-98	-83
Corn Cost-Return Budget in North Central Kansas	107	-14	-121
Corn Cost-Return Budget in Northeast Kansas	93	-51	-143
Corn Cost-Return Budget in South Central Kansas	134	26	-109
Corn Cost-Return Budget in Southeast Kansas	100	-16	-116
Corn Silage Cost-Return Budget in Northeast Kansas	56	-96	-152
Irrigated Corn (center-pivot) Cost-Return Budget   Northwest Kansas	129	-113	-242
Irrigated Corn (center-pivot) Cost-Return Budget   North Central Kansas	198	-43	-241
Irrigated Corn (center-pivot) Cost-Return Budget   Southwest Kansas	101	-119	-220
Irrigated Corn (center-pivot) Cost-Return Budget   South Central Kansas	156	-69	-226

# Cash leasing of farmland



## Use of rented farmland

- Over 90% of farms rent some amount of farmland
- Of the land farmed, nearly 80% of it is rented
- Even though land rental costs amount to 7% of total production costs, rent still is very important
- Purchased land will typically not cashflow with some level of rented land

## Purpose of publications

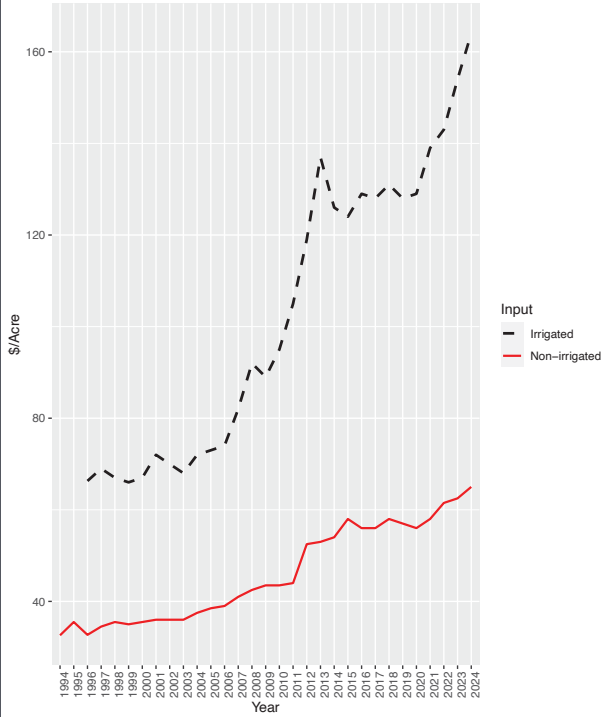
- NOT an endorsement for what a tenant should actually pay a landlord
- Instead, they are provided to give a starting point in lease negotiations
- What is a “fair” or “equitable” lease?
  - Any lease that a tenant and landlord willingly agree to in which they have both utilized the best information they have available to them in making a decision, is considered here to be a “fair” and/or “equitable” lease.

## Why produce these publications

- Nearly every farm leases some land
- Local rental rates may not reflect the ability of the land to support going market rental rates
- Issues from surveys of county rental rates
  - Information may be outdated - time from survey until reported
  - Truthfulness in survey response
  - Surveys could reflect multi-year leases from previous year
- A lack of information about lease rates that incorporate land productivity into the rate calculation



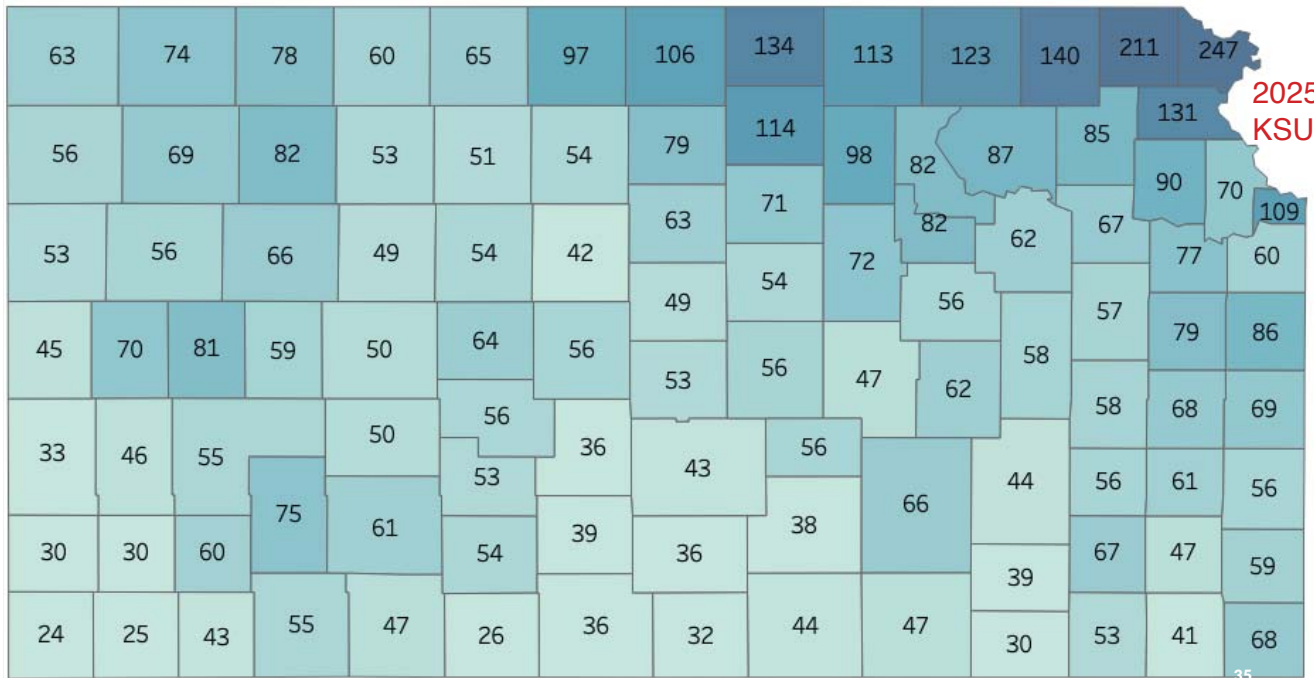
Kansas Cash Rents – USDA



## 2024 USDA survey results

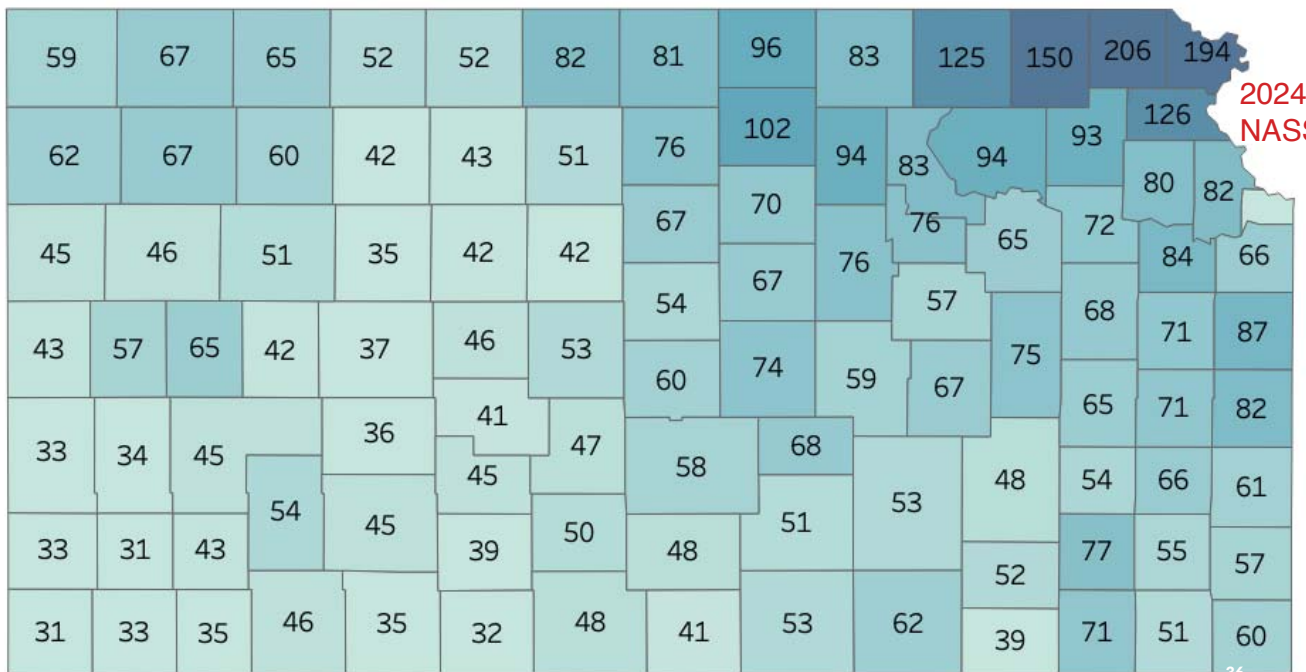
- Increases in both irrigated and non-irrigated rates
- Why increase
  - Survey was done last spring/winter
  - Mixture of both old and new leases
  - Still playing catchup to those good years of high NFI

		KSU	NASS
EAST	Northeast	127	123
	East Central	67	72
	Southeast	52	57
CENTRAL	North Central	89	75
	Central	56	58
	South Central	42	47
WEST	Northwest	67	59
	West Central	59	47
	Southwest	45	38



2025  
KSU

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2024  
NASS

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# Questions?

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