

ANSWERS

TO COMMONLY ASKED QUESTIONS ABOUT AGRICULTURAL LAND VALUE IN KANSAS

By
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General Questions:

Who establishes the appraised value of agricultural land in Kansas?

- By law, the Director of the Division of Property Valuation of the State of Kansas is required to make a determination of agricultural land values annually.

How is agricultural land valued in Kansas?

- Valuation of agricultural land in Kansas is governed by Kansas law. The appraised value of agricultural land is based on the productive potential directly attributed to the natural capabilities of the land, **not fair market value**. Cultivated land is valued using an eight-year average of the landlord share of net income, with soil types used to recognize land productivity potential. For grassland an eight-year average of the landlord share of the net rental income is used. In the case of grassland, productivity is established by use of the grazing index assigned to each soil type. In either case the resulting eight-year average landlord net income is divided by a capitalization rate to arrive at the appraised value.

How is the inherent productive capability determined for agricultural land?

- According to K.S.A. 79-1476, “valuations shall be established for each parcel of land devoted to agricultural use upon the basis of the agricultural income or productivity attributable to the inherent capabilities of such land.” “A classification system for all land devoted to agricultural use shall be adopted by the director of property valuation using criteria established by the United States department of agriculture soil conservation service.” That system, developed by the now Natural Resource Conservation Service (NRCS), is the Soil Rating for Plant Growth (SRPG) index for each soil map unit.
- The SRPG (Soil Rating for Plant Growth) is a numerical rating system developed by NRCS soil scientists for non-irrigated cropland. The index is not tied to yields, which removes management variables. It is designed to rate each soil map unit based on its potential for supporting plant growth and indexed based on the soil’s properties.
- The KIP (Kansas Irrigated Productivity Index) is a numerical rating system for irrigated cropland developed by Department of Agronomy at Kansas State University in cooperation with NRCS. The KIP is designed to rank the productivity of each soil map unit.

What is the responsibility of the county appraiser concerning agricultural land?

- The county appraiser is responsible for discovering, listing, classifying and valuing all taxable property within the county in accordance with the applicable state laws in a uniform and equal manner. However as it relates to agricultural land, the county appraiser does not value this type of property but is responsible for listing each property’s correct current usage and acreage.

What are the different types of agricultural land?

Agricultural land is classified in the following usage categories:

- Dry cultivated land
- Irrigated land
- Tame grassland
- Native grassland

Capitalization Rate:

What is the capitalization rate?

- The capitalization rate is used to convert the landlord share of agricultural net income into an agricultural value. The following three components make up the capitalization rate:
 1. The five-year average of the Federal Land Bank interest rate on new loans in Kansas as of July 1 of each year.
 2. An “add on” of not less than .75% nor more than 2.75% determined by the Director of Property Valuation.
 3. As of property tax year 2003, the capitalization rate shall not be less than 11% nor more than 12% as mandated by the 2002 Kansas Legislature.
 4. The county average agricultural property tax rate. This accounts for property taxes on agricultural land as an expense.

The sum of these three components is the capitalization rate percentage that is divided into the landlord net income (LNI) to arrive at the agricultural value. The higher the capitalization rate, the lower the agricultural value. For example, a higher county average agricultural property tax rate (expense) means the final agricultural value will be lower (all other things being equal).

Why are values in some counties higher than those in surrounding counties?

Differences can be attributed to one or more of the following:

- Crop mix, (the major crops in a county).
- Differences between landlord share of income and expense ratios.
- Different agricultural cap rate. For example, a county may have an extremely low agricultural cap rate due to an electrical power generating plant, which carries a large portion of the taxes.

Native and Tame Grassland

How is the landlord net rental income determined for grassland?

- The landowners share of gross rental income is based on stocking rates (measurement of productivity) and cash rental rates developed from regional studies performed by Kansas Agricultural Statistics, the Natural Resources Conservation Service and Kansas State University.
- The landlord shares of expenses are based on survey information collected by Kansas Agricultural Statistics and Kansas State University. Expenses included are; fencing and fence maintenance, pasture spraying and maintenance and watering cost.
- The landlord share of gross rental income less the landlord share of expenses (including a 10% management fee) equals the landlord share of net rental income.

Dryland:

How is the landlord net income determined for dryland?

- Using information from Kansas Agricultural Statistics, the landlord share of gross income is based upon the yields and prices of the primary crops grown in the county or region. Yields are based on planted acres and adjusted for summer fallow where applicable. Prices are based on the monthly average price weighted by the amount crop sold per month. Each of the primary crops are then weighted within the county to determine crop composition or “crop mix”.
- The landlord share of expenses are weighted by the crop mix factors within the county. The expense data is based on planted acres and survey information collected by Kansas Agricultural Statistics and Kansas State University.
- The landlord share of gross income less the landlord share of expenses (including a 10% management fee) equals the landlord net income.
- The eight-year average of the landlord net incomes are capitalized into value.

Irrigated Land:

How is the landlord net income determined for irrigated land?

- Using information from Kansas Agricultural Statistics the landlord share of gross income is based on yields of primary crop harvested acres. Each of the primary crops is then weighted within the district to determine crop mix.
- The landlord share of expenses is based on planted acres and is also weighted within the district. Kansas Agricultural Statistics and Kansas State University collect the expense data. Expenses are also weighed by the crop mix.
- The landlord share of gross income less the landlord share of expenses (including a 10% management fee) equals the landlord net income.
- Well depths are taken into consideration through irrigation equipment and fuel pumping costs.
- A water ratio table is used to adjust for water limitations.

Counties in the east irrigate; why don't they have separate values?

- These counties are in the one-acre-feet region of water, and irrigation is an insurance against dry periods.
- The irrigated values used in the east are a percentage increase of dryland values in the county and will change as dryland values in the county change

Why is irrigation valued on a district basis?

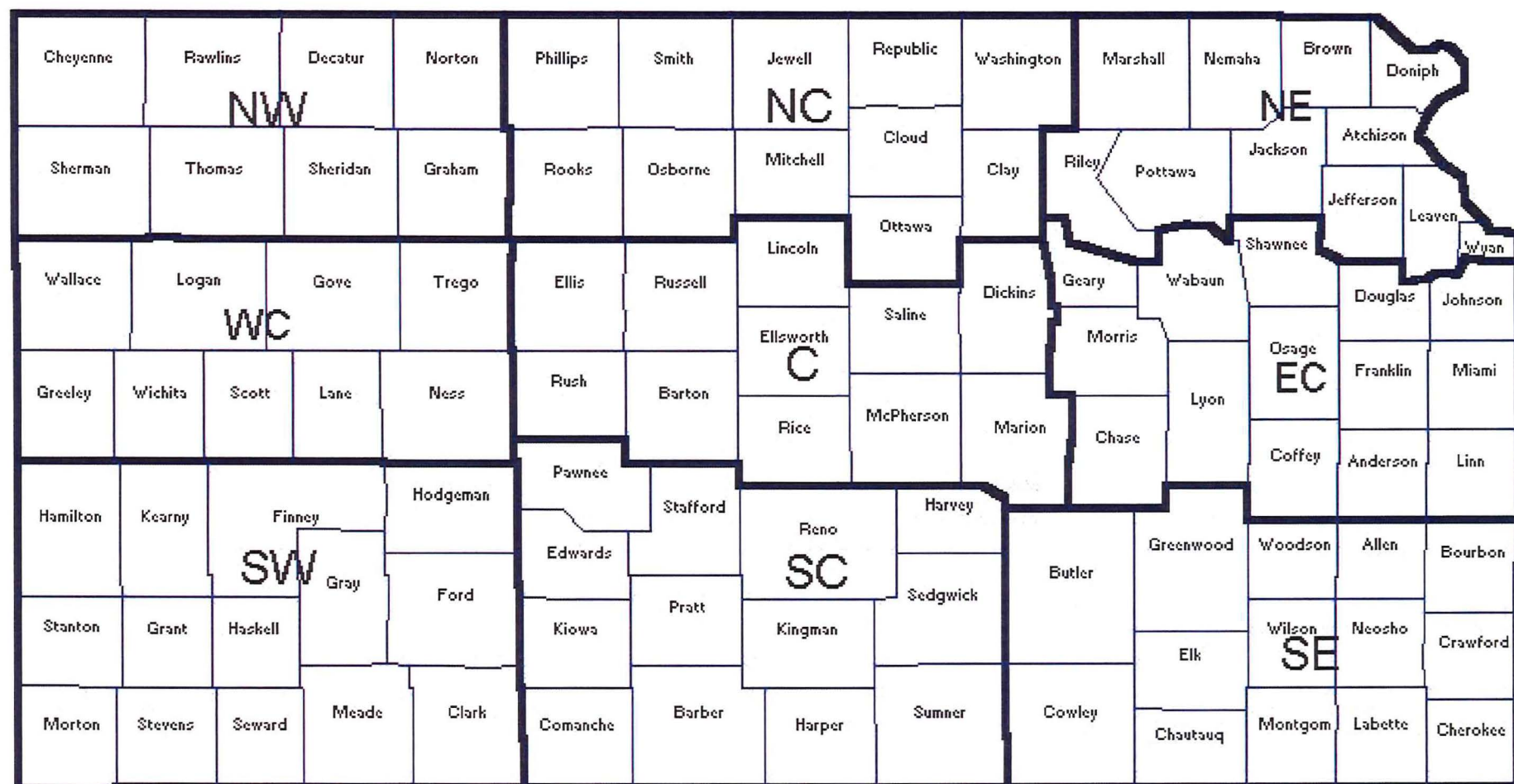
- It prevents massive value swings across county lines.
- It creates uniformity across county lines.
- Irrigation tends to lessen the effects of climate, allowing larger geographic areas to have approximately the same productivity.

Why is there still so much variability where the irrigation districts meet?

Variability can be attributed to differences in one or more of the following:

- crop mix,
- ownership of the sprinkler,
- ratio of flood and pivot acres in the district,
- district average yields,
- landlord share of net income,
- county agricultural tax rates, and
- differences between counties in the 2 acre-feet region and counties in the 1½ acre-feet region.

AGRICULTURAL STATISTICS DISTRICTS



Kansas is divided into nine Agricultural Statistics Districts for convenience in compiling and presenting statistical information on crops and livestock. These nine districts are outlined on the above map. The districts are designated as follows: Northwest (NW) (10), West Central (WC) (20), Southwest (SW) (30), North Central (NC) (40), Central (C) (50), South Central (SC) (60), North East (NE) (70), East Central (EC) (80), Southeast (SE) (90).

Changes in Landlord Net Income for the 2021 Ag Values

Nonirrigated:

- 8-Year: Forty-five of the 105 counties increased; the remaining sixty counties decreased. Changes ranged from \$6.83 in Doniphan to \$-2.27 in Stevens; the average change was \$0.33. Changes in the eastern third of Kansas were the highest, ranging from \$0.11 to \$6.83.
- Annual: Commodity prices decreased across the entire state. Production costs decreased in all districts, except NC-40, C-50, SC-60, and NE-70. Production costs increased in NC-40 and NE-70 and were mixed in C-50 and SC-60. Yields generally increased, except in NE-10 and NC-40. The annual landlord net income increased in forty-nine counties, including all counties in WC-20, EC-80, and SE-90; annual landlord net income decreased in the remaining fifty-six counties.
- NW-10 The 2019 Average LNI decreased in all eight counties. Overall: yields decreased except wheat in Graham, Sheridan, and Thomas. All prices decreased. Most counties moved away from sorghum, except Cheyenne and Sherman. Most counties moved to corn or wheat from corn and soybeans, except Cheyenne, Sherman, and Thomas. Production costs decreased in all counties.
- WC-20 The 2019 Average LNI increased in all counties. Overall: all yields increased, except sorghum and corn in Gove, Greeley, Logan, and Wallace. All prices decreased. All counties increased wheat and corn acreage and decreased sorghum acreage, except Greeley which reduced wheat acreage. Production costs decreased in all counties.
- SW-30 The 2019 Average LNI increased in seven counties and decreased in seven counties. Overall: yields increased, except sunflowers in Grant and Stanton and corn in Grant. All prices decreased. Wheat acreage increased in all counties. Most counties moved from wheat and sorghum to corn acreage. Clark shifted from wheat to sorghum and Ford did the opposite. Production costs increased in Grant, Meade, Morton, and Stanton, and decreased in all other counties.
- NC-40 The 2019 Average LNI decreased in all 11 counties. Overall: the landlord share decreased in all counties. Yields decreased in all counties, except wheat in all counties. Other yield exceptions were: sorghum and soybean yields that increased in Clay, sorghum and corn in Ottawa, and soybeans in Republic and Rooks. All prices decreased. Wheat acreage decreased in all counties, except Rooks. Sorghum acreage decreased in six counties. Ten of the 11 counties increased corn and soybean acreage, except Rooks which decreased soybeans and increased corn. Production costs increased in all 11 counties.

- C-50 The 2019 Average LNI decreased in all 11 counties. Overall: Most yields increased in all counties. However, wheat yields decreased in four of the 11 counties, and alfalfa yields decreased in five counties. All prices decreased. All counties shifted acreage from wheat and sorghum to corn and soybeans, except Barton, Lincoln, and Rush. Barton increased corn only; Lincoln increased corn and alfalfa; and Rush increased wheat. Production costs decreased in all counties, except Lincoln.
- SC-60 The 2019 Average LNI decreased in ten of the 13 counties. Overall: yields increased in all counties, except wheat in Barber, Pratt, and Stafford. Alfalfa yield also decreased in Stafford. All prices decreased. Wheat acreage decreased in eight counties. Sorghum acreage decreased in seven of the 13 counties. Corn acreage decreased in seven counties, and soybean acreage decreased in two counties. Alfalfa acreage decreased in Reno. Production costs decreased in five counties.
- NE-70 The 2019 Average LNI decreased in all 11 counties. Overall: landlord share increased in all counties. Yields increased on most crops, except corn and soybeans in three counties and alfalfa in seven counties. All prices decreased. Six counties moved from corn acreage to soybeans. Three counties moved from soybeans to corn acreage. Marshall and Riley moved from wheat and sorghum to corn and soybeans. Production costs increased in all of the 11 counties.
- EC-80 The 2019 Average LNI increased in all -14 counties. Overall: landlord share increased in all counties. Most yields increased for all crops in all counties, except alfalfa in ten counties and wheat in Anderson, Geary, Linn, Miami, and Morris. All prices decreased. Acreage moved from corn in six counties, from corn and soybeans in four counties. Wheat acreage decreased in five counties and increased in Douglas and Osage. Alfalfa acreage increased in Geary and Wabaunsee. Production costs decreased in all of the 14 counties.
- SE-90 The 2019 Average LNI increased in all 14 counties. Overall: yields increased, except wheat in five counties and alfalfa in Cowley. All prices decreased. Wheat acreage decreased in all counties, except Bourbon and Cowley. Corn acreage decreased in six counties, and soybean acreage in all counties, except Bourbon. Production costs decreased in all counties.

Pasture:

- 8-Year: The Weighted Average LNI increased for native and tame grass in all districts, except WC-20 native. Percent changes ranged from -3.26% to 29.72% for native; Percent changes for tame ranged from 2.90 % to 21.32%.
- Annual: **Native:** The 2019 Weighted Average LNI for native pasture increased in three districts, SW-30, NC-40, and EC-80. Cash rent increased in SW-20, NC-40, EC-80, and SE-90. Fence and maintenance costs increased in all districts.
- Tame:** The 2019 Weighted Average LNI for tame pasture increased in two districts, NC-40 and EC-80. Cash rent increased in NC-40, EC-80 and SE-90. Fence and maintenance costs increased in all districts.

Irrigated:

8-Year: At the 200' well depth, the weighted average LNI for irrigated crop land decreased in all districts, except SC-60.

Annual: The 2019 Weighted Average LNI for irrigated crop land decreased in all districts. At the 200' well depth, weighted LNI changes ranged from \$-3.36 to \$-17.95; Average annual LNI decreased in all six districts; changes ranged from \$-0.68 to \$-17.01. Wheat yield decreased in all districts, except SW-30. Sorghum decreased in NW-10 and NC-40. Soybean yield decreased in NC-40. All other yields increased. Prices decreased statewide for all crops. All districts decreased wheat acreage, except SW-30. SW-30 decreased and C-50 increased sorghum acreage. Corn acreage increased in all districts, and soybean acreage increased in only SW-30. Expenses increased in all districts.

Agricultural Land Base Value Comparison 2020 - 2021

			% Acres		% Acres	2020	2021	Overall %	Weighted
			in	Well	for Well	Wt Avg	Wt Avg	Change	%
District	County	Land Use	County	Depth	Depth	Value (11.00)	Value (11.00)	2020 to 2021	Change
North Central	Clay	Native Grass	38%			\$102	\$106	4%	
		Tame Grass	3%			\$125	\$126	2%	
		Dry Land	53%			\$536	\$535	0%	
		Irrigated Land	6%	100	100%	\$864	\$853	-1%	1%
	Cloud	Native Grass	38%			\$95	\$99	3%	
		Tame Grass	3%			\$95	\$99	3%	
		Dry Land	53%			\$439	\$433	-1%	
		Irrigated Land	6%	100	98%	\$820	\$807	-2%	1%
	Jewell	Native Grass	39%			\$60	\$63	5%	
		Tame Grass	0%			\$60	\$63	5%	
		Dry Land	59%			\$509	\$508	0%	
		Irrigated Land	2%	100	100%	\$856	\$851	-1%	2%
	Mitchell	Native Grass	29%			\$62	\$64	4%	
		Tame Grass	0%			\$62	\$64	4%	
		Dry Land	69%			\$399	\$392	-2%	
		Irrigated Land	2%	100	100%	\$896	\$886	-1%	0%
	Osborne	Native Grass	46%			\$55	\$58	5%	
		Tame Grass	0%			\$55	\$58	5%	
		Dry Land	52%			\$164	\$161	-2%	
		Irrigated Land	2%	100	100%	\$920	\$910	-1%	1%
	Ottawa	Native Grass	46%			\$99	\$103	4%	
		Tame Grass	2%			\$99	\$103	4%	
		Dry Land	51%			\$395	\$385	-3%	
		Irrigated Land	2%	100	89%	\$896	\$886	-1%	0%
	Phillips	Native Grass	51%			\$64	\$67	5%	
		Tame Grass	0%			\$64	\$67	5%	
		Dry Land	47%			\$308	\$296	-4%	
		Irrigated Land	1%	100	100%	\$885	\$880	-1%	1%
	Republic	Native Grass	27%			\$99	\$104	4%	
		Tame Grass	3%			\$99	\$104	4%	
		Dry Land	54%			\$537	\$540	1%	
		Irrigated Land	15%	100	86%	\$821	\$815	-1%	2%
	Rooks	Native Grass	47%			\$61	\$64	4%	
		Tame Grass	0%			\$61	\$64	4%	
		Dry Land	53%			\$251	\$241	-4%	
		Irrigated Land	0%	100	100%	\$942	\$932	-1%	0%
	Smith	Native Grass	39%			\$59	\$62	5%	
		Tame Grass	2%			\$59	\$62	5%	
		Dry Land	57%			\$404	\$401	-1%	
		Irrigated Land	2%	100	99%	\$855	\$854	0%	2%
	Washington	Native Grass	42%			\$100	\$104	4%	
		Tame Grass	3%			\$126	\$129	2%	
		Dry Land	53%			\$555	\$553	0%	
		Irrigated Land	3%	100	55%	\$863	\$859	0%	2%

LAND USE-VALUE DATA
WEIGHTED ANNUAL PRICES RECEIVED BY FARMERS
BY Crop Reporting District
FOR: 2021 VALUES (2019)

SOURCES: "Prices Received by Farmers"
Kansas Agricultural Statistics

DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/TON)	DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/BU)	DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/BU)
STATE	ALFALFA	2019	\$148.50	NC-40	WHEAT	2019	\$4.00	NC-40	SOYBEANS	2019	\$7.84
		2018	162.58			2018	3.86			2018	8.71
		2017	95.21			2017	3.10			2017	8.83
		2016	98.50			2016	3.36			2016	8.85
		2015	124.91			2015	4.91			2015	8.59
		2014	174.64			2014	6.30			2014	10.64
		2013	216.63			2013	7.12			2013	12.99
		2012	219.10			2012	7.41			2012	13.33
			\$155.01				\$5.01				\$9.97
			(\$/LB)								
STATE	SUNFLOWERS	2019	\$0.1700	NC-40	SORGHUM	2019	\$3.04	NC-40	CORN	2019	\$3.38
		2018	0.1880			2018	3.12			2018	3.02
		2017	0.1746			2017	2.54			2017	2.89
		2016	0.1778			2016	2.74			2016	3.18
		2015	0.2152			2015	3.56			2015	3.65
		2014	0.2268			2014	3.97			2014	3.91
		2013	0.2445			2013	5.35			2013	5.60
		2012	0.2946			2012	6.44			2012	6.62
			\$0.2115				\$3.85				\$4.03

Ag Use Cap Rate 2020 and 2021

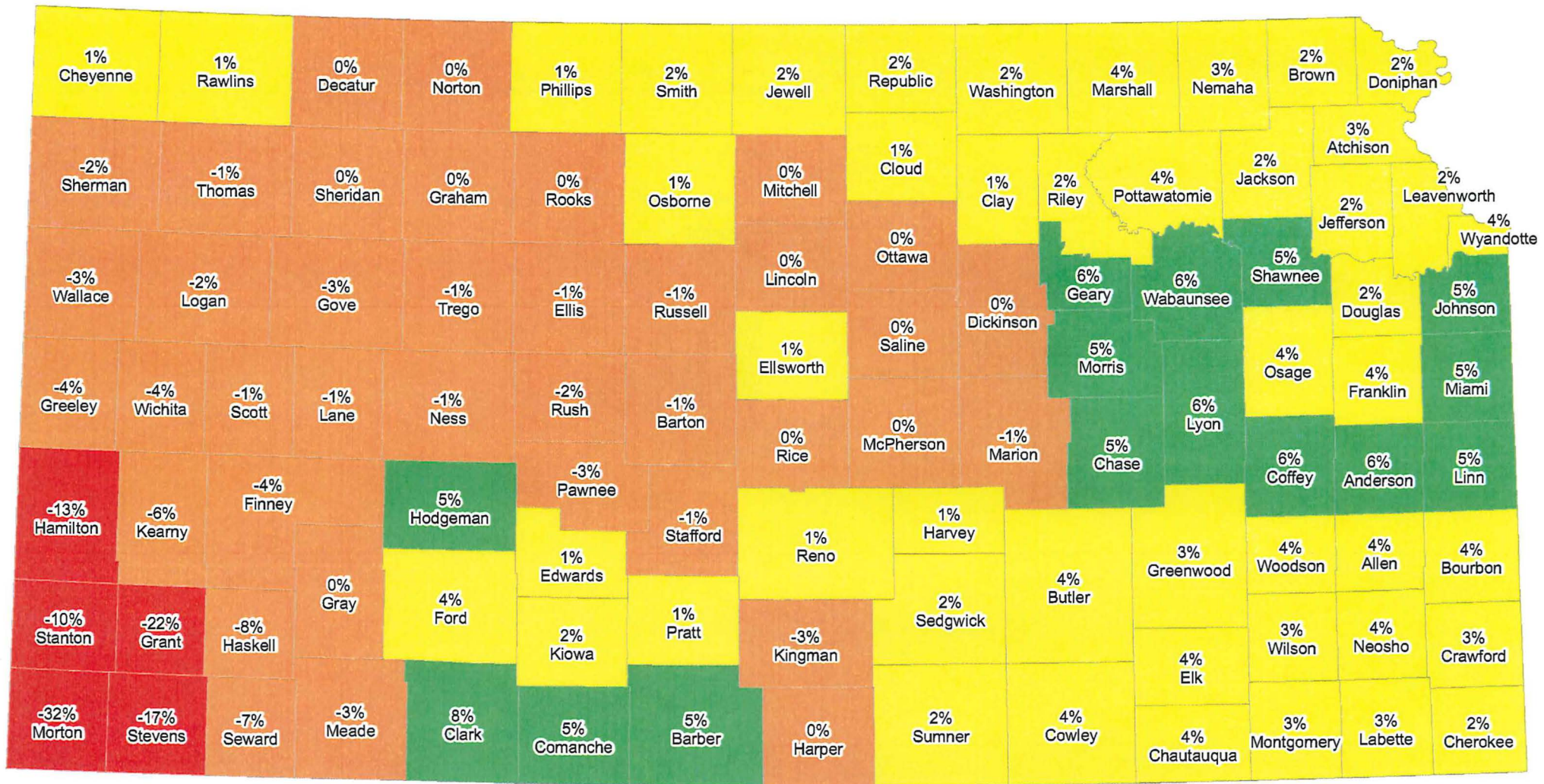
District 40

District 50

District 60

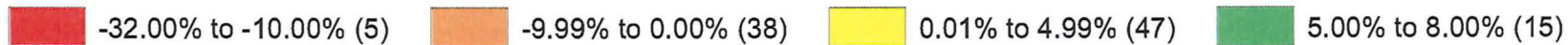
	<u>2020</u>	<u>2021</u>		<u>2020</u>	<u>2021</u>		<u>2020</u>	<u>2021</u>
Clay	15.36%	15.37%	Barton	15.63%	15.67%	Barber	14.98%	15.15%
Cloud	15.74%	15.79%	Dickinson	14.67%	14.72%	Comanche	15.43%	15.60%
Jewell	15.89%	15.79%	Ellis	13.79%	13.79%	Edwards	15.55%	15.59%
Mitchell	15.84%	15.85%	Ellsworth	14.50%	14.46%	Harper	15.13%	15.12%
Osborne	15.54%	15.54%	Lincoln	16.13%	16.05%	Harvey	14.42%	14.46%
Ottawa	15.74%	15.76%	Marion	15.19%	15.21%	Kingman	15.23%	15.30%
Phillips	15.72%	15.62%	McPherson	14.19%	14.19%	Kiowa	14.80%	14.85%
Republic	15.82%	15.75%	Rice	14.98%	14.97%	Pawnee	15.66%	15.65%
Rooks	14.96%	14.98%	Rush	15.76%	15.84%	Pratt	15.32%	15.28%
Smith	16.62%	16.48%	Russell	15.55%	15.59%	Reno	15.33%	15.36%
Washington	15.59%	15.51%	Saline	13.89%	13.93%	Sedgwick	14.45%	14.45%
						Stafford	15.17%	15.17%
						Sumner	15.27%	15.20%

Agricultural Land Values Change from 2020 to 2021



The data used in this map comes from the Property Valuation Division - Kansas Dept of Revenue

% Change



(# of Counties)