

ANSWERS

TO COMMONLY ASKED QUESTIONS ABOUT AGRICULTURAL LAND VALUE IN KANSAS

By
The Ag Use Section
Property Valuation Division (PVD)
Kansas Department of Revenue

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 KIPI (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 KIPI 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.

Ag Use Cap Rate 2019 and 2020

	District 40			District 50			District 60	
	<u>2019</u>	<u>2020</u>		<u>2019</u>	<u>2020</u>		<u>2019</u>	<u>2020</u>
Clay	15.32%	15.36%	Barton	15.57%	15.63%	Barber	14.84%	14.98%
Cloud	15.67%	15.74%	Dickinson	14.63%	14.67%	Comanche	15.34%	15.43%
Jewell	15.97%	15.89%	Ellis	13.79%	13.79%	Edwards	15.47%	15.55%
Mitchell	15.83%	15.84%	Ellsworth	14.52%	14.50%	Harper	15.15%	15.13%
Osborne	15.53%	15.54%	Lincoln	16.17%	16.13%	Harvey	14.38%	14.42%
Ottawa	15.71%	15.74%	Marion	15.15%	15.19%	Kingman	15.13%	15.23%
Phillips	15.75%	15.72%	McPherson	14.18%	14.19%	Kiowa	14.69%	14.80%
Republic	15.87%	15.82%	Rice	14.98%	14.98%	Pawnee	15.69%	15.66%
Rooks	14.95%	14.96%	Rush	15.71%	15.76%	Pratt	15.35%	15.32%
Smith	16.70%	16.62%	Russell	15.52%	15.55%	Reno	15.30%	15.33%
Washington	15.65%	15.59%	Saline	13.84%	13.89%	Sedgwick	14.44%	14.45%
						Stafford	15.15%	15.17%
						Sumner	15.32%	15.27%

Agricultural Land Base Value Comparison 2019 - 2020

District	County	Land Use	% Acres in County	% Acres Well Depth		2019	2020	Overall % Change 2019 to 2020	Weighted % Change
				Well Depth	for Well Depth	Wt Avg Value (11.00)	Wt Avg Value (11.00)		
North Central	Clay	Native Grass	38%			\$94	\$102	9%	
		Tame Grass	3%			\$116	\$125	7%	
		Dry Land	53%			\$511	\$536	5%	
		Irrigated Land	6%	100	100%	\$847	\$864	2%	6%
	Cloud	Native Grass	38%			\$87	\$95	9%	
		Tame Grass	3%			\$87	\$95	9%	
		Dry Land	53%			\$423	\$439	4%	
		Irrigated Land	6%	100	98%	\$807	\$820	2%	6%
Jewell	Jewell	Native Grass	39%			\$52	\$60	15%	
		Tame Grass	0%			\$52	\$60	15%	
		Dry Land	59%			\$484	\$509	5%	
		Irrigated Land	2%	100	100%	\$833	\$856	3%	9%
	Mitchell	Native Grass	29%			\$54	\$62	14%	
		Tame Grass	0%			\$54	\$62	14%	
		Dry Land	69%			\$386	\$399	3%	
		Irrigated Land	2%	100	100%	\$877	\$896	2%	6%
Osborne	Osborne	Native Grass	47%			\$48	\$55	16%	
		Tame Grass	0%			\$48	\$55	16%	
		Dry Land	51%			\$159	\$164	3%	
		Irrigated Land	2%	100	100%	\$901	\$920	2%	9%
	Ottawa	Native Grass	45%			\$90	\$99	9%	
		Tame Grass	2%			\$90	\$99	9%	
		Dry Land	51%			\$389	\$395	2%	
		Irrigated Land	2%	100	88%	\$879	\$896	2%	5%
Phillips	Phillips	Native Grass	51%			\$56	\$64	14%	
		Tame Grass	0%			\$56	\$64	14%	
		Dry Land	47%			\$299	\$308	3%	
		Irrigated Land	1%	100	100%	\$865	\$885	2%	9%
	Republic	Native Grass	27%			\$91	\$99	10%	
		Tame Grass	3%			\$91	\$99	10%	
		Dry Land	54%			\$506	\$537	6%	
		Irrigated Land	15%	100	86%	\$803	\$821	2%	7%
Rooks	Rooks	Native Grass	47%			\$53	\$61	15%	
		Tame Grass	0%			\$53	\$61	15%	
		Dry Land	53%			\$244	\$251	3%	
		Irrigated Land	0%	100	100%	\$922	\$942	2%	8%
	Smith	Native Grass	39%			\$51	\$59	14%	
		Tame Grass	2%			\$51	\$59	14%	
		Dry Land	57%			\$382	\$404	6%	
		Irrigated Land	2%	100	99%	\$833	\$855	3%	9%
Washington	Washington	Native Grass	42%			\$90	\$100	10%	
		Tame Grass	3%			\$117	\$126	8%	
		Dry Land	53%			\$524	\$555	6%	
		Irrigated Land	3%	100	55%	\$841	\$863	3%	8%

Changes in Landlord Net Income for the 2020 Ag Values

Nonirrigated:

The 8-Year Average Landlord Net Income (LNI) increased in fifty-one of the 105 counties; decreasing in 54 counties. Changes ranged from \$10.36 in Doniphan to \$-2.68 in Comanche; the average change was \$0.67. Changes in northeast Kansas were the highest, between \$3.27 and \$10.36.

All commodity prices, except alfalfa and sunflowers, decreased across the state. Overall, production costs decreased in all districts, except WC-20. Yields generally decreased, except in eastern districts. Six of the nine districts moved toward wheat and sorghum and away from corn and soybeans.

- NW-10 The 2018 Average LNI decreased in all eight counties. Overall: yields decreased except corn in Graham and soybeans in Norton. All prices decreased, except alfalfa and sunflowers. All counties moved from sorghum, except Cheyenne and Sherman. Most counties moved to sorghum or wheat from corn and soybeans, except Thomas increased corn acreage. Half of the counties increased wheat acreage, and half decreased wheat acreage. Production costs decreased in five of the eight counties.
- WC-20 Average LNI decreased in all counties. Overall: yields decreased. All prices decreased, except alfalfa and sunflowers. Most counties increased wheat or sorghum acreage; three counties increased corn acreage. Overall, production costs increased in five counties.
- SW-30 Average LNI decreased in all counties. Overall: yields decreased, except sorghum, corn, soybeans, and alfalfa in two counties. All prices decreased, except alfalfa and sunflowers. Wheat acreage increased in all counties. Sorghum and corn acreage decreased in most counties. Corn acreage increased in three counties, and sorghum increased in only one county. Production costs increased in five of the 14 counties.
- NC-40** Average LNI decreased in three of the 11 counties. Overall: yields decreased, except soybeans in nine counties and sorghum in six counties. All prices decreased, except alfalfa and sunflowers. Wheat acreage decreased in all counties, except Rooks. Sorghum acreage decreased in six counties. Corn and soybean acreage increased in all counties, except Rooks. Production costs decreased in all but three counties.
- C-50 Average LNI decreased in all counties. Overall: soybean yields increased and alfalfa yields decreased in all counties. Wheat and sorghum yields decreased in eight counties. All prices decreased, except alfalfa and sunflowers. Wheat acreage decreased in six counties. Sorghum acreage decreased in three counties; corn acreage increased in five counties. Soybean and alfalfa acreage increased in all counties, except McPherson and Barton, respectively. Production costs increased in all counties, except McPherson.
- SC-60 Average LNI decreased in all counties, except Reno. Overall: wheat yield decreased in all counties, except Harvey and Reno. Sorghum yields increased in eight counties. Corn, soybean, and alfalfa yields decreased in most counties. All prices decreased, except alfalfa and sunflowers. Wheat acreage decreased in eight counties. Sorghum acreage decreased in six of the 13 counties. Corn acreage decreased in seven counties, and soybean acreage decreased in four counties. Alfalfa acreage increased in Reno and Stafford. Production costs decreased in eight counties.

- NE-70 Average LNI increased in seven of the 11 counties. Overall: yields increased on most crops, except sorghum in four counties and alfalfa in five counties. All prices decreased, except alfalfa and sunflowers. Corn acreage increased in five counties. Soybeans increased in all counties, except Nemaha and Pottawatomie. Wheat acreage decreased in three counties. Alfalfa decreased in Pottawatomie. Production costs decreased in ten of the 11 counties.
- EC-80 Average LNI increased in eight of the 14 counties. Overall: yields increased in all crops in all counties, except corn in Geary and alfalfa in seven counties. All prices decreased, except alfalfa and sunflowers. Acreage moved between corn and soybeans, except in Coffey and Geary. Coffey increased wheat acreage and reduced corn and soybeans. Geary alfalfa acreage increased, and wheat and soybean acreage decreased. Production costs increased in 13 of the 14 counties.
- SE-90 Average LNI decreased in all counties, except Bourbon. Overall: wheat yields increased in 12 of the 14 counties; sorghum and soybean yields increased in seven and six counties, respectively. Corn and alfalfa yields decreased in all counties, except Butler and Woodson. All prices decreased, except alfalfa and sunflowers. Wheat acreage increased in all counties, except Bourbon and Cowley. Largely those acres came from corn and soybean acreage. Overall, crop mix moved to wheat and sorghum from corn and soybeans. Production costs decreased in all counties, except Bourbon and Cowley.

Pasture:

The 2018 Weighted Average LNI increased for native and tame grass in all districts. Changes ranged from \$0.37 to \$1.49 for native pasture; and from \$1.04 to \$3.18 for tame pasture.

Native: The 2018 Weighted Average LNI for native pasture increased in three districts, NC-40, SC-60, and EC-80. Cash rent increased in all districts. Fence and maintenance costs increased in five districts and decreased in four; watering costs increased to \$1.00 from \$0.60.

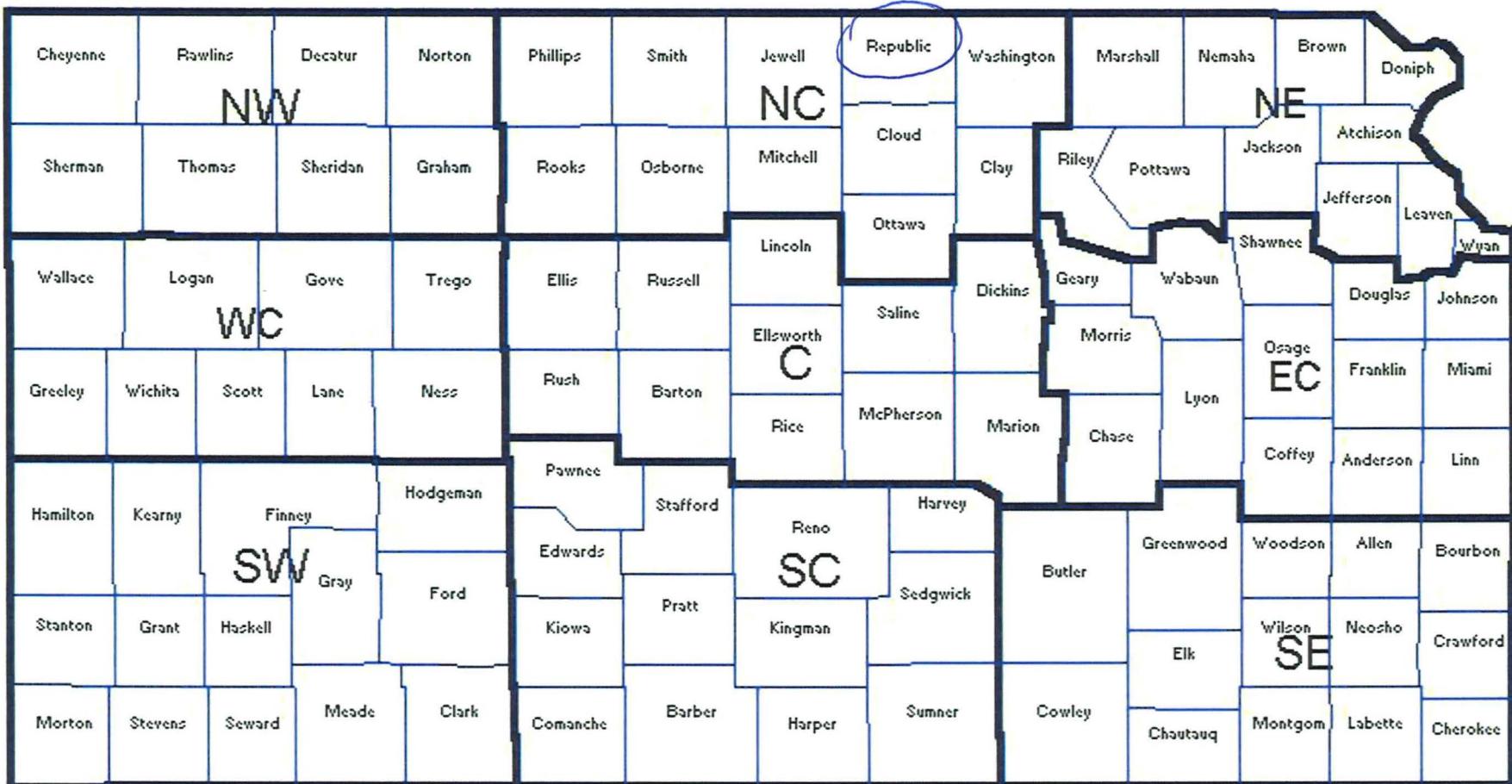
Tame: The 2018 Weighted Average LNI for tame pasture increased in all districts. Cash rent increased in all districts. Fence and maintenance costs decreased in all districts, except SE-90; Watering costs increased to \$1.00 from \$0.60.

Irrigated:

The 8-Year Average LNI for irrigated crop land increased.

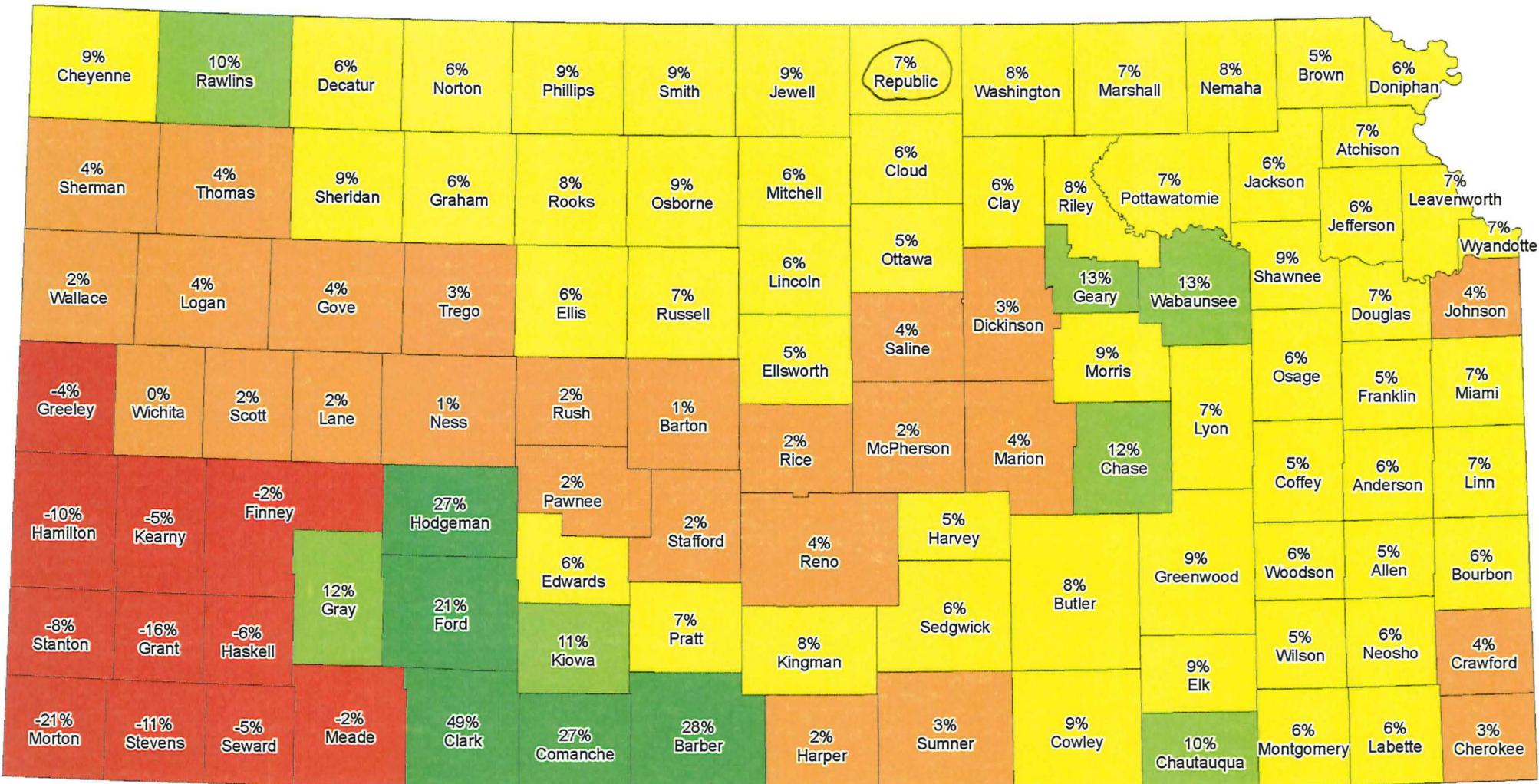
The 2018 Weighted Average LNI for irrigated crop land decreased in all districts. Most yields decreased or remained relatively constant. There were small increases in corn yields in NC-40 and SC-60. Prices decreased statewide for all crops, except alfalfa. Some acres moved from soybeans to corn consistently and also to wheat in C-50 and SC-60. Expenses decreased in all districts, except NC-40.

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).

Agricultural Land Values Change from 2019 to 2020



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

% Change

-21.00% to -0.01% (11) 5.00% to 9.99% (57) 20.00% - 49.00% (5)

0.00% to 4.99% (25) 10.00% to 19.99% (7)

(# of Counties)



February 17th, 2020

LAND USE-VALUE DATA**WEIGHTED ANNUAL PRICES RECEIVED BY FARMERS****BY Crop Reporting District****FOR: 2020 VALUES (2018)**

SOURCES: "Prices Received by Farmers"

Kansas Agricultural Statistics

DISTRICT STATE	CROP ALFALFA	ANNUAL PRICE			DISTRICT NC-40	CROP WHEAT	ANNUAL PRICE			DISTRICT NC-40	CROP SOYBEANS	ANNUAL PRICE					
		YEAR	(\$/TON)	YEAR			YEAR	(\$/BU)	YEAR			YEAR	(\$/BU)				
2018	ALFALFA	2018	\$162.58	NC-40	WHEAT	2018	\$3.86	NC-40	SOYBEANS	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						
		2011	168.60			2011	7.18			2011	11.61						