

# ANSWERS

## TO COMMONLY ASKED QUESTIONS ABOUT AGRICULTURAL LAND VALUE IN KANSAS

By  
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Property Valuation Division (PVD)  
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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.

# Changes in Landlord Net Income for the 2019 Ag Values

## Nonirrigated:

The 8-year average LNI increased in eighty-five of the 105; 20 counties, many in SC-60, decreased. Changes ranged from \$12.77 in Doniphan to \$-1.08 in Comanche; the average change was \$1.97. Changes in northeast Kansas were the highest, between \$5.48 and \$12.77.

All crop prices decreased across the state. Overall, production costs increased in all districts, except NW-10, WC-20, and NE-70. Yields generally decreased, except wheat in some eastern districts. Most districts moved away from wheat and sorghum. NC-70 moved out of soybeans.

- NW-10 Average 2017 LNI decreased in all eight counties. Overall: yields decreased except sorghum in Rawlins. All prices decreased. All counties moved from sorghum, except Cheyenne and Sherman. All counties, except Sheridan, increased corn acreage. Half of the counties increased wheat acreage, and half decreased wheat acreage. Production costs decreased.
- WC-20 Average 2017 LNI decreased in all counties. Overall: yields decreased, except wheat in nine counties. All prices decreased. Nine counties decreased wheat acreage. Only Greeley and Wallace increased sorghum acreage. All counties, except Gove, increased corn acreage. Production costs decreased in all counties.
- SW-30 Average 2017 LNI decreased in all counties. Overall: yields decreased in all crops, except wheat in 10 counties. All prices decreased. Wheat acreage decreased in 10 counties, and sorghum decreased in nine counties. Corn acreage increased in 11 of the 12 counties planting corn. Production costs increased in all counties.
- NC-40 Average 2017 LNI decreased in all counties. Overall: yields decreased in all crops, except wheat in two counties. All prices decreased. Wheat acreage decreased in all counties, except Republic and Washington. Sorghum acreage decreased in all counties. Corn and soybean acreage increased in all counties, except Rooks. Production costs increased in all counties.
- C-50 Average 2017 LNI decreased in all counties. Overall: all crop yields decreased, except wheat in Marion and Rice. All prices decreased. Wheat acreage decreased in all counties, except three. Sorghum acreage decreased in all counties; corn acreage increased in all counties that planted corn. Soybean acreage increased in all counties planting soybeans, except Barton. Alfalfa acreage decreased in Barton and Saline. Production costs increased in all counties.
- SC-60 Average 2017 LNI decreased in all counties. Overall: all crop yields decreased, except wheat in five counties and corn in Pratt. All prices decreased. Wheat acreage increased in eight counties and decreased in five counties. Sorghum acreage decreased in all counties, except Comanche. Corn and soybean acreage increased in all counties, except corn in Stafford. Alfalfa acreage decreased in Comanche. Production costs increased in all counties.

- NE-70 Average 2017 LNI decreased in nine of the eleven counties. Overall: yields decreased on most crops, except wheat and sorghum in nine counties. All prices decreased. Corn acreage increased in all counties, except Riley and Wyandotte. Soybeans decreased in all counties, except Jackson, Pottawatomie, and Riley. Wheat acreage decreased in Jackson, Marshall, and Pottawatomie, and increased in Riley and Wyandotte. Alfalfa increased in Pottawatomie and Riley. Production costs decreased in all counties.
- EC-80 Average 2017 LNI decreased in all counties. Overall: yields decreased, except wheat in 10 counties and sorghum in two counties. All prices decreased. Wheat acreage decreased, and soybean acreage increased, in all counties. Corn acreage increased in 12 of the 14 counties. Alfalfa acreage decreased in Geary. Production costs increased in all counties.
- SE-90 Average 2017 LNI decreased in all counties. Overall: all crop yields decreased, except wheat, in all counties. All prices decreased. Wheat acreage decreased in all counties, except Cowley and Neosho. Sorghum acreage decreased in Cowley. Corn acreage decreased in five of the 14 counties. Soybean acreage decreased in four of the 14 counties. Overall, crop mix moved from wheat and sorghum to corn and soybeans. Production costs increased in all counties.

### **Pasture:**

Weighted average LNI increased for native and tame grass in all districts. Percent changes ranged from 115.77% to 11.68% for native. Percent changes for tame ranged from 359.63% to 10.38%. Per acre income changes for native (tame) ranged from 1.66 to 0.81 (3.47 to 1.02).

NATIVE: Weighted average LNI for native pasture increased in all districts, except SW-30, EC-80, and SE-90, ranging from 2.10 to -0.85. Average annual LNI changes ranged from 2.36 to -0.89. Cash rent increased in all districts, except SW-30, EC-80, and SE-90. The largest increase was \$2.25 in NE-70; the largest decrease was \$1.00 in SW-30. Fence costs decreased in all districts; watering costs remained at \$0.60.

TAME: Weighted average LNI for tame pasture increased in all districts, except EC-80 and SE-90, ranging from 2.69 to -0.78. Annual LNI changes ranged from 2.98 to -0.95. Cash rent increased in four districts and decreased in EC-80 and SE-90. Rent increases ranged from 2.79 to 0.46; decreases ranged from -1.10 to -0.48. Fence costs decreased in all districts. Watering costs remained at \$0.60.

### **Irrigated:**

Weighted average LNI for irrigated crop land increased in all districts.

Most yields decreased or remained relatively constant. There were small increases in wheat yields in SW-30, C-50, and SC-60. Prices decreased statewide for all crops. In NW-10, acres moved from corn to soybeans and soybeans to corn in NC-40. In WC-20, acres moved from sorghum to wheat and corn and to soybeans from wheat and corn in SC-60. In SW-30, acres moved to soybeans from other crops and from sorghum into the other crops in C-50. Expenses increased in all districts, except SW-30.

## Agricultural Land Base Value Comparison 2018 - 2019

District	County	Land Use	% Acres		% Acres	2018	2019	Overall %	Weighted %
			in	Well	for Well	Wt Avg	Wt Avg	Change	
			County	Depth	Depth	Value (11.00)	Value (11.00)	2018 to 2019	Change
North Central	Clay	Native Grass	36%			\$85	\$94	10%	
		Tame Grass	2%			\$101	\$116	15%	
		Dry Land	58%			\$474	\$511	8%	
		Irrigated Land	4%	100	100%	\$817	\$847	4%	9%
	Cloud	Native Grass	38%			\$80	\$87	10%	
		Tame Grass	3%			\$80	\$87	10%	
		Dry Land	53%			\$397	\$423	7%	
		Irrigated Land	6%	100	98%	\$779	\$807	4%	8%
	Jewell	Native Grass	38%			\$45	\$52	16%	
		Tame Grass	0%			\$45	\$52	16%	
		Dry Land	59%			\$453	\$484	7%	
		Irrigated Land	2%	100	100%	\$799	\$833	4%	10%
	Mitchell	Native Grass	29%			\$47	\$54	14%	
		Tame Grass	0%			\$47	\$54	14%	
		Dry Land	69%			\$364	\$386	6%	
		Irrigated Land	2%	100	100%	\$845	\$877	4%	8%
	Osborne	Native Grass	47%			\$41	\$48	17%	
		Tame Grass	0%			\$41	\$48	17%	
		Dry Land	51%			\$148	\$159	7%	
		Irrigated Land	2%	100	100%	\$865	\$901	4%	12%
	Ottawa	Native Grass	45%			\$82	\$90	10%	
		Tame Grass	2%			\$82	\$90	10%	
		Dry Land	51%			\$378	\$389	3%	
		Irrigated Land	2%	100	88%	\$848	\$879	4%	6%
	Phillips	Native Grass	51%			\$49	\$56	14%	
		Tame Grass	0%			\$49	\$56	14%	
		Dry Land	47%			\$280	\$299	7%	
		Irrigated Land	1%	100	100%	\$832	\$865	4%	11%
	Republic	Native Grass	27%			\$82	\$91	10%	
		Tame Grass	3%			\$82	\$91	10%	
		Dry Land	55%			\$468	\$506	8%	
		Irrigated Land	15%	100	86%	\$772	\$803	4%	8%
	Rooks	Native Grass	47%			\$46	\$56	22%	
		Tame Grass	0%			\$46	\$56	22%	
		Dry Land	53%			\$230	\$244	6%	
		Irrigated Land	0%	100	100%	\$890	\$922	4%	14%
	Smith	Native Grass	39%			\$45	\$51	15%	
		Tame Grass	2%			\$45	\$51	15%	
		Dry Land	57%			\$351	\$382	9%	
		Irrigated Land	2%	100	99%	\$800	\$833	4%	11%
	Washington	Native Grass	42%			\$82	\$90	10%	
		Tame Grass	3%			\$102	\$117	15%	
		Dry Land	53%			\$484	\$524	8%	
		Irrigated Land	3%	100	55%	\$809	\$841	4%	9%



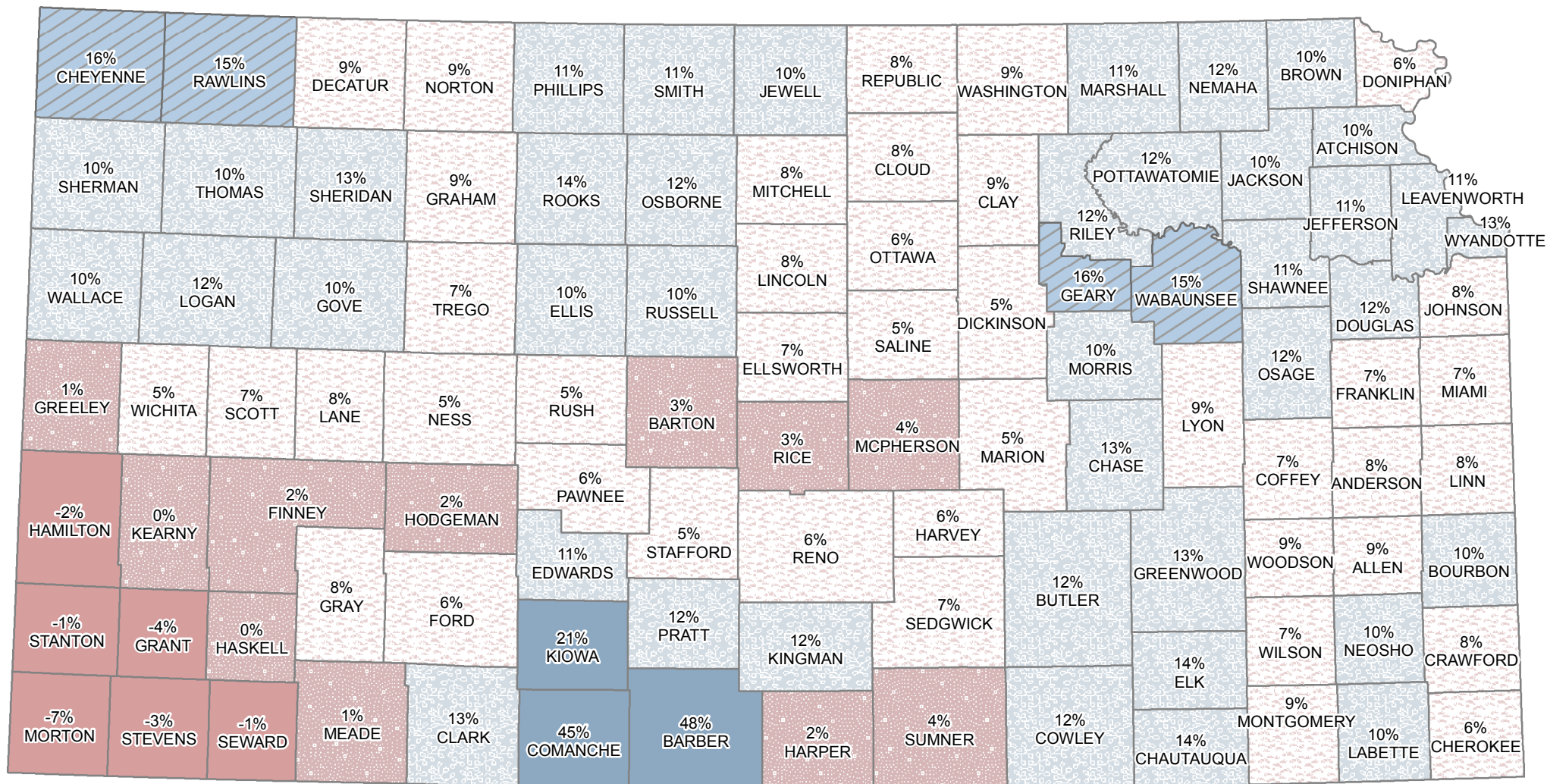
**LAND USE-VALUE DATA  
WEIGHTED ANNUAL PRICES RECEIVED BY FARMERS**

**BY Crop Reporting District  
FOR: 2019 VALUES (2017)**

SOURCES: "Prices Received by Farmers"  
Kansas Agricultural Statistics

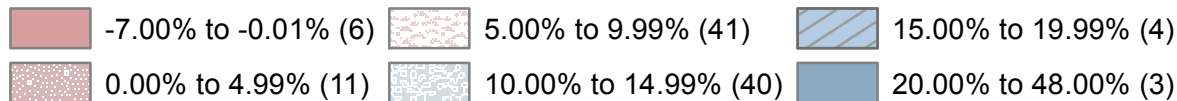
DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/TON)	DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/BU)	DISTRICT	CROP	YEAR	ANNUAL PRICE (\$/BU)
STATE	<b>ALFALFA</b>	2017	\$95.21	NC-40	<b>WHEAT</b>	2017	\$3.10	NC-40	<b>SOYBEANS</b>	2017	\$8.83
		2016	\$98.50			2016	\$3.36			2016	\$8.85
		2015	\$124.91			2015	\$4.91			2015	\$8.59
		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
		2010	\$111.36			2010	\$5.05			2010	\$10.32
			<hr/>				<hr/>				<hr/>
			\$151.12				\$5.56				\$10.65
			(\$/LB)								
STATE	<b>SUNFLOWERS</b>	2017	\$0.175	NC-40	<b>SORGHUM</b>	2017	\$2.54	NC-40	<b>CORN</b>	2017	\$2.89
		2016	\$0.178			2016	\$2.74			2016	\$3.18
		2015	\$0.215			2015	\$3.56			2015	\$3.65
		2014	\$0.227			2014	\$3.97			2014	\$3.91
		2013	\$0.245			2013	\$5.35			2013	\$5.60
		2012	\$0.295			2012	\$6.44			2012	\$6.62
		2011	\$0.310			2011	\$5.91			2011	\$5.84
		2010	\$0.139			2010	\$3.92			2010	\$3.95
			<hr/>				<hr/>				<hr/>
			\$0.223				\$4.30				\$4.46

# Agricultural Land Values Change from 2018 to 2019



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

% Change



(# of Counties)



February 27th, 2019