ANSWERS

TO COMMONLY ASKED QUESTIONS ABOUT AGRICULTURAL LAND VALUE IN KANSAS

By
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Property Valuation Division (PVD)
Kansas Department of Revenue

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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 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.

Changes in Landlord Net Incomes for 2018 Ag Values

Nonirrigated:

The 8 year average LNI increased in one hundred-three of the 105 counties; Grant and Morton had small decreases. Changes ranged from $16.30 in Brown to $-0.21 in Grant; the average change was $3.78; changes in northeast Kansas were the highest, between $8.93 and $16.30.

All crop prices decreased across the state. Overall, production costs decreased in all counties, except Wichita. Yields generally increased in five of the nine districts; however, in some counties, corn and soybean yields declined. Most counties moved from wheat and sorghum to corn and soybeans.

NW-10 Average 2016 LNI decreased in all eight counties. Overall: yields decreased, except wheat. All prices decreased. The crop mix moved to wheat and corn from sorghum. Production costs decreased.

WC-20 Average 2016 LNI decreased in all counties, except Wichita. Overall: wheat and sorghum yields increased; corn and sunflower yields decreased. All prices decreased. The crop mix moved generally to corn from wheat and sorghum. Production costs decreased, except in Wichita.

SW-30 Average 2016 LNI decreased in all counties, except for Grant, Morton, and Stanton. Overall: yields increased in all crops, except wheat and sunflowers. All prices decreased. The crop mix shifted from wheat and sorghum to corn. Production costs decreased.

NC-40 Average 2016 LNI decreased in all counties. Overall: yields decreased in all crops, except wheat. All prices decreased. The crop mix shifted from wheat and sorghum to corn, soybeans, and alfalfa. Production costs decreased.

C-50 Average 2016 LNI decreased in all counties. Overall: all crop yields decreased, except wheat. All prices decreased. Overall, the crop mix moved from wheat and sorghum to corn, soybeans, and alfalfa. Production costs decreased.

SC-60 Average 2016 LNI decreased in all counties, except Comanche. Overall: crop yields decreased, except in Comanche. All prices decreased. Overall, the crop mix moved from wheat and sorghum to corn, soybeans, and alfalfa. Production costs decreased.

NE-70 Average 2016 LNI decreased in seven of the eleven counties. Overall: yields increased, except sorghum and corn. All prices decreased. Overall, the crop mix moved from wheat and sorghum and alfalfa to corn and soybeans. Production costs decreased.

EC-80 Average 2016 LNI decreased in all counties, except Johnson. Overall: yields increased, except for corn and soybeans. All prices decreased. Generally, the crop mix moved from wheat and sorghum and alfalfa to corn and soybeans. Production costs decreased.

SE-90 Average LNI decreased in 11 of the 14 counties. Overall: yields increased, except for soybeans. All prices decreased. Overall, crop mix moved from wheat and sorghum to corn and soybeans. Production costs decreased.

Pasture

Weighted average LNI increased for native and tame grass in all districts. Percent changes ranged from 5.23% to 34.30% for native. Percent changes for tame ranged from 1.75% to 244.42%. Per acre income changes for native (tame) ranged from 0.40 to 1.57 (0.16 to 2.16).

NATIVE: Weighted average LNI for native pasture increased in all districts, ranging from 0.15 to 1.22. Average annual LNI changes ranged from 0.27 to 1.40. Cash rent increased in all districts; the largest change was a $1.38 increase in NE-70. Fence costs decreased in all districts; watering costs remained at $0.60.

TAME: Weighted average LNI for tame pasture increased in all districts, except NC-40, ranging from -0.26 to 1.82. Annual LNI changes ranged from 0.58 to 1.75. Cash rent increased in all districts; changes ranged from 0.56 to 1.72. Fence costs decreased in all districts. Watering costs remained at $0.60.

Irrigated

Weighted average LNI for irrigated crop land increased in all districts. Weighted average LNI changes ranged from 5.42 to 10.85.

Most yields increased or remained relatively constant. There were small decreases in sorghum and soybean yields in half of the districts. Wheat decreased in C-50 and SC-60, and alfalfa and corn yields increased in all districts, except NW-10. Prices decreased statewide for all crops. Generally, across the state, acres moved into corn. All districts, except SW-30 and SC-60, moved from wheat, sorghum, and soybeans to corn. SW-30 moved from wheat to sorghum and corn. SC-60 moved from sorghum to corn and soybeans. Expenses decreased in all districts.

LAND USE-VALUE DATA
WEIGHTED ANNUAL PRICES RECEIVED BY FARMERS

BY Crop Reporting District
FOR: 2018 VALUES (2016)

SOURCES: "Prices Received by Farmers"

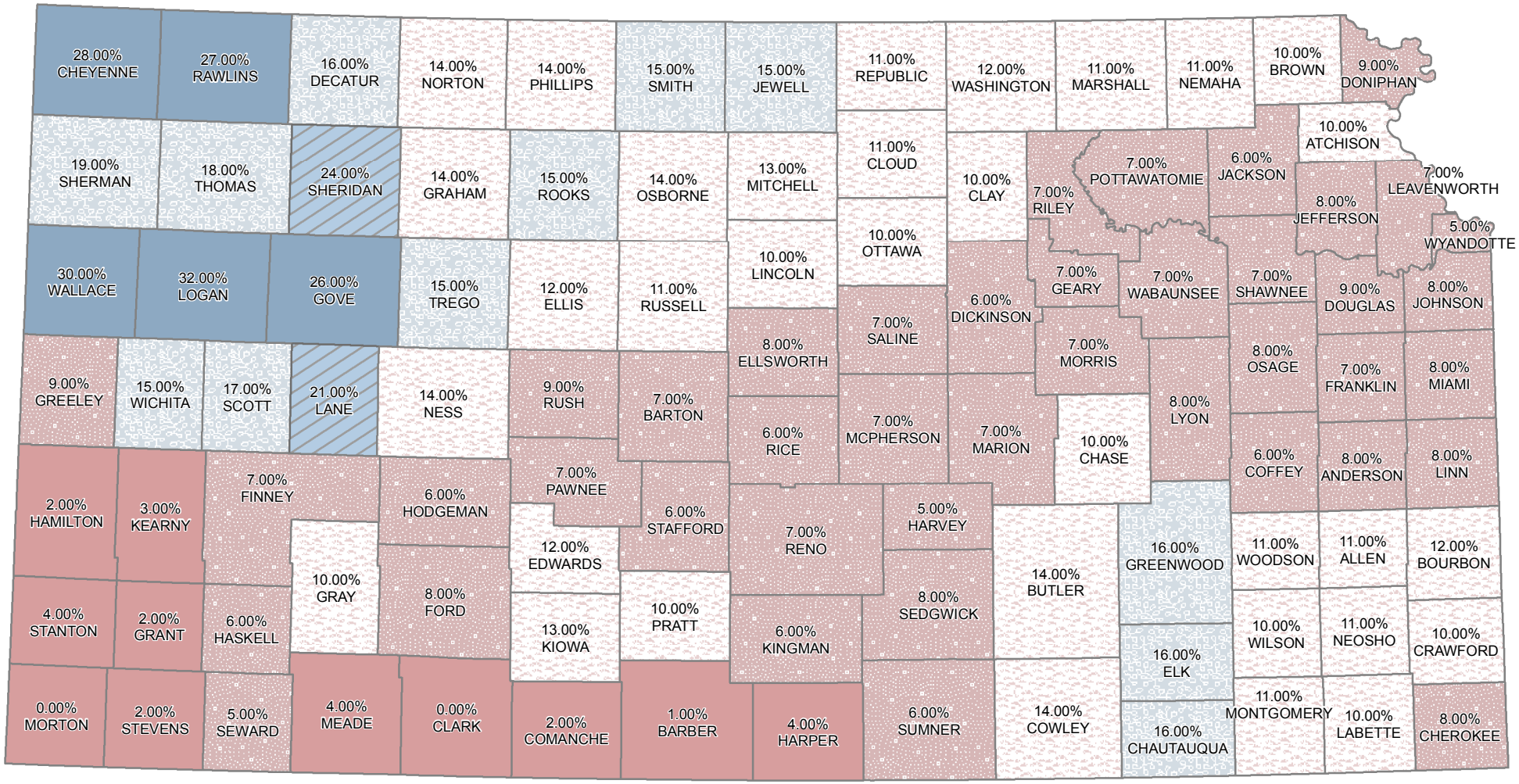
Kansas Agricultural Statistics

DISTRICT	CROP	YEAR	ANNUAL PRICE ($/TON)	DISTRICT	CROP	YEAR	ANNUAL PRICE ($/BU)	DISTRICT	CROP	YEAR	ANNUAL PRICE ($/BU)
STATE	**ALFALFA**	2016	$98.50	NC-40	**WHEAT**	2016	$3.36	NC-40	**SOYBEANS**	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
		2009	$113.06			2009	$5.18			2009	$9.51
			$153.35				$5.82				$10.73
			($/LB)								
STATE	**SUNFLOWERS**	2016	$0.178	NC-40	**SORGHUM**	2016	$2.74	NC-40	**CORN**	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
		2009	$0.165			2009	$3.06			2009	$3.47
			$0.222				$4.37				$4.53

Agricultural Land Base Value Comparison 2017 - 2018

District	County	Land Use	% Acres in County	Well Depth	% Acres for Well Depth	2017 Wt Avg Value (11.00)	2018 Wt Avg Value (11.00)	Overall % Change 2017 to 2018	Weighted % Change
North Central	Clay	Native Grass	36%			$73	$78	6%	
		Tame Grass	2%			$100	$101	1%	
		Dry Land	58%			$422	$474	12%	
		Irrigated Land	4%	100	100.0%	$752	$817	9%	10%
	Cloud	Native Grass	38%			$72	$80	11%	
		Tame Grass	3%			$72	$80	11%	
		Dry Land	54%			$359	$397	11%	
		Irrigated Land	6%	100	82.3%	$717	$779	9%	11%
	Jewell	Native Grass	35%			$38	$45	19%	
		Tame Grass	2%			$38	$45	19%	
		Dry Land	61%			$377	$424	12%	
		Irrigated Land	2%	100	100.0%	$747	$815	9%	15%
	Mitchell	Native Grass	27%			$40	$47	19%	
		Tame Grass	0%			$40	$47	19%	
		Dry Land	72%			$329	$364	11%	
		Irrigated Land	2%	100	100.0%	$779	$845	8%	13%
	Osborne	Native Grass	47%			$34	$41	19%	
		Tame Grass	0%			$34	$41	19%	
		Dry Land	51%			$136	$148	9%	
		Irrigated Land	2%	100	100.0%	$796	$865	9%	14%
	Ottawa	Native Grass	45%			$74	$82	11%	
		Tame Grass	2%			$74	$82	11%	
		Dry Land	52%			$321	$351	9%	
		Irrigated Land	1%	100	74.1%	$783	$848	8%	10%
	Phillips	Native Grass	51%			$42	$49	17%	
		Tame Grass	0%			$42	$49	17%	
		Dry Land	47%			$252	$280	11%	
		Irrigated Land	1%	100	100.0%	$767	$832	8%	14%
	Republic	Native Grass	27%			$74	$82	11%	
		Tame Grass	3%			$74	$82	11%	
		Dry Land	55%			$417	$468	12%	
		Irrigated Land	15%	100	83.0%	$710	$772	9%	11%
	Rooks	Native Grass	47%			$39	$46	19%	
		Tame Grass	0%			$39	$46	19%	
		Dry Land	53%			$200	$224	12%	
		Irrigated Land	0%	100	100.0%	$824	$890	8%	15%
	Smith	Native Grass	40%			$38	$45	18%	
		Tame Grass	0%			$38	$45	18%	
		Dry Land	58%			$311	$351	13%	
		Irrigated Land	2%	100	100.0%	$738	$800	8%	15%
	Washington	Native Grass	42%			$73	$82	12%	
		Tame Grass	3%			$101	$102	2%	
		Dry Land	53%			$429	$484	13%	
		Irrigated Land	2%	100	69.4%	$741	$809	9%	12%

Agricultural Land Values Change from 2017 to 2018



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

% Change

0.00% - 4.99% (11)	10.00% - 14.99% (33)	20.00% - 24.99% (2)
5.00% - 9.99% (42)	15.00% - 19.99% (12)	25.00% - 32.00% (5)

(# of Counties)

Kansas
Department of Revenue
Property Valuation Division
GIS Section

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