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

GREGG IBENDAHL DANIEL O'BRIEN



KANSAS STATE

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- Information may be outdated time from survey until reported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 responses

AgManager

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 STATE UNIVERSITY Agricultural Economics

Why survey data may not be the best



Why leasing is important to farmers

Farmland will never cashflow

- Land is non-depreciable
- $\circ\,$ Typically, half of a farm's real net returns occur as land appreciation

Because land will not cashflow, land income will not cover principle and interest payments

 $\,\circ\,$ Rented landed is thus needed to help cover cashflow needs from purchased land.



KANSAS STATE UNIVERSITY Agricultural Economics

Our approach

Tenant's residual method

- County yield history
- Recent grain prices
- KFMA farm expenses

Covers all expenses

- Cash or direct cost of production
- Includes fixed costs on machinery
- Includes unpaid operator labor
- Includes overhead and management fees

FULL ECONOMIC COSTS



Details of tenant's residual approach

Income – yields, prices, and government payments

- $\,\circ\,$ Yields NASS no longer provides separate irrigated and non-irrigated yields
- $\circ~$ FSA does have this info and also number of crop acres in a county
- $\circ~$ Use of last 5 years of data
- \circ Prices Use of weighted average with more weight being given to most recent years

Expenses

- Use of KFMA data
- $\circ\,$ Developed at the enterprise level to account for different crop mixes each year
- Only corn, soybeans, wheat, and grain sorghum used
- Developed at the farm level but then aggregated up to the Crop Reporting District level
- $\,\circ\,\,$ This might account for some of the differences you see on the graphs



Other details

75% of unpaid operator labor is included

• This allows for farm activities not related to crop production

2% management fee based on gross revenue

 $\circ~$ This includes management and also the interest charge for any owned machinery equity on the farm.

Weights used for the estimates

- $\circ 2021 20\%$
- · 2020 25%
- · 2019 25%
- $\circ 2018 20\%$
- 2017 10%





KANSAS STATE Agricultural Economics

UNIVERSITY

Other details

Adjustment to NASS reported cash rent

 $\circ~$ Helps to smooth the estimate

Adjustment for land use intensity

 $\,\circ\,$ Needed to account for fallow and double cropping

Incorporating a range of values

• 25th and 75th percentile



KANSAS STATE UNIVERSITY Agricultural Economics

2020 NON-IRRIGATED CROP LEASING ARRANGEMENTS IN KANSAS

XIANGHONG LI AND LEAH J. TSOODLE

Land Use Survey Center (LUSC) Department of Agricultural Economics Kansas State University

November 2020

2020 Kansas Non-Irrigated Farmland Lease Survey

Xianghong Li & Leah Tsoodle

The **2020 Non-Irrigated Farm Lease Arrangement Survey** was distributed to individuals leasing nonirrigated cropland across the 9 Kansas **Crop Reporting Districts (CRD)** ^{USDA NASS}

Who participated in the Survey?

- o 34.4% were <u>landlords</u> (*lessors*)
- o 50.4% were renters who leased land from landowners in the 2019 crop year (lessees)
- o 13% *both* leased out land (landowner) & rented land from landlords (renter)
- o 1.5% were <u>land managers</u>
- 0.8% trustees of land (other than landlords, tenants, and land managers)

The information provided in this report is based solely upon the 2020 KSU survey responses for non-irrigated crop-share leasing arrangements. Additional information pertaining to the survey is available from Leah Tsoodle (ltsoodle@ksu.edu.) at the KSU Department of Agricultural Economics.

Kansas Crop Reporting Districts

Cheyen	ne R	tawlins	Decatur	Norton	Phillips	Smith	Jewell	Republic	Washingto	on Marst	hall Nemah	Brown	Donipha	્રે
Sherma	n T	homas	Sheridan	Graham	Rooks	Osborne	CRD 4 - Mitchell	Cloud	Clay	Riley	tawatomie	ackson Jef	ferson	Leaven
Wallace	Log	gan	Gove	Trego	Ellis	Russell	Lincoln	Ottawa		Geary	Wabaunsee	Shawnee	Douglas	Johnson
	w	C – C I	RD 2		Centra	I– CRD	5 Ellsworth	Saline	Dickinson	Morris		Osage	C- CR	D 8 Miami
Sreeley	Wichita	Scott	Lane	Ness	Rush	Barton	Rice	McPherson	Marion	Chas	Lyon	Coffey	Anderson	Linn
amilton	Kearny	Fi	nney	Hodgeman	Pawnee	Stafford	Reno	Han	vey	_	Graenwood	Woodson	Allen	Bourbon
SV tanton	V – CF Grant	RD 3- Haskell	Gray	Ford	Kiowa	Pratt	C- CRD	6 Sedgy	vick	Butler S	E- CRD	9 Wilson	Neosho	Crawford
				Chut				-		Caudau	Elk			Chauthan

Non-Irrigated Cropland Lease Types

	Crop	Fixed	Crop Share &	Flexible	Net	Other
District	Share	Cash	Cash Rent	Cash	Share	Type
Northwest-10	50.0%	29.5%	2.3%	4.5%	11.4%	2.3%
West Central-20	49.2%	40.0%	1.5%	1.5%	6.2%	1.5%
Southwest-30	43.3%	40.0%	3.3%	6.7%	6.7%	0.0%
North Central-40	57.1%	38.1%	0.0%	4.8%	0.0%	0.0%
Central-50	49.1%	42.1%	1.8%	3.5%	3.5%	0.0%
South Central-60	44.8%	43.1%	3.4%	3.4%	5.2%	0.0%
Northeast-70	29.4%	50.0%	2.9%	5.9%	11.8%	0.0%
East Central-80	31.6%	47.4%	0.0%	7.9%	13.2%	0.0%
Southeast-90	42.9%	50.0%	0.0%	3.6%	3.6%	0.0%
State	44.5%	41.9%	1.9%	4.3%	6.9%	0.5%

2020 KSU Non-Irrigated Farmland Lease Survey Li & Tsoodle

Cash Rent Breakdown by Type

2020 KSU Non-Irrigated Farmland Lease Survey Li & Tsoodle

	Number of Reports	Lease Percentage (%)	Average Rent (\$/Acre per Year)
Fixed Cash Rent	277	88.2%	57.16
Flexible Cash Rent	37	11.8%	61.70
Flexible Cash Rent Based on Revenue	27	73.0%	63.78
Flexible Cash Rent Based on Yield	4	10.8%	58.75
Flexible Cash Rent Based on Price	1	2.7%	52.00
Flexible Cash Rent Based on Other	5	13.5%	54.76

Average Cash Rent Payment by Crop

		Cash R	ent Payment (S/Acre per Year)		
Crop	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Corn	102	65.00	65.20	63.84	19	200
Wheat	83	46.62	46.91	44.26	19	130
Soybeans	64	78.64	78.05	82.22	10	185
Grain Sorghum	43	43.64	43.49	45.69	20	70
Cotton	5	40.70	40.70	No Responses	26	50
Fallow	6	34.71	31.65	50.00	19	50
Pasture	4	20.00	20.00		10	28
Brome	3	30.00	30.00		25	40
Hay & Alfalfa	2	35.00	35.00	No Responses	25	45
cane Feed	1	30.00	30.00		30	30
Peas	1	25.00	25.00		25	25
State	314	57.70	57.16	61.70	10	200

2020 KSU Non-Irrigated Farmland Lease Survey Li & Tsoodle

Average Cash Rent Payment by CRD

2020 KSU Non-Irrigated Farmland Lease Survey Li & Tsoodle

		Cash	rent Payment (S/Acre per Year)		
Districts	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Northwest-10	34	44.18	44.15	44.29	25	65
West Central-20	50	42.67	43.09	38.89	25	60
Southwest-30	41	31.98	31.15	42.50	19	50
North Central-40	16	91.91	87.54	105.00	50	130
Central-50	41	48.48	46.69	65.00	10	70
South Central-60	31	45.47	46.43	39.00	14	75
Northeast-70	46	109.04	111.53	92.50	10	200
East Central-80	36	64.67	64.63	65.00	25	95
Southeast-90	19	50.42	50.42	No Responses	30	90
State	314	57.70	57.16	61.70	10	200

Importance of Factors Affecting Rental Rates

Factors Affecting	# of		Percentage of Responses (%)							
Rental Rate	Responses	Average	Most Imp	ortant	L	Least Important				
			1	2	3	4	5			
Crop Price	191	2.41	34.6%	26.2%	16.8%	8.4%	14.1%			
Input Price	184	2.83	20.1%	23.9%	25.5%	14.1%	16.3%			
Land Size	181	3.50	7.7%	13.3%	28.2%	22.7%	28.2%			
Land Quality	198	2.40	31.3%	27.8%	21.7%	7.6%	11.6%			
Land Location	190	2.84	19.5%	27.4%	20.0%	15.8%	17.4%			
Length of the Lease	160	3.44	10.6%	19.4%	18.1%	19.4%	32.5%			
Relationship between Landowner and Tenant	168	2.51	41.7%	14.3%	14.3%	10.7%	19.0%			
Other	14	1.79	50.0%	35.7%	0.0%	14.3%	0.0%			

2020 KSU Non-Irrigated Farmland Lease Survey $^{\rm Li\,\&\,Tsoodle}$

Average Cash Rent Payment by Crop

2020 KSU Non-Irrigated Farmland Lease Survey Li & Tsoodle

		Cash R	ent Payment (S	S/Acre per Year)		
Crop	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Corn	102	65.00	65.20	63.84	19	200
Wheat	83	46.62	46.91	44.26	19	130
Soybeans	64	78.64	78.05	82.22	10	185
Grain Sorghum	43	43.64	43.49	45.69	20	70
Cotton	5	40.70	40.70	No Responses	26	50
Fallow	6	34.71	31.65	50.00	19	50
Pasture	4	20.00	20.00		10	28
Brome	3	30.00	30.00		25	40
Hay & Alfalfa	2	35.00	35.00	No Responses	25	45
cane Feed	1	30.00	30.00		30	30
Peas	1	25.00	25.00		25	25
State	314	57.70	57.16	61.70	10	200



Figure 2. Nebraska Agricultural Statistics Districts



Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics District^a Preliminary

	Agricultural Statistics District										
Type of Land	Northwest	North	Northeast	Central	East	Southwest	South	Southeast			
				Dollars I	Per Acre						
Dryland Cropland											
Average	30	57	225	98	220	42	83	170			
% Change	9	11	5	8	7	12	10	3			
High Third Quality	42	91	265	120	240	54	120	195			
Low Third Quality	24	47	180	89	175	35	57	135			

Source: ^a Reporters' estimated cash rental rates (both averages and ranges) from the UNL Nebraska Farm Real Estate Market Survey, 2020 and 2021.

Non-Irrigated Versus 2017								
SW	South	SE						
\$40	\$74	\$105						

Irrigated Avg. Cash Rent Payment by CRD

District	Cash Rent Payment (\$/Acre per Year)									
District	# Reports	Average Payn	nent	Min	Max					
Northwest-10	10	137.00	\$174	100	200	\$254				
West Central-20	13	84.46	\$105	32	125	\$159				
Southwest-30	24	99.08	\$125	60	200	\$254				
North Central-40	17	135.00	\$171	90	185	\$235				
Central-50	7	126.57	\$161	100	200	\$254				
South Central-60	20	123.35	\$157	37	200	\$254				
State	91	115.32	\$146	32	200	\$254				

2017 KSU Irrigated Farmland Lease Survey Tsoodle & Li

Question: How much inflation Farmland Cash Rental Rates has occurred since year 2017?

Kansas Irrigated Farmland values increased 27%, from \$2,910²⁰¹⁷ to \$3,700²⁰²¹ (USDA)

Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics District^a Preliminary

			Ag	ricultural Stat	istics Distri	ct		
Type of Land	Northwest	North	Northeast	Central	East	Southwest	South	Southeast
				Dollars l	Per Acre			
Gravity Irrigated Cropland								
Average	115	180	280	215	260	170	210	240
% Change	10	6	8	5	2	6	2	4
High Third Quality	145	210	320	255	280	195	245	285
Low Third Quality	90	140	225	175	230	140	175	210
Center Pivot Irrigated Crop	oland ^b							
Average	150	210	305	235	290	195	235	280
% Change	7	8	5	2	4	5	7	6
High Third Quality	170	255	340	270	330	235	265	310
Low Third Quality	130	180	260	190	250	165	190	240
					CP-I	rrigated Versu	is 2017	
						SW	South	SE
Source: * Reporters' estimated cash renta	al rates (both averages an	d ranges) from the	e UNL Nebraska Farm F	leal Estate Market Su	rvey, Aver	rage \$200	\$225	\$265
2020 and 2021.					High	\$255	\$275	\$315
" Cash rents on center pivot lan	d assumes landowners o	wn total irrigation	system.		Low	\$180	\$105	\$225

Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics DistrictaPreliminary

	Agricultural Statistics District										
Type of Land	Northwest	North	Northeast	Central	East	Southwest	South	Southeast			
				Dollars	Per Acre						
Pasture											
Average	13	28	66	37	53	22	38	49			
% Change	10	8	4	6	3	7	4	1			
High Third Quality	18	41	84	45	72	30	46	59			
Low Third Quality	11	15	49	32	40	16	28	40			
				Dollars P	er Month -						
Cow-Calf Pair Monthly Rat	tes ^c										
Average	39.60	63.15	60.75	58.85	55.20	51.60	49.80	54.80			
% Change	4	3	5	8	7	3	6	9			
High Third Quality	48.75	69.45	72.10	68.70	65.90	59.70	61.20	64.20			
Low Third Quality	32.90	52.70	47.85	42.15	45.50	43.35	39.80	38.45			

^c A cow-calf pair is typically considered to be 1.25 to 1.30 animal units (animal unit being 1,000 lb. animal) for a five month grazing season. However, this can vary depending on weight of cow and age of calf.

Non-Irrigated Crop Land in Kansas

64.2	7	4.1	73.7	80.7	64.8	102.4	110.6	130.7	118.0	106.0	12	5.0 16	7.0 214	132
59.0	6	58.0	62.6	39.1	63.5	51.6	78.5	107.6	121.7	74.5 7	7.0	77.0	113.0	Sec.
60.2	61	,		40.1	24.0	20.0	59.0	63.0		81.8	75.4	88.5	64.2 7	74.3
59.2	01		62.2	49.1	34.0	39.0	41.5	57.0	102.1	57.0		77.3	94.8	89.6
43.4	73.5	82.6	65.8	50.1	36.0	42.5	49.0	57.5	59.2	5	60.5		92.5	102.5
				61.2	49.3	38.5		65		58.2	<u> </u>	64.0	91.1	80.4
37.0	63.3	77.7	85.3	1	39.0		48.5			61.0	52.0	64.8	72.5	61.3
54.1	55.4	75.4	05.5	75.7	38.0	42.0	45.0	49.0	·		51.0	65.5	56.9	69.7
26.0	35.2	50.1	61.3	57.0	33.0	36.5	37.5	45.5	5	46.0	34.5	51.5	51.0	77.6
-														



Crop Reporting Districts

		KSU	NASS
EAST	Northeast	109	103
	East Central	80	62
	Southeast	58	52
CENTRAL	North Central	92	66
	Central	52	48
	South Central	44	43
WEST	Northwest	65	48
	West Central	61	39
	Southwest	58	33



KANSAS STATE

Irrigation details

Based on growing corn only

Center pivot irrigation

Landlord owns all irrigation equipment

• Adjustment if tenant owns part

	Western, KS	Central, KS
Center Pivot	\$ 61.20	\$ 61.20
Power unit	\$ 22.86	\$ 12.84
Well, pump, and gearhead	\$ 78.61	\$ 52.57



Irrigated Crop Land in Kansas





KANSAS STATE

Irrigated comparison

		2019	2020	2021	25th	75th
Region	County	NASS	NASS	KSU	Percentile	Percentile
North Central	Clay	139	157	196	165	227
	Cloud		135	173	145	200
	Jewell			167	140	193
	Mitchell	128	127	127	107	147
	Osborne					
	Ottawa			144	121	167
	Phillips	95		181	152	209
	Republic		211	223	187	258
	Rooks					
	Smith			148	124	171
	Washington		158	175	146	202
Central	Barton	122	134	134	107	164
	Dickinson			139	111	170
	Ellis					
	Ellsworth					
	Lincoln					
	Marion	86		125	100	153
	McPherson	147		172	138	211
	Rice	120	139	139	111	170
	Rush					
	Russell					
	Saline					
South Central	Barber			133	110	167
	Comanche					
	Edwards	122	123	170	140	212
	Harper					
	Harvey	116	152	172	142	215
	Kingman		108	132	109	165
	Kiowa	139		204	167	255
	Pawnee	122	132	154	127	193
	Pratt	127	138	193	158	241
	Reno	125		152	125	190
	Sedgwick	145	144	160	132	201
	Stafford	133	151	186	153	233
	Sumner		143	148	122	185

		2019	2020	2021	25th	75th
Region	County	NASS	NASS	KSU	Percentile	Percentile
Northwest	Cheyenne			247	155	351
	Decatur			217	136	309
	Graham		126	167	105	238
	Norton			244	153	348
	Rawlins	126		239	150	340
	Sheridan	145	162	247	154	351
	Sherman	135		223	140	317
	Thomas	165		241	151	342
West Central	Gove	123		173	111	234
	Greeley	123		199	128	270
	Lane			162	104	220
	Logan			180	115	244
	Ness					
	Scott	96		196	125	265
	Trego					
	Wallace	125		190	122	258
	Wichita	132		225	144	305
Southwest	Clark					
	Finney	144	138	261	186	318
	Ford	123	104	207	148	252
	Grant	96		239	171	292
	Gray	101	91	197	141	240
	Hamilton	133		203	145	247
	Haskell	89	112	248	178	303
	Hodgeman		103	159	114	194
	Kearny	135	116	244	174	297
	Meade	134	143	284	203	346
	Morton			146	104	178
	Seward		119	261	187	318
	Stanton		93	232	166	283
	Ch	07	0.2	220	464	200



KANSAS STATE UNIVERSITY Agricultural Economics

Thank you!

Gregg Ibendahl

- email: ibendahl@ksu.edu
- twitter: @Ibendahl

Daniel O'Brien

- email: dobrien@ksu.edu
- twitter: @KSUGrains



KANSAS STATE