

2011-2012
Kansas State University

AG PROFITABILITY CONFERENCE

February 14, 2012

Wm. Carpenter 4-H Building
Scott City, Kansas



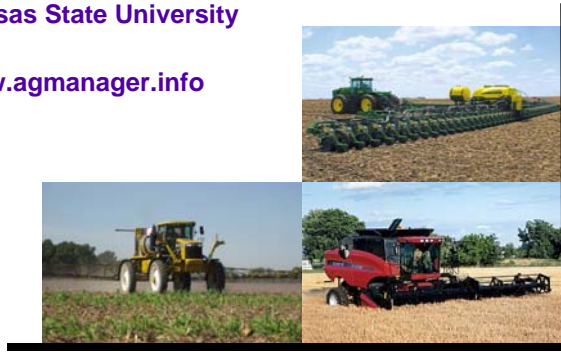
2011-2012 K-State Ag Profitability Conferences

Kansas State University
Department of Agricultural Economics

Crop Leases

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www.agmanager.info



Over the years, the majority of land leasing questions we receive pertain to:

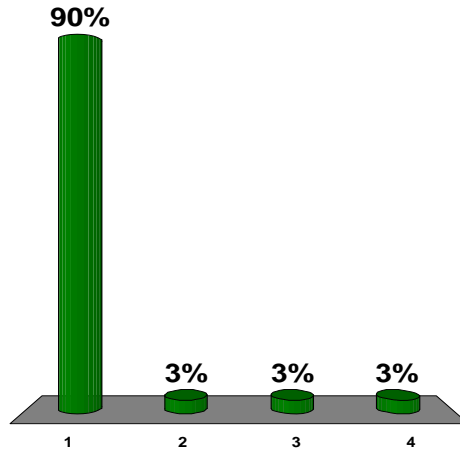
- Impact of adopting new technologies
- Cash renting (folks always want the “going rates”)
- “Non-traditional” leases
 - Net share rent
 - Flexible cash rent
 - Bushel rent
 - Combination cash/cropshare
- Terminating leases

... regardless of the topic pertaining to lease terms, method of addressing questions does not change.

Test to make sure clickers are working ...

Which best describes your computer / internet access situation?

1. High speed internet
2. Dial up internet
3. Computer, but no internet
4. I have a calculator, does that count?



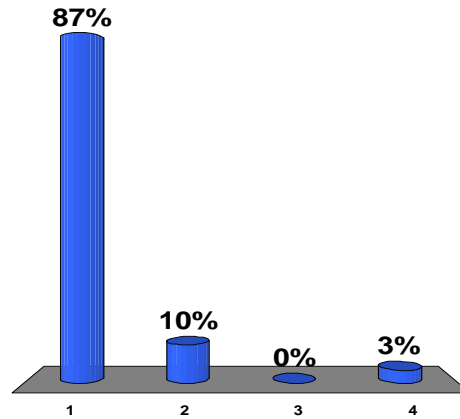
Types of leases on crop land

- Crop-share
 - Landowner receives a share of annual revenues (grain sales and government payments) and typically shares certain production costs
- Cash rent
 - Landowner receives a fixed annual cash payment in exchange for use of the land
- Numerous variations around these two

What type of leases do you use?

The lease arrangement for the majority of non-irrigated crop acres I rent or manage is...

1. Crop share
2. Cash rent
3. Other
4. Does not apply



Distribution of non-irrigated crop leases by type of lease...

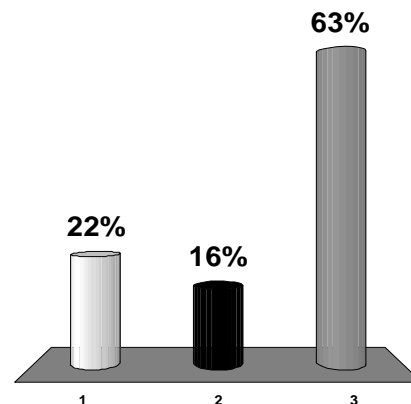
Region	Cash	Share	Other
Northwest	35.2%	54.6%	10.2%
West Central	21.3	58.5	20.2
Southwest	20.8	76.1	3.1
North Central	41.3	54.8	3.9
Central	32.8	53.8	13.4
South Central	34.0	63.0	3.0
Northeast	48.7	42.4	8.9
East Central	50.9	39.6	9.5
Southeast	35.9	58.2	5.9
State	35.7	55.7	8.6

Source: Schlegel and Tsoodle -- 2010 KAS/KSU survey

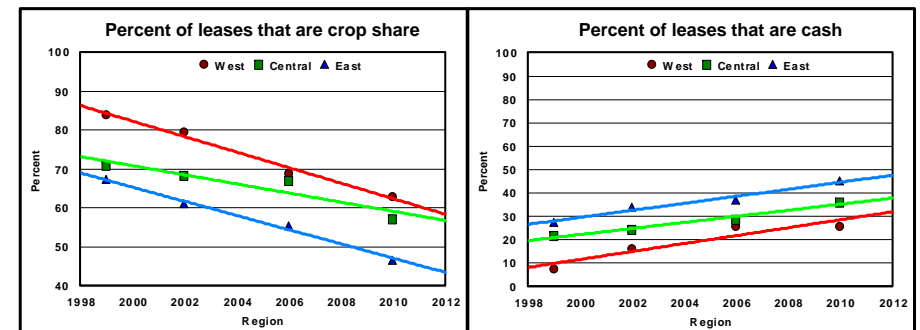
Crop share versus cash leases...

Relative to equitable crop share leases, fixed cash leases are...

1. A good thing
2. A bad thing
3. Neither (just different)



Trend towards more cash rent...



Source: KSU and KS Ag Stat - Non-Irrigated Farm Lease Arrangement Surveys

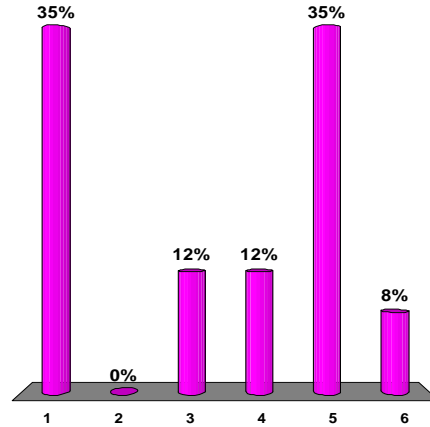
Crop share continues to be the most prevalent, but the trend has been a shift from crop share arrangements towards more cash rent leases.

- 1) What factors have been behind this trend?
- 2) Will this trend continue, stabilize, or reverse?

Timing of cash lease payments...

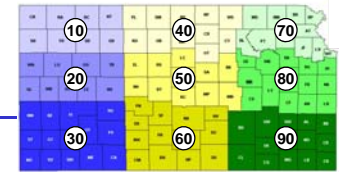
On cash leases, payments are due...

1. Jan 1 (approximately)
2. At planting
3. At harvest
4. Dec 31 (approximately)
5. Multiple times
6. Other



Length of cropland leases...

KAS Crop Reporting Districts



Region	Years rented
Northwest (10)	16.7
West Central (20)	17.6
Southwest (30)	21.0
North Central (40)	17.8
Central (50)	16.0
South Central (60)	18.1
Northeast (70)	21.9
East Central (80)	20.4
Southeast (90)	18.9
State	18.6

Producers tend to lease land from the same landowner for a long time.

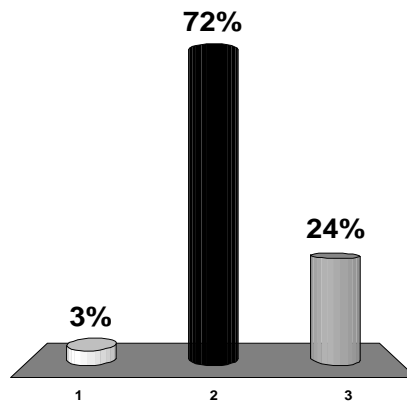
Long-term relationships can be good or bad...

Source: Schlegel and Tsoodle -- 2010 KAS/KSU survey

Crop share versus cash leases...

Relative to crop share leases, the length of leases (number of years) for fixed cash rent tend to be...

1. Longer
2. Shorter
3. Basically the same



Determining the terms of a crop lease ...

- How are cash lease rates or the terms of crop share leases established?
 - Short answer is “the market”
- While landowners and tenants (i.e., the market) ultimately determine terms of crop share and cash leases, we use the equitable concept to arrive at a starting point for negotiations – and to better understand the market.



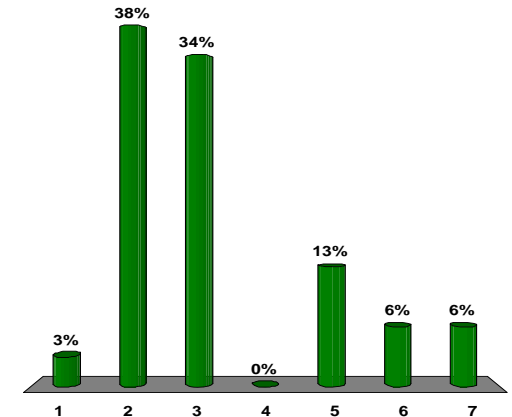
Identifying “the market” established rates through the use of surveys...

- Land Use Value Project of the K-State Ag Econ Dept annually conducts one of four surveys (irrigated, non-irrigated, pasture, input costs)
- Kansas Agricultural Statistics (KAS) annually surveys landowners and producers regarding land values and cash rents
- With surveys there is often a trade-off between statistical validity and level of aggregation

Sharing of expenses...

On non-irrigated crop share leases, we share the following:

1. Nothing
2. Fertilizer
3. Fert & chem
4. Fert & seed
5. Fert, chem & seed
6. Other
7. Does not apply



Example of market established crop shares...

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*			
	33% Share	40% Share	50% Share	Other % Share
Wheat (21 Leases)	21			
% of Total Leases in Lease Arrangement	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Fertilizer Costs	95.2%			
% of Leases Sharing Herbicide Costs	52.4%			
% of Leases Sharing Insecticide Costs	52.4%			
Corn (4 Leases)	4			
% of Total Leases in Lease Arrangement	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Fertilizer Costs	100.0%			
% of Leases Sharing Herbicide Costs	25.0%			
% of Leases Sharing Insecticide Costs	25.0%			
Sorghum (8 Leases)	8			
% of Total Leases in Lease Arrangement	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Fertilizer Costs	87.5%			
% of Leases Sharing Herbicide Costs	62.5%			
% of Leases Sharing Insecticide Costs	50.0%			

* The percentages calculated in this table represent the percent of landlords sharing the same percent of costs as they share of the crop. For example, 52.4% of landlords receiving 33% of the wheat crop paid 33% of herbicide expenses.

Source: Schlegel and Tsoodle -- 2011 KAS/KSU survey (available at www.agmanager.info)

Crop share percentages by region...

Percent of Leases by Crop Share Percentage

Landlord Share	Crop Reporting District								
	NW-10	WC-20	SW-30	NC-40	C-50	SC-60	NE-70	EC-80	SE-90
20.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
25.0%	0.0%	3.5%	1.4%	0.0%	0.7%	0.0%	5.3%	1.0%	0.0%
33.3%	96.2%	96.5%	94.5%	62.7%	83.4%	90.8%	22.3%	70.7%	94.4%
40.0%	0.0%	0.0%	1.4%	28.9%	13.1%	6.4%	27.7%	9.1%	0.0%
50.0%	0.0%	0.0%	2.7%	6.3%	0.7%	2.1%	44.7%	17.2%	4.2%
66.7%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	1.0%	0.0%
75.0%	1.9%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%
Other	1.9%	0.0%	0.0%	0.7%	0.7%	0.7%	0.0%	1.0%	1.4%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Color coding scale: +80% (dark red), 50-80% (red), 20-50% (orange), 5-20% (yellow), < 5% (light yellow)

Source: Schlegel and Tsoodle -- 2010 KAS/KSU survey (available at www.agmanager.info)

Example of market established irrigated crop shares...

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*				
	25%	33%	40%	50%	Other
Wheat (8 Leases)	12.5%	87.5%			
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Herbicide Costs	No Response	100.0%			
% of Leases Sharing Insecticide Costs	No Response	100.0%			
% of Leases Sharing Energy Costs	No Response	No Response			
Corn (31 Leases)	9.7%	87.1%		3.2%	
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	No Responses	100.0%	No Responses
% of Leases Sharing Herbicide Costs	100.0%	100.0%		100.0%	
% of Leases Sharing Insecticide Costs	100.0%	100.0%		No Response	
% of Leases Sharing Energy Costs	100.0%	85.7%		100.0%	
Sorghum (3 Leases)		100.0%			
% of Leases Sharing Fertilizer Costs	No Responses	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Herbicide Costs		100.0%			
% of Leases Sharing Insecticide Costs		100.0%			
% of Leases Sharing Energy Costs		100.0%			
Soybeans (2 Leases)		100.0%			
% of Leases Sharing Fertilizer Costs	No Responses	100.0%	No Responses	No Responses	No Responses
% of Leases Sharing Herbicide Costs		100.0%			
% of Leases Sharing Insecticide Costs		100.0%			
% of Leases Sharing Energy Costs		100.0%			

*The percentages calculated in this table represent the percent of landlords sharing the same percent of costs as they share of the crop. For example, 100% of landlords receiving 33% of the wheat crop paid 33% of fertilizer expenses.

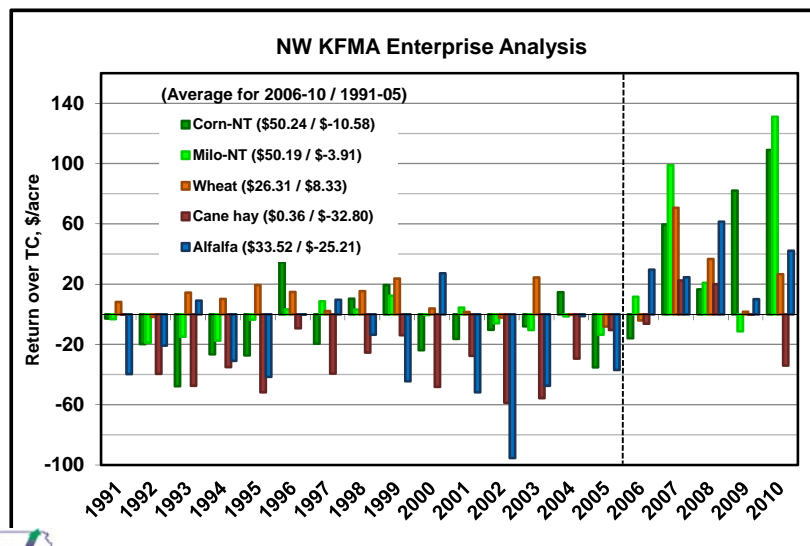
Source: Schlegel and Tsoodle -- 2008 KAS/KSU survey (available at www.agmanager.info)

Principles embodied in an equitable lease ...

- Profit maximization (MR=MC)
- Economic profits (expected profit = 0*)
- Opportunity costs
- Risk across lease types
- Equal rates of return on annual investment (if economic profit = 0, then rate of return = 0)

* On average, in the long run

On average, we seldom cover total costs. Why?



Source: KFMA Enterprise Analysis Report

A good crop share lease should follow five basic principles ...

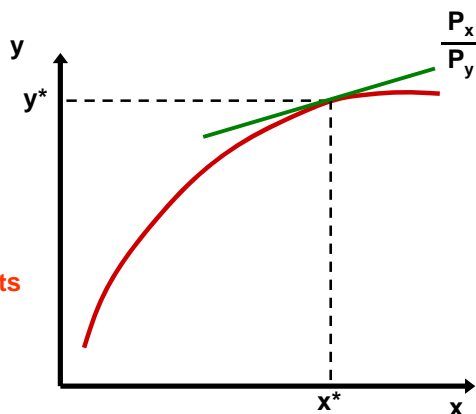
1. Yield increasing inputs should be shared
2. Share arrangements should be re-evaluated as technology changes
3. Total returns divided in same proportion as resources contributed
4. Compensation for unused long-term investments at termination
5. Good landlord/tenant communications

Principle #1:
Yield increasing inputs should be shared

Examples of yield increasing inputs

- Fertilizer
- Irrigation water
- Herbicides ???
- Seed ???

Sharing yield increasing inputs in the same % as income provides the economic signal to both parties to apply the optimal amount of the input.



Principle #2:
Technology may affect share arrangements

Examples of technological change

- Reduced-/no-till
- New crops/rotations (e.g., double crop)
- Center pivot irrigation
- Hybrid seed
- Bio-technology
- Precision agriculture (GPS, autoswath)



Impact of new technologies ...

- Why do people adopt new technologies?
- What happens as “new” technologies become common practice?
- How does this impact relative contributions?

Impact of increasing cropping intensity to increase returns ...

- ... “profit” associated with new technology is bid out of the market over time.
- ... as profit is bid out of the market (typically through higher land costs), relative contributions change.
- ... equitable lease is “dynamic” as market adjusts to new technologies.

Adoption of new technologies ...

... tends to cause problems because traditional arrangements or rules-of-thumb are often not appropriate.

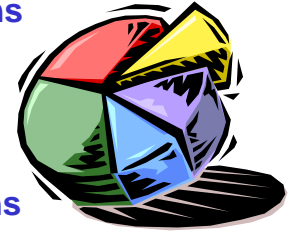
... should not be a problem if we follow basic principles of a good lease.

... if problems persist as to what is equitable, can lead to alternative leasing arrangements (e.g., cash lease).

Principle #3:

Returns divided in same proportion as resources contributed.

This requires annual contributions of both parties to be identified (budgeting type approach).



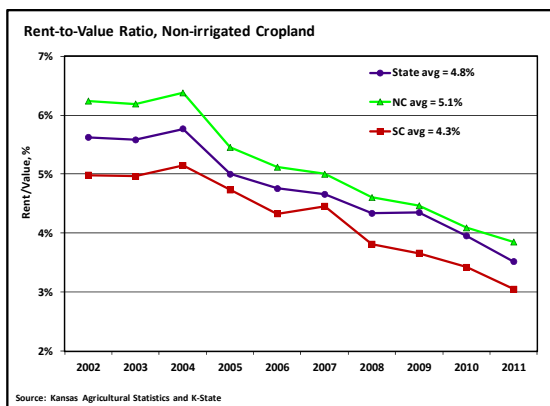
Base input values on expectations consistent with the time-frame of the lease (if expectations end up being significantly off, be willing to make adjustments).

Land contribution ...

The land contribution has typically been based on an “average market value” for the land along with an historical average return to land.

As cash leases become more common, the land contribution can be set equal to the cash rent.

However we still often struggle with what the “right” number is.



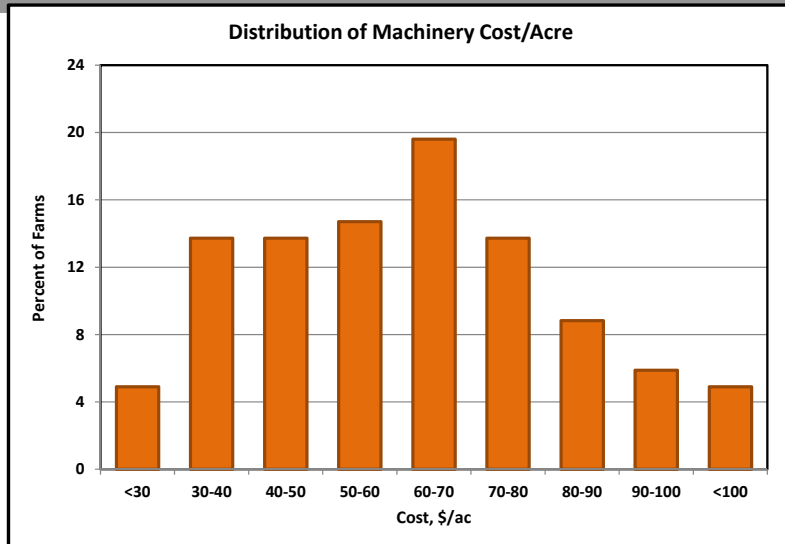
Machinery contributions ...

Machinery contribution should be based on average costs. Two methods for estimating the machinery contribution:

1. Machinery investment approach - annual contribution is based on depreciation, interest, repairs, fuel and oil, and labor.
2. Custom rates approach - annual contribution is based on reported custom rates and the typical operations.



What is the “right” machinery cost to use?



Source: KFMA farms in NW and SW regions having continuous data from 2008-2010 and crop labor percentage \circ 75% (minimum of 160 acres and machinery cost/acre > \$10/ac; costs do not include labor – total of 102 farms)

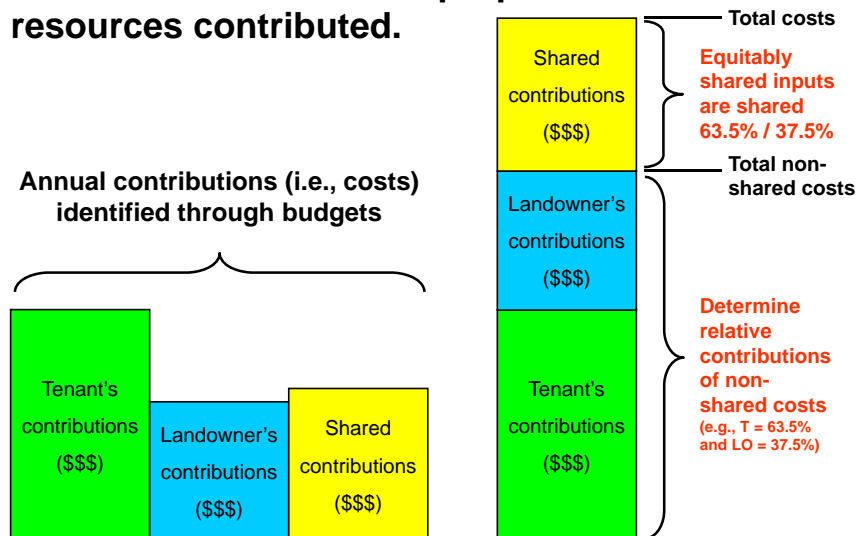
Crop production input contributions ...

The value of contributions for input expenses such as seed, herbicides, insecticides, fertilizer, etc. are generally valued at current market prices and represent “typical” production practices.

How do we deal with input prices if they deviate significantly from historical averages (e.g., fertilizer, fuel)?

Principle #3: Returns divided in same proportion as resources contributed.

Annual contributions (i.e., costs)
identified through budgets



“Non-traditional” leases ...

- Cash rent
- Net share rent
- Bushel rent
- Flexible cash rent
- Combination cash and crop share rent

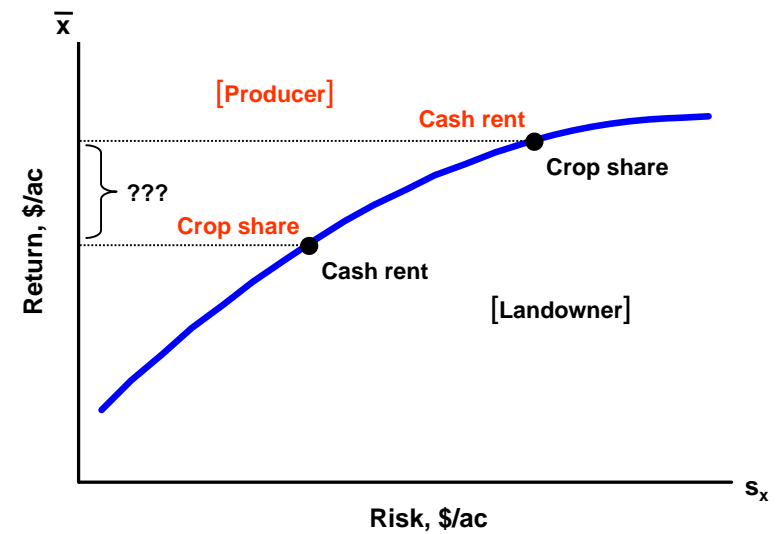
Because there is currently much interest in these types of leases, there must be good reasons to use them ...

Cash rents ...

Numerous good reasons to go to cash rent, but landowners and producers need to recognize several things when doing so ...

- Land tends to change hands more often
- Relative risks change

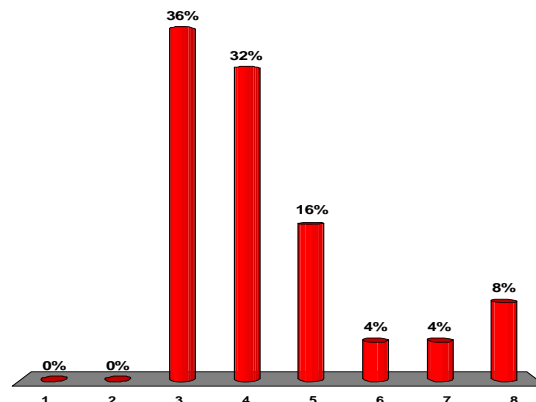
Landowner/producer risk-return tradeoff



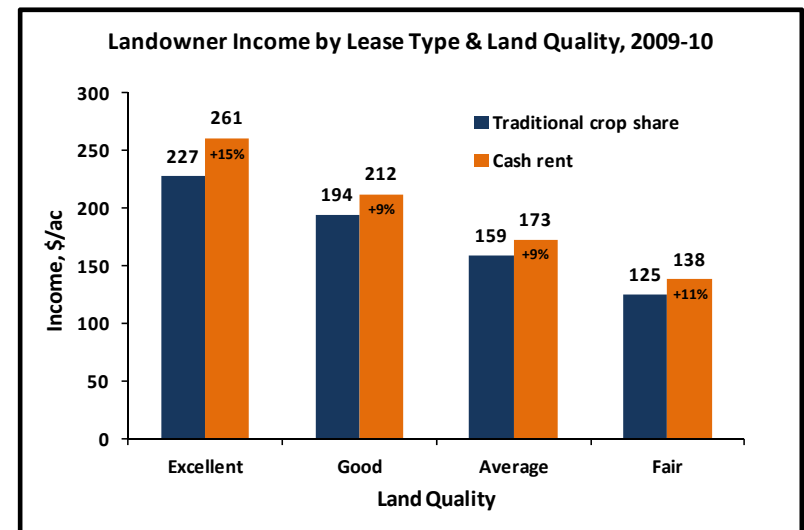
Risk premium...

How should cash rent for non-irrigated land compare with expected returns from equitable crop share...

1. 5-10% higher
2. Roughly equal
3. 5-10% less
4. 10-15% less
5. 15-20% less
6. 20-30% less
7. 30-40% less
8. >40% less



Comparison of landowner income by lease type...



Source: Schnitkey, G. University of Illinois

Why might producers pay a higher rent with a cash lease than crop share?

- Lower costs (easier to manage)
- Increased production flexibility
- Ability to manage risk with crop insurance
- Easier method of expansion
- Timing of when rates were negotiated
- Other???

Methods of establishing cash rent values ...

- Market going rate (if available)

-
- Crop share equivalent (adjusted for risk)

- Landowner's cost

- Amount tenant can afford to pay

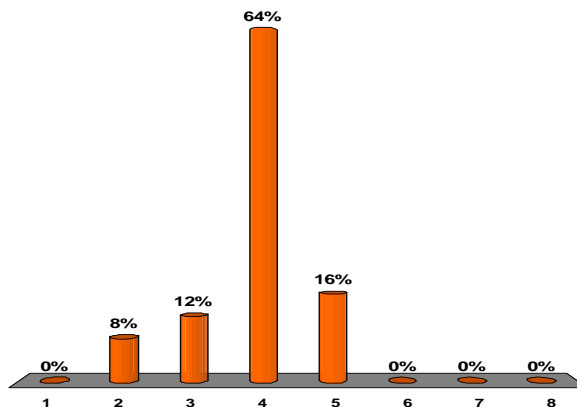


The last three require yield, price, and government payment projections (as well as cost information used for crop share).

Market rate for average cash rent...

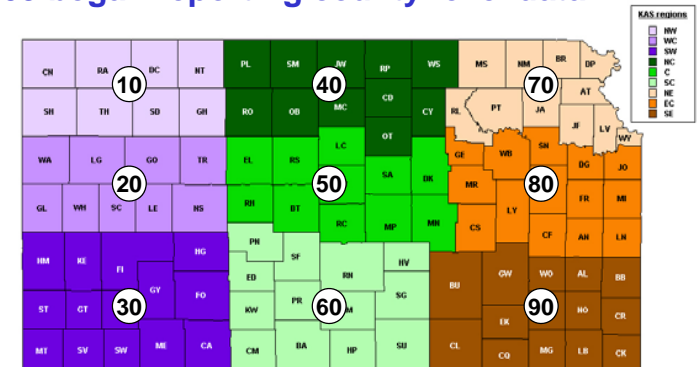
Average cash rent per tillable acre for non-irrigated crop land in 2011 in my area was...

1. < \$30
2. \$30-\$35
3. \$35-\$40
4. \$40-\$50
5. \$50-\$60
6. \$60-\$70
7. \$70-\$80
8. > \$80




Market going rate...

- Historically Kansas Agricultural Statistics (KAS) reported average cash rent values for non-irrigated, irrigated, and pasture land at the crop reporting district (CRD) level – beginning in 2009 began reporting county-level data.



KAS surveyed market rates ...



United States Department of Agriculture
National Agricultural Statistics Service, Kansas Field Office

AGRICULTURAL LAND VALUES & CASH RENTS

Cooperating with the Kansas Department of Agriculture
Kansas Agricultural Statistics

Released: September 12, 2011

2011 Kansas Farmland Value Up 14 Percent

The average value of all farmland and buildings for 2011 in Kansas is estimated to be \$1,250 per acre. This compares with \$1,100 in 2010 and \$1,030 in 2009. Kansas' average value of farmland and buildings increased 14 percent from 2010 to 2011. Irrigated cropland values rose 13 percent from 2010 while non-irrigated cropland increased 14 percent in value from last year. The value of Kansas pasture land increased 3 percent from 2010 to \$410 per acre.


2011 Cash Rents Up from Previous Year

The 2011 average cash rent farmers pay for non-irrigated cropland in Kansas was \$44 per acre, up from \$43.50 in 2010. The cash rental rate for non-irrigated cropland ranged from a low in the Southwest District of \$30.50 per acre to the high in the Northeast District of \$54.00 per acre. Following the Northeast District was the East Central with \$46.50, down \$1.50 from 2010, and the North Central with \$47.50 per acre.

The 2011 cash rental rate for irrigated cropland in Kansas averaged \$105 per acre, up from \$95 per acre in 2010. The Northeast District had the highest rent with \$125 per acre, followed by the West Central at \$122 and the Northeast at \$111 per acre. The Southwest District had the lowest irrigated rent with \$63 per acre, followed by the Central District with \$65.50 and East Central with \$64 per acre.

The pasture cash rent averaged \$16 per acre in 2011, up from \$15.50 in 2010. The rent for pasture in Kansas ranged from \$9.00 per acre in the Southwest District for a low to \$21.50 per acre in the Northeast District for the high. The Northeast District was followed by the East Central with \$21 and the North Central with \$18.50. Compared County has the highest average cash rental rate in Kansas at \$33 per acre, up \$1 from last year.

Year	Cropland			Pasture and Rangeland		All Farmland and Buildings
	Irrigated	Non-Irrigated	Total	Value	Rent	
2002	1,280	450	673	72.00	36.00	340
2003	1,280	460	670	72.00	36.00	340
2004	1,280	460	670	72.00	36.00	340
2005	1,180	370	604	73.00	36.00	340
2006	1,200	420	640	74.00	36.00	340
2007	1,280	460	670	72.00	36.00	340
2008	1,400	500	950	82.00	41.00	380
2009	1,000	1,000	1,000	42.50	17.50	150
2010	1,100	1,100	1,100	43.50	18.50	155
2011	1,250	1,250	1,250	44.00	19.00	160



Kansas Land Prices and Cash Rental Rates

Department of Agricultural Economics - www.agricaprac.com
K-State Research and Extension
Kansas C. Dierman, Agricultural Economist
Terry L. Kautzer, Professor Emeritus

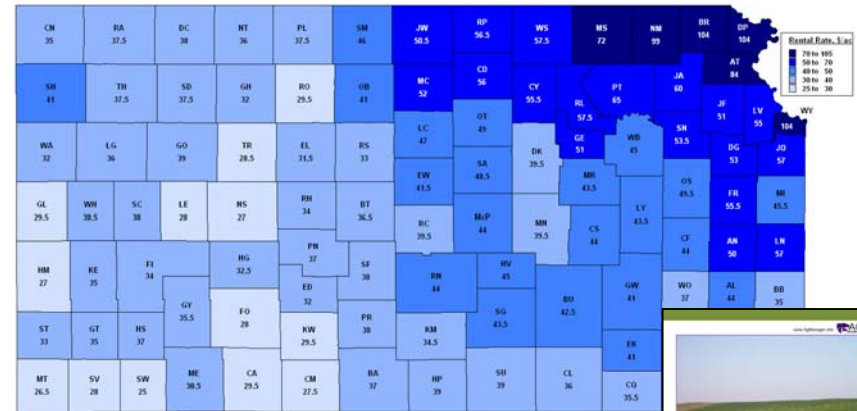
This Farm Management guide reports Kansas land prices and cash rents for 2011. These data are useful to farm managers in determining cash rental rates, in developing agreements in calculating indices for making time adjustments to land prices, and in benchmarking and assessing their own operations on historical prices and rental levels for farmland. The average prices in the guide represent general values that vary widely in productivity. Thus, these data are more appropriate for analyzing trends than for establishing market value or rental rates for specific tracts of farmland.

Kansas Agricultural Statistics
For reporting purposes, Kansas Agricultural Statistics Service has divided the state into nine agricultural statistical divisions. The divisions are: Northwest (NW), West Central (WC), Southwest (SW), North Central (NC), Central (C), South Central (SC), Northeast (NE), East Central (EC), and Southeast (SE) (Figure 1). Since 2004, Kansas Agricultural Statistics has reported price information on three types of land: non-irrigated cropland, irrigated cropland, and pasture. This information is combined in two tables.

Table 1. Price per acre of all land in Kansas and building, Kansas Agricultural Statistics Division, 1993-2011*

Year	NW	WC	SW	NC	C	SC	NE	EC	SE	Total
1993	830	830	830	830	830	830	830	830	830	830
1994	875	875	875	875	875	875	875	875	875	875
1995	910	910	910	910	910	910	910	910	910	910
1996	945	945	945	945	945	945	945	945	945	945
1997	980	980	980	980	980	980	980	980	980	980
1998	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015
1999	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
2000	1,085	1,085	1,085	1,085	1,085	1,085	1,085	1,085	1,085	1,085
2001	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
2002	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155
2003	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190
2004	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225
2005	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260
2006	1,295	1,295	1,295	1,295	1,295	1,295	1,295	1,295	1,295	1,295
2007	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
2008	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
2009	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
2010	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
2011	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440

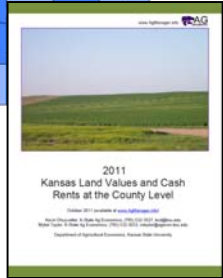
Kansas Nonirrigated Cash Rents, 2011*



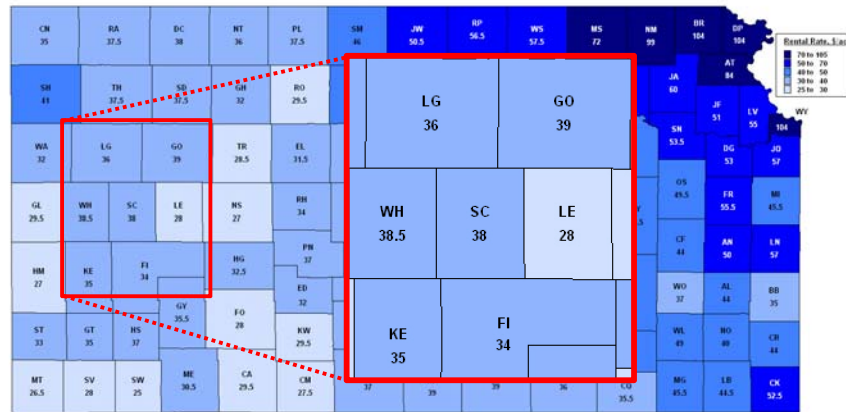
* Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS).

KAS did not report values for BR, DP, GT, KE, RA, TH and WY counties – values for these counties were filled in with multi-county averages.

State average = \$44.00 compared to \$43.50 in 2010 (+1.1%)



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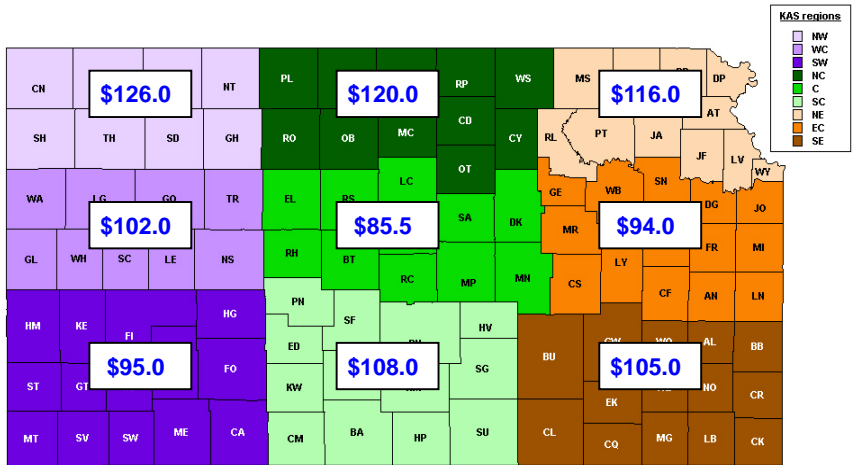


* Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS).

Averages can be misleading because...

- 1) Not all land is equal
- 2) Not all relationships are equal
- 3) We don't know the terms of the lease (e.g., are bonuses included?)

2011 average irrigated cash rent*



* 2011 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS). Values at the county level were only reported for 28 of 105 counties.

Methods of establishing cash rent values ...

- **Crop share equivalent (adjusted for risk)**
 - Converts equitable crop share rent to an expected dollar amount per acre
- **Landowner's cost**
 - Based on the premise of landowner's continuing to receive comparable returns to what has been received in the past
- **Amount tenant can afford to pay**
 - Residual approach – after tenant pays all expenses, whatever income is left represents cash rent

I focus on these two

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Flexible Cash Rents

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Flexible Cash Rents – WHAT?

- Flexible cash rents simply refer to land rental arrangements where the amount of cash rent paid (received) can vary based upon some pre-determined formula (i.e., formalizes bonus rents)
- Methods of “flexing” rental rates, i.e., formulas are based on:
 - Yield (actual for producer, county average, etc.)
 - Price (harvest, season average, actual)
 - Revenue (yield x price, crop insurance, residue)
 - Costs (e.g., fertilizer price)
 - Other...

Flexible Cash Rents – WHY?

- Method of allowing rents to vary from year-to-year without having to renegotiate rents annually (avoid mental anguish associated with rental rate negotiation)
- Way of sharing/managing risks associated with volatile markets (without hassles of crop share lease)
- More transparent than ad hoc “bonuses”
- A good way (requirement?) of working with the “new breed” of landowners?
- Somewhat “force” a higher level of communication relative to fixed cash rent (poor/lack of communication is often an issue with problem lease arrangements)



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