Kansas State UNIVERSITY

Department of Agricultural Economics

North Central Risk Management Education Center

Determining Equitable Cropping Leases

(and some other stuff along the way)

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Women Involved in Agriculture
A Kansas Annie's Project.

Wednesday's
February 9 - March 16, 2011
2:00 - 7:00 p.m.
(March 9 - 2:00 - 5:30 p.m.)

Sponsored by:
K-State Research and Extension - Geary, Marshall, Morris, Pottawatomie, Riley, and Wabaunsee Counties.

Department Agricultural Economics
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Purpose of talk

- Develop an understanding of the underlying economic principles and management aspects of land leasing
- Develop an awareness of, and comfort in using KSU-Lease.xls so that we can *reduce decisions to numbers* (never can do this completely, but move in that direction as much as possible).

Related papers and information are found at www.agmanager.info

What we're going to do today…

- Introduction to Rental Arrangements
  - Types of leases
  - Principles of leases
  - Available information
- Ethics of leasing
- Demonstration of *KSU-Lease.xls*
  (learn how to tailor numbers to your own situations)

Feel free to ask questions, disagree, and/or make comments at any time (that's how we all learn)…

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Introduction to Rental Arrangements

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

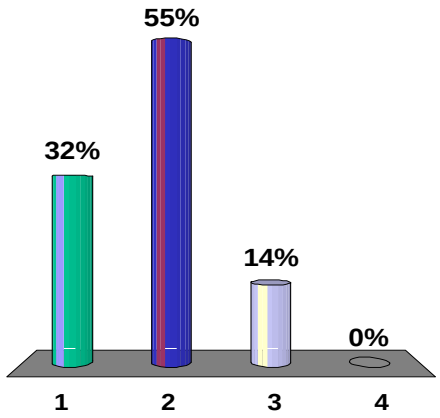
- Impact of adopting new technologies
- Cash renting (folks always want the "going rates")
- "Non-traditional" leases
  - -- Net share rent
  - -- Flexible cash rent
  - -- Bushel rent
  - -- Combination cash/cropshare
- Terminating leases

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

Clicker test question…

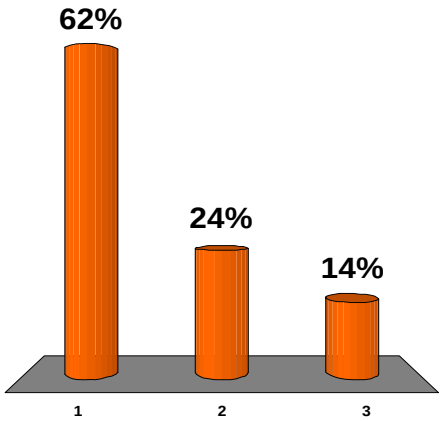
Which of the following best describes your knowledge/use of spreadsheets?

1. Use daily/weekly
2. Use occasionally
3. Heard of them
4. Spread what?



Which best describes you?

1. Producer
2. Landowner
3. Other



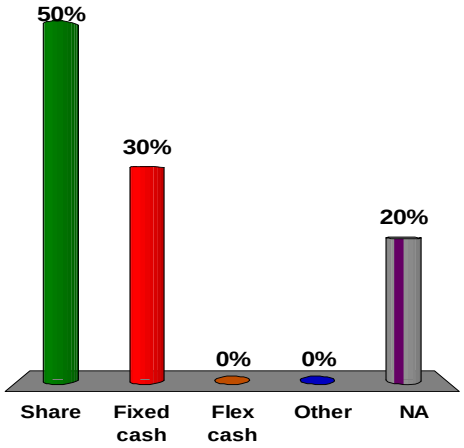
Types of leases on crop land

- Crop-share
  - – Landowner shares in annual revenues (production and government payments) and typically shares certain production costs
- Cash rent
  - – Landowner gets a fixed annual cash payment in exchange for use of land
- Numerous variants 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. Fixed cash
3. Flexible cash
4. Other
5. Does not apply



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

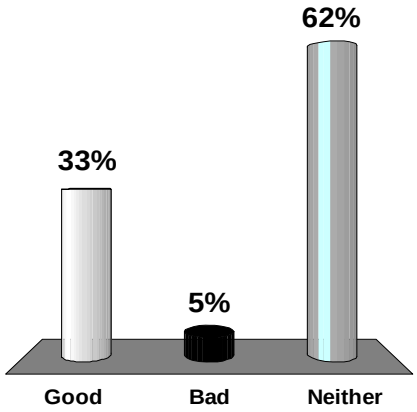
Region	Cash	Share	Other
Northwest	36.3%	59.8%	3.9%
West Central	24.3	71.7	4.0
Southwest	16.5	75.5	8.0
North Central	34.9	60.5	4.6
Central	30.9	64.6	4.5
South Central	21.0	76.4	2.6
Northeast	38.8	53.5	7.7
East Central	36.0	54.3	9.6
Southeast	36.2	58.9	4.9
State	30.5	63.9	5.6

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey

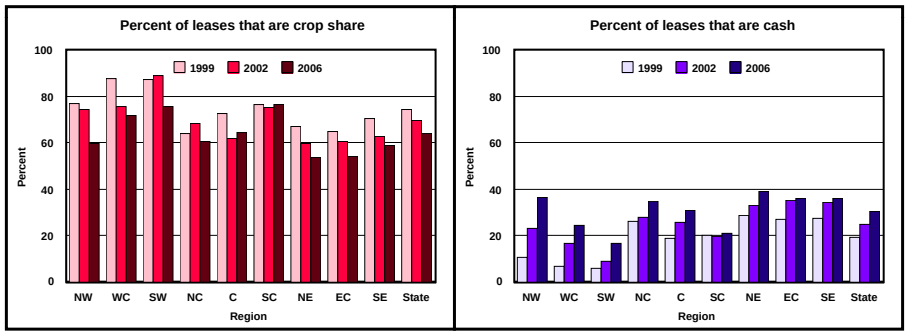
Crop share versus cash leases…

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.

Questions to ask:

1) What factors have been behind this trend?

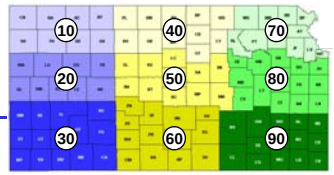
2) Do we expect this to continue or to reverse in current environment?

Length of cropland leases…

Region	Years rented
Northwest (10)	17.6
West Central (20)	21.0
Southwest (30)	20.0
North Central (40)	16.9
Central (50)	17.2
South Central (60)	15.5
Northeast (70)	17.2
East Central (80)	18.8
Southeast (90)	15.6
State	17.8

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey

KAS Crop Reporting Districts



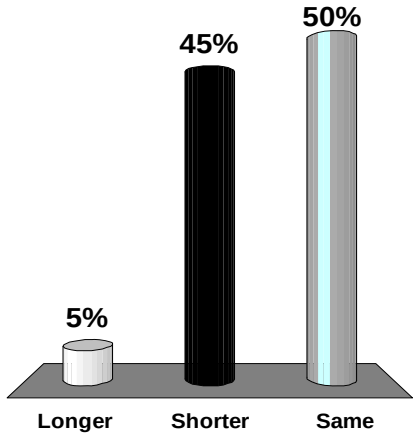
Producers tend to lease land from the same landowner for a long time.

Long-term relationships can be good or bad…

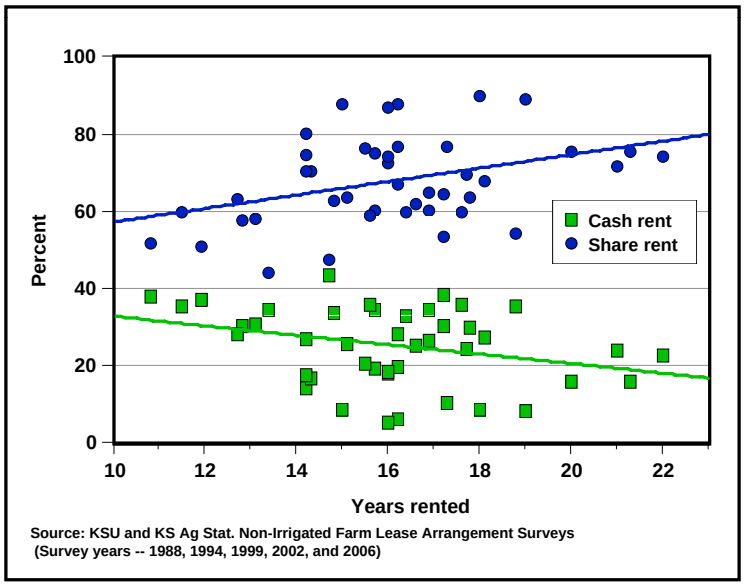
Crop share versus cash leases…

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



Length of lease vs. lease type …



Source: KSU and KS Ag Stat. Non-Irrigated Farm Lease Arrangement Surveys
(Survey years -- 1988, 1994, 1999, 2002, and 2006)

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.

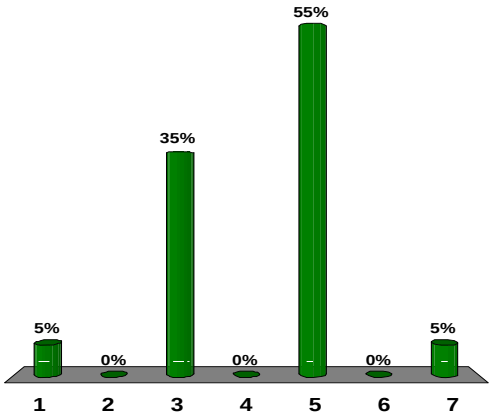
Market established rates…

- Land Use Value Project of the KSU 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
- Local and regional surveys of leasing practices
- 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…

Table 8. North Central-40 Nonirrigated Crop-Share Arrangements

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*			
	33% Share	40% Share	50% Share	Other % Share
Wheat (131 Leases)	100	29	1	1
% of Total Leases in Lease Arrangement	76.3%	22.1%	0.8%	0.8%
% of Leases Sharing Fertilizer Costs	98.0%	100.0%	100.0%	100.0%
% of Leases Sharing Herbicide Costs	69.0%	69.0%	100.0%	0.0%
% of Leases Sharing Insecticide Costs	23.0%	65.5%	0.0%	0.0%
Corn (11 Leases)	4	4	3	
% of Total Leases in Lease Arrangement	36.4%	36.4%	27.3%	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	66.7%	Responses
% of Leases Sharing Herbicide Costs	50.0%	100.0%	66.7%	
% of Leases Sharing Insecticide Costs	0.0%	75.0%	33.3%	
Sorghum (24 Leases)	18	4	1	1
% of Total Leases in Lease Arrangement	75.0%	16.6%	4.2%	4.2%
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	100.0%
% of Leases Sharing Herbicide Costs	72.2%	75.0%	100.0%	0.0%
% of Leases Sharing Insecticide Costs	16.7%	75.0%	0.0%	0.0%
Multiple Crops (41 Leases)	31	10		
% of Total Leases in Lease Arrangement	75.6%	24.4%	No	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	Responses	Responses
% of Leases Sharing Herbicide Costs	51.6%	100.0%		
% of Leases Sharing Insecticide Costs	25.8%	70.0%		
Soybeans (19 Leases)	5	12	2	
% of Total Leases in Lease Arrangement	26.3%	63.2%	10.5%	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	Responses
% of Leases Sharing Herbicide Costs	60.0%	83.3%	100.0%	
% of Leases Sharing Insecticide Costs	0.0%	75.0%	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, 98.0% of landlords receiving 33% of the wheat crop paid 33% of fertilizer expenses.

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey (available at www.agmanager.info)

Example of market established crop shares…

Table 9. Central-50 Nonirrigated Crop-Share Arrangements

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*			
	33% Share	40% Share	50% Share	Other % Share
Wheat (155 Leases)	127	18	3	7
% of Total Leases in Lease Arrangement	82.0%	11.6%	1.9%	4.5%
% of Leases Sharing Fertilizer Costs	97.6%	100.0%	100.0%	85.7%
% of Leases Sharing Herbicide Costs	70.1%	94.4%	100.0%	85.7%
% of Leases Sharing Insecticide Costs	41.7%	55.6%	100.0%	28.6%
Sorghum (36 Leases)	34	1	1	
% of Total Leases in Lease Arrangement	94.4%	2.8%	2.8%	No
% of Leases Sharing Fertilizer Costs	97.1%	100.0%	100.0%	Responses
% of Leases Sharing Herbicide Costs	64.7%	0.0%	100.0%	
% of Leases Sharing Insecticide Costs	38.2%	100.0%	100.0%	
Multiple Crops (40 Leases)	39	1		
% of Total Leases in Lease Arrangement	97.5%	2.5%	No	No
% of Leases Sharing Fertilizer Costs	97.4%	100.0%	Responses	Responses
% of Leases Sharing Herbicide Costs	77.5%	100.0%		
% of Leases Sharing Insecticide Costs	56.4%	100.0%		
Soybeans (11 Leases)	10	1		
% of Total Leases in Lease Arrangement	90.9%	9.1%	No	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	Responses	Responses
% of Leases Sharing Herbicide Costs	100.0%	100.0%		
% of Leases Sharing Insecticide Costs	50.0%	100.0%		
Alfalfa (9 Leases)	7		2	
% of Total Leases in Lease Arrangement	77.8%	No	22.2%	No
% of Leases Sharing Fertilizer Costs	100.0%	Responses	100.0%	Responses
% of Leases Sharing Herbicide Costs	42.9%		100.0%	
% of Leases Sharing Insecticide Costs	71.4%		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, 97.6% of landlords receiving 33% of the wheat crop paid 33% of fertilizer expenses.

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey (available at www.agmanager.info)

Example of market established crop shares…

Table 12. East Central-80 Nonirrigated Crop-Share Arrangements

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*			
	33% Share	40% Share	50% Share	Other % Share
Wheat (27 Leases)	19	5	3	
% of Total Leases in Lease Arrangement	70.4%	18.5%	11.1%	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	Responses
% of Leases Sharing Herbicide Costs	84.2%	80.0%	100.0%	
% of Leases Sharing Insecticide Costs	52.6%	60.0%	66.7%	
Corn (29 Leases)	21	3	5	
% of Total Leases in Lease Arrangement	72.4%	10.4%	17.2%	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	Responses
% of Leases Sharing Herbicide Costs	85.7%	100.0%	100.0%	
% of Leases Sharing Insecticide Costs	52.4%	66.7%	80.0%	
Sorghum (9 Leases)	6	1	1	1
% of Total Leases in Lease Arrangement	66.7%	11.1%	11.1%	11.1%
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	100.0%
% of Leases Sharing Herbicide Costs	83.3%	100.0%	100.0%	100.0%
% of Leases Sharing Insecticide Costs	33.3%	100.0%	100.0%	100.0%
Multiple Crops (4 Leases)	4			
% of Total Leases in Lease Arrangement	100.0%	No	No	No
% of Leases Sharing Fertilizer Costs	100.0%	Responses	Responses	Responses
% of Leases Sharing Herbicide Costs	100.0%			
% of Leases Sharing Insecticide Costs	100.0%			
Soybeans (41 Leases)	33	6	2	
% of Total Leases in Lease Arrangement	80.5%	14.6%	4.9%	No
% of Leases Sharing Fertilizer Costs	100.0%	100.0%	100.0%	Responses
% of Leases Sharing Herbicide Costs	72.7%	50.0%	100.0%	
% of Leases Sharing Insecticide Costs	45.5%	50.0%	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, 100% of landlords receiving 33% of the wheat crop paid 33% of fertilizer expenses.

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey (available at www.agmanager.info)

Example of market established crop shares…

Table 11. Northeast-70 Nonirrigated Crop-Share Arrangements

Crop	Landlord's Percent of Crop Received (or of Costs Paid)*			
	33% Share	40% Share	50% Share	Other % Share
Wheat (21 Leases)	3	10	8	
% of Total Leases in Lease Arrangement	14.30%	47.60%	38.10%	No
% of Leases Sharing Fertilizer Costs	100.00%	100.00%	100.00%	Responses
% of Leases Sharing Herbicide Costs	33.30%	60.00%	100.00%	
% of Leases Sharing Insecticide Costs	33.30%	40.00%	62.50%	
Corn (54 Leases)	2	9	42	1
% of Total Leases in Lease Arrangement	3.70%	16.70%	77.80%	1.80%
% of Leases Sharing Fertilizer Costs	100.00%	100.00%	100.00%	100.00%
% of Leases Sharing Herbicide Costs	100.00%	88.90%	95.20%	100.00%
% of Leases Sharing Insecticide Costs	100.00%	88.90%	76.20%	100.00%
Sorghum (11 Leases)	1	7	3	
% of Total Leases in Lease Arrangement	9.10%	63.60%	27.30%	No
% of Leases Sharing Fertilizer Costs	100.00%	100.00%	100.00%	Responses
% of Leases Sharing Herbicide Costs	0.00%	85.70%	100.00%	
% of Leases Sharing Insecticide Costs	0.00%	57.10%	66.70%	
Soybeans (43 Leases)	4	14	25	
% of Total Leases in Lease Arrangement	9.30%	32.60%	58.10%	No
% of Leases Sharing Fertilizer Costs	100.00%	100.00%	100.00%	Responses
% of Leases Sharing Herbicide Costs	100.00%	92.90%	76.00%	
% of Leases Sharing Insecticide Costs	100.00%	78.60%	52.00%	
Other Hay (8 Leases)	2	2	4	
% of Total Leases in Lease Arrangement	25.00%	25.00%	50.00%	No
% of Leases Sharing Fertilizer Costs	100.00%	100.00%	100.00%	Responses
% of Leases Sharing Herbicide Costs	0.00%	0.00%	100.00%	
% of Leases Sharing Insecticide Costs	0.00%	0.00%	100.00%	

* 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 -- 2007 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)

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

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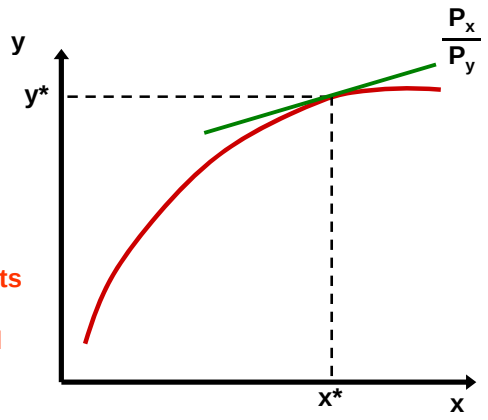
4. Compensation for unused long-term investments at termination
5. Good landlord/tenant communications

Principle #1:
Yield increasing inputs should be shared

Examples of yield increasing inputs

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

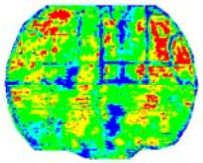


Sharing yield increasing inputs in the same % as income provides the economic signal to both parties to apply the optimal amount of the input.

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)



Impact of new technologies …

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

Adoption of new technologies …

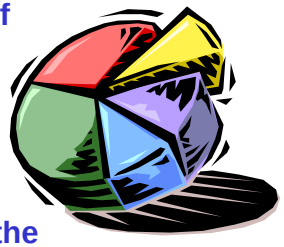
… tends to cause problems because traditional arrangements or rules-of-thumb are often not appropriate.

… 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).



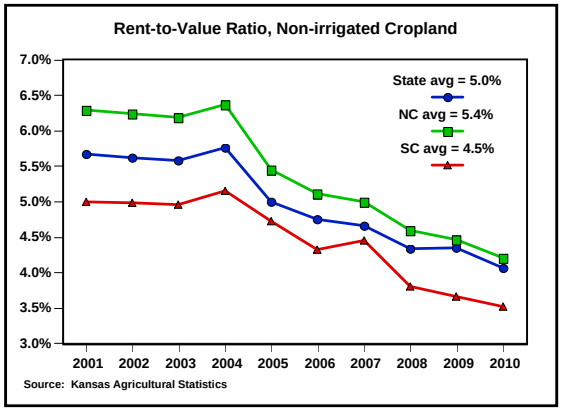
Base input values on expectations consistent with the time-frame of the lease (if expectations end up being significantly off, be willing to make adjustments).

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.

Producers machinery costs vs. custom rates

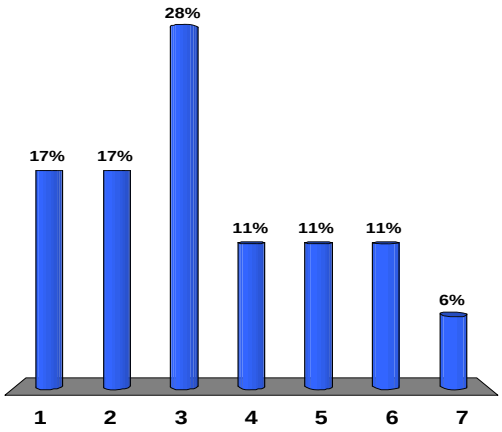
How do you think total machinery costs for producers that own most of their equipment compare to custom rates…

1. < 75%
2. 75-85%
3. 85-95%

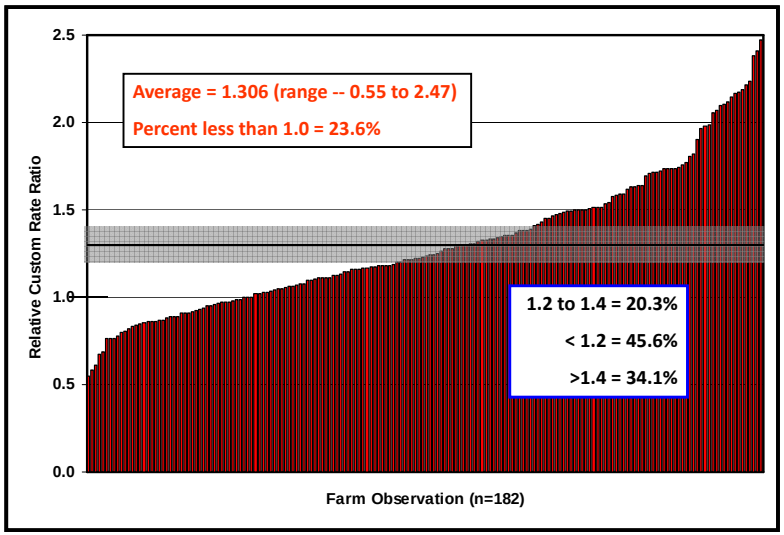
(less)

4. 95-105% (similar)
5. 105-115%
6. 115-125%
7. 125-135%

(more)



Very few individuals are "average"…



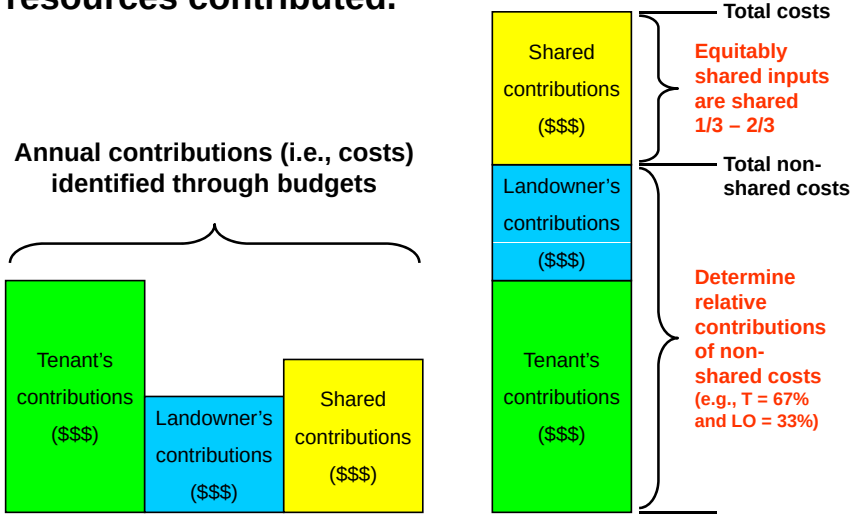
Source: Beaton MS thesis, 2003 (data from 2001)

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.



Principle #4:
Compensation for unused long-term investments at lease termination.

It is generally recommended that landowners make long-term investments such as terraces, irrigation well, lime, alfalfa seed, etc.

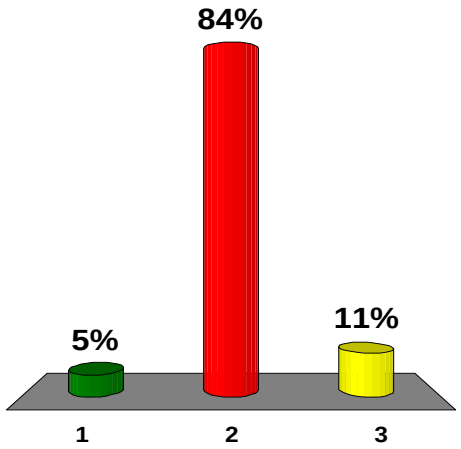
If the tenant pays for long-term investments, or shares their cost, they should be compensated for their share of any value that remains when the lease is terminated

Lime, soil fertility (P), alfalfa stands, even no-till soil building (organic matter)

Written versus oral leases…

Is your *typical* lease written?

1. Yes
2. No
3. Does not apply



Principle #5:
Good communications between the landlord and the tenant.

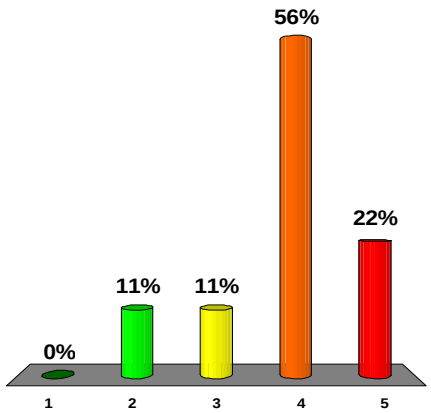
Because so many of the terms of a lease are based on negotiation between the landowner and the tenant, good communications are critical.

A lease is a legal contract in Kansas, thus it is suggested that terms of the lease agreed upon by both parties be put in writing. This becomes more important as the complexity of leases increases – or as the volatility of crop and input prices increases.

In response to a request for a cash rent bid…

"I will pay $X above your highest offer" is a good business strategy.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree



"Non-traditional" leases …

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

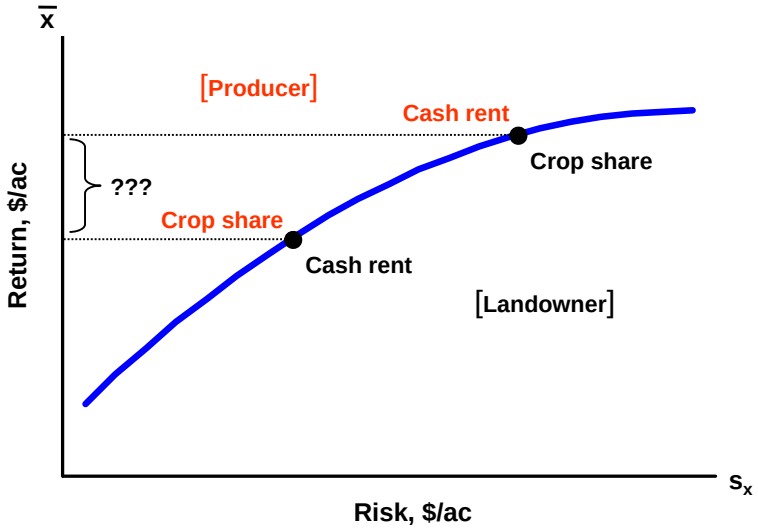
Because there is currently much interest in these types of leases, there must be good reasons to use them ...

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

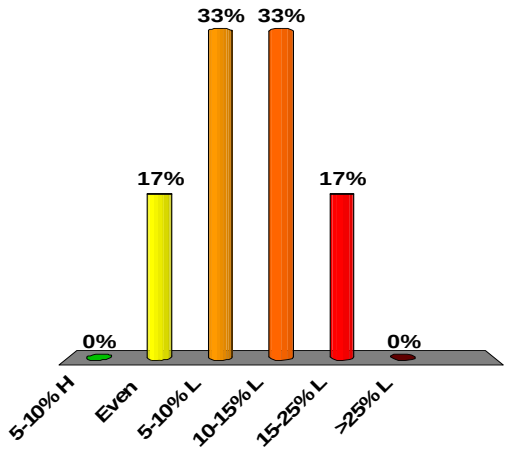
Landowner/producer risk-return tradeoff



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. 15-25% less
6. >25% less



Methods of establishing cash rent values …

- Market going rate (if available)

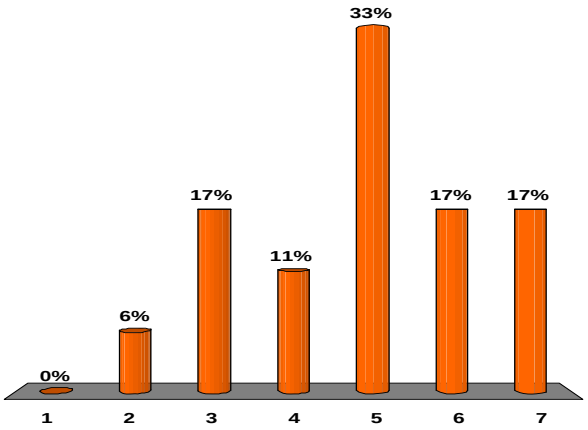
- Crop share equivalent (adjusted for risk)
- Landowner's cost
- Amount tenant can afford to pay

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 my area is…

1. < $40
2. $41-$45
3. $46-$50
4. $51-$55
5. $56-$65
6. $66-$75
7. > $75

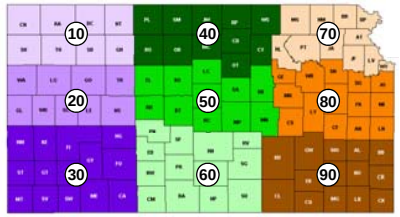


Publicly available cash rent data…

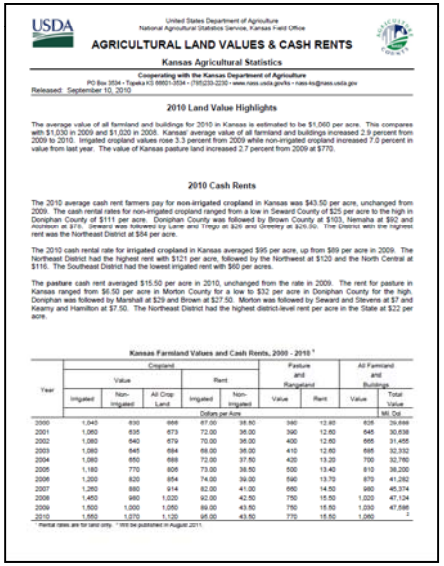
Historically Kansas Agricultural Statistics (KAS) reported average land values and cash rent rates for non-irrigated, irrigated, and pasture land at the crop reporting district (CRD) level

Beginning in 2009 KAS began reporting county-level cash rates (i.e., more intensive data), but in 2010 will discontinue reporting land values at the regional level (i.e., less intensive data).

This is the market we observe and can reference. What you folks all face day to day is the "real" market.



KAS surveyed market rates …



AGRICULTURAL LAND VALUES & CASH RENTS

Kansas Agricultural Statistics

Cooperating with the Kansas Department of Agriculture

Released: September 10, 2010

2010 Land Value Highlights

The average value of all farmland and buildings for 2010 in Kansas is estimated to be $1,060 per acre. This compares with $1,030 in 2009 and $1,020 in 2008. Kansas' average value of all farmland and buildings increased 2.9 percent from 2009 to 2010. Irrigated cropland values rose 3.3 percent from 2009 while non-irrigated cropland increased 7.0 percent in value from last year. The value of Kansas pasture land increased 2.7 percent from 2009 at $770.

2010 Cash Rents

The 2010 average cash rent farmers pay for non-irrigated cropland in Kansas was $43.50 per acre, unchanged from 2009. The cash rental rates for non-irrigated cropland ranged from a low in Seward County of $25 per acre to the high in Doniphan County of $111 per acre. Doniphan County was followed by Brown County at $103, Nemaha at $92 and Atchison at $79. Broward was followed by Lane and Thrego at $26 and Greeley at $26.50. The District with the highest rent was the Northeast District at $64 per acre.

The 2010 cash rental rate for irrigated cropland in Kansas averaged $95 per acre, up from $89 per acre in 2009. The Northeast District had the highest rent with $121 per acre, followed by the Northwest at $120 and the North Central at $116. The Southeast District had the lowest irrigated rent with $60 per acres.

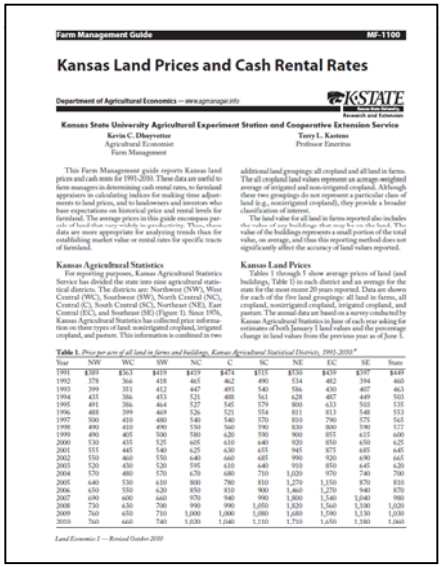
The pasture cash rent averaged $15.50 per acre in 2010, unchanged from the rate in 2009. The rent for pasture in Kansas ranged from $6.50 per acre in Morton County for a low to $32 per acre in Doniphan County for the high. Doniphan was followed by Marshall at $29 and Brown at $27.50. Morton was followed by Seward and Stevens at $7 and Kearny and Hamilton at $7.50. The Northeast District had the highest district-level rent per acre in the State at $22 per acre.

Kansas Farmland Values and Cash Rents, 2000 - 2010 *

Year	Cropland Value			Cropland Rent		Pasture and Rangeland Value	Pasture and Rangeland Rent	All Farmland and Buildings Value	Total Value
	Irrigated	Non-Irrigated	All Crop Land	Irrigated	Non-Irrigated				Mil. Dol.
	Dollars per Acre								
2000	1,040	830	666	87.00	38.50	340	13.40	636	29,898
2001	1,060	835	673	72.00	36.00	390	12.60	645	30,638
2002	1,080	840	679	70.00	36.00	400	12.60	665	31,465
2003	1,080	845	684	68.00	36.00	410	12.60	685	32,332
2004	1,080	850	688	72.00	37.50	420	13.20	700	32,790
2005	1,180	770	806	73.00	38.50	500	13.40	810	38,200
2006	1,200	820	854	74.00	39.00	590	13.70	870	41,282
2007	1,260	880	914	82.00	41.00	660	14.50	960	45,374
2008	1,450	980	1,020	92.00	42.50	750	15.50	1,020	47,124
2009	1,550	1,000	1,050	89.00	43.50	750	15.50	1,050	47,598
2010	1,550	1,070	1,120	95.00	43.50	770	15.50	1,060	*

* Rental rates are for land only. ** Will be published in August 2011.

KAS report (switched to county-level in 2009, will drop CRD-level land values after 2010)



Farm Management Guide MF-1100

Kansas Land Prices and Cash Rental Rates

Department of Agricultural Economics — www.agmanager.info

K-STATE Research and Extension

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Kevin C. Dhuyvetter, Agricultural Economist, Farm Management

Terry L. Kastens, Professor Emeritus

This Farm Management guide reports Kansas land prices and cash rents for 1991-2010. These data are useful to farm managers in determining cash rental rates, to farmland appraisers in calculating indices for making time adjustments to land prices, and to landowners and investors who base expectations on historical price and rental levels for farmland. The average prices in this guide encompass parcels of land 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 districts. The districts 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 1976, Kansas Agricultural Statistics has collected price information on three types of land: nonirrigated cropland, irrigated cropland, and pasture. This information is combined in two additional land groupings: all cropland and all land in farms. The all cropland land values represent an acreage-weighted average of irrigated and non-irrigated cropland. Although these two groupings do not represent a particular class of land (e.g., nonirrigated cropland), they provide a broader classification of interest.

The land value for all land in farms reported also includes the value of any buildings that may be on the land. The value of the buildings represents a small portion of the total value, on average, and thus this reporting method does not significantly affect the accuracy of land values reported.

Kansas Land Prices

Tables 1 through 5 show average prices of land (and buildings, Table 1) in each district and an average for the state for the most recent 20 years reported. Data are shown for each of the five land groupings: all land in farms, all cropland, nonirrigated cropland, irrigated cropland, and pasture. The annual data are based on a survey conducted by Kansas Agricultural Statistics in June of each year asking for estimates of both January 1 land values and the percentage change in land values from the previous year as of June 1.

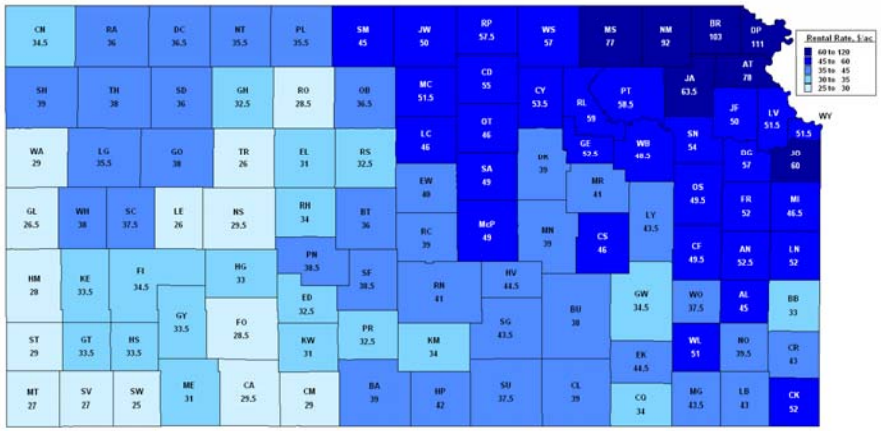
Table 1. *Price per acre of all land in farms and buildings, Kansas Agricultural Statistical Districts, 1991-2010* *

Year	NW	WC	SW	NC	C	SC	NE	EC	SE	State
1991	$389	$363	$419	$439	$474	$515	$530	$439	$397	$449
1992	378	366	418	465	462	490	534	482	394	460
1993	399	351	412	447	493	540	586	430	407	463
1994	435	386	453	521	488	561	628	487	449	503
1995	491	386	464	527	545	579	800	615	503	535
1996	488	399	469	526	521	554	811	813	548	553
1997	500	410	480	540	540	570	810	790	575	565
1998	490	410	490	550	560	590	830	800	590	577
1999	490	405	500	580	620	590	900	855	615	600
2000	530	435	525	605	610	640	920	850	650	625
2001	555	445	540	625	630	655	945	875	685	645
2002	550	460	550	640	660	685	990	920	690	665
2003	520	450	520	595	610	640	910	850	645	620
2004	570	480	570	670	680	710	1,020	970	740	700
2005	640	530	610	800	780	810	1,270	1,150	870	810
2006	650	550	620	850	810	900	1,460	1,270	940	870
2007	690	600	660	970	940	990	1,800	1,540	1,040	980
2008	730	630	700	990	990	1,050	1,820	1,560	1,330	1,020
2009	760	650	710	1,000	1,000	1,080	1,680	1,590	1,330	1,030
2010	760	660	740	1,030	1,040	1,110	1,710	1,650	1,380	1,060

Land Economics 1 — Revised October 2010

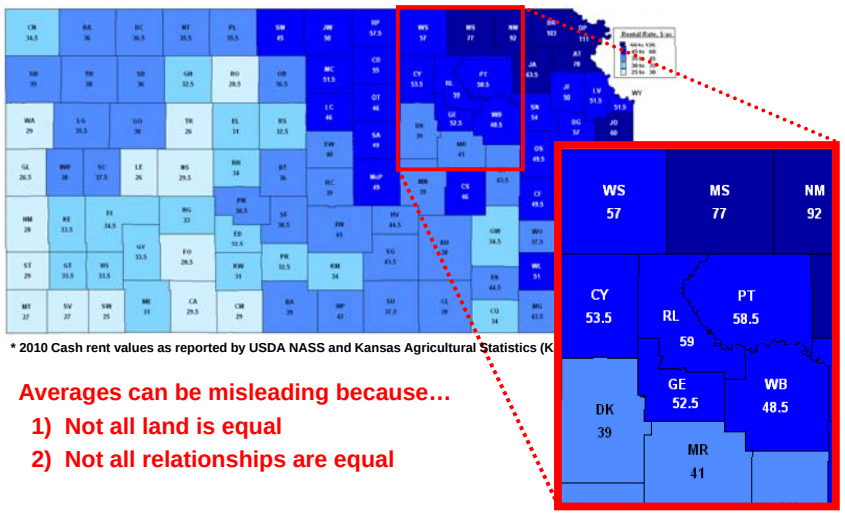
KSU report – basically a repackaging of KAS data (show more history)

Kansas county-level non-irrigated crop cash rents…



*** 2010 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS).**

Kansas county-level non-irrigated crop cash rents…



* 2010 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (K

Averages can be misleading because…

1) Not all land is equal
2) Not all relationships are equal

2010 average cash rent for various regions…

Kansas Cash Rents by County, 2010 [1]

County and District	Non-Irrigated Cropland	Irrigated Cropland	Pasture	County and District	Non-Irrigated Cropland	Irrigated Cropland	Pasture
	Dollars per Acre				Dollars per Acre		
Clay	53.50		19.50	Atchison	78.00		26.00
Cloud	55.00	110.00	22.00	Brown	103.00		27.50
Jewell	50.00	115.00	19.00	Doniphan	111.00		32.00
Mitchell	51.50	94.00	18.00	Jackson	63.50		23.00
Osborne	36.50		14.00	Jefferson	50.00		20.50
Ottawa	46.00		18.50	Marshall	77.00		29.00
Phillips	35.50		16.00	Nemaha	92.00		26.00
Republic	57.50	129.00	21.00	Pottawatomie	58.50		17.00
Rooks	28.50		12.50	Riley	59.00		16.00
Smith	45.00	73.00	17.00	Other Counties	51.50	121.00	21.50
Washington	57.00	94.00	19.50	**Northeast**	84.00	121.00	22.00
Other Counties		76.00					
North Central	45.00	116.00	17.50				
				Anderson	52.50		21.00
Barton	36.00	90.00	15.00	Chase	46.00		21.00
Dickinson	39.00		20.00	Coffey	49.50		20.00
Ellis	31.00		12.50	Douglas	57.00		20.00
Ellsworth	40.00		14.50	Franklin	52.00		18.00
Lincoln	46.00		16.50	Geary	52.50		17.50
McPherson	49.00	89.00	17.50	Johnson	60.00		23.00
Marion	39.00		19.00	Linn	52.00		24.00
Rice	39.00		14.00	Lyon	43.50		21.00
Rush	34.00		11.50	Miami	46.50		21.00
Russell	32.50		13.00	Morris	41.00		22.00
Saline	49.00	91.00	19.00	Osage	49.50		18.50
Other Counties		84.50		Shawnee	54.00	114.00	17.50
Central	39.00	87.00	15.50	Wabaunsee	48.50	96.00	21.00
				Other Counties		99.50	
				East Central	50.00	102.00	21.00

How well do these averages reflect the market for any particular piece of ground?

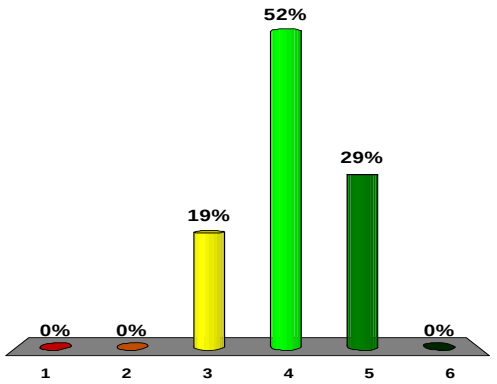
Methods of establishing cash rent values …

- **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

Crop land cash rents for 2011…

My estimate as to what cash rents for crop land in 2011 will be, relative to 2010, is…

1. Down >5%
2. Down 2-5%
3. Steady
4. Up 2-5%
5. Up 5-10%
6. Up >10%



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?

- Many good reasons to go to cash rent, but there are risks associated with multi-year fixed rents
- 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)
- FSA has changed rules allowing flexible leases
- Somewhat "force" a higher level of communication relative to fixed cash rent (poor/lack of communication is often an issue with problem lease arrangements)

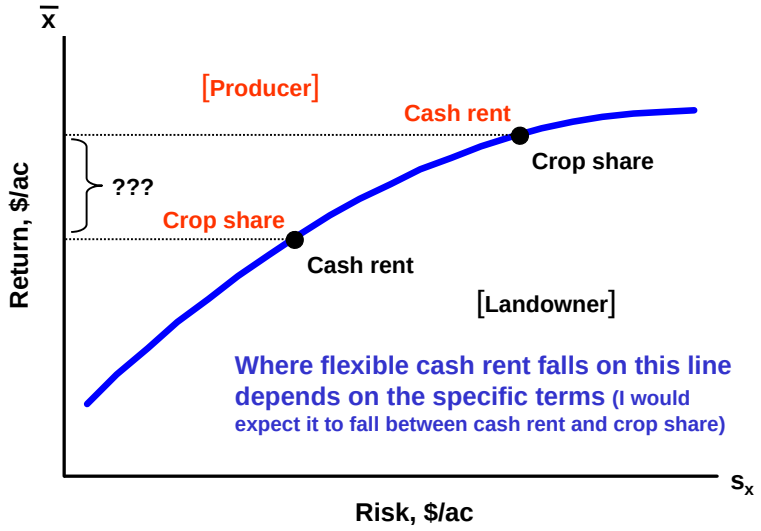
Flexible Cash Rents – WHY NOT?

- Complex!
- Theory and intuition guide conceptual design, but little help with specific details
- Not needed if cash rents are renegotiated frequently (every year?)
- Hard to think of everything, which means we might need to be "tweaking" arrangement regularly
- If designed wrong, might increase risk
- Appealing for certain situations, but not appropriate in all cases (depends on why you are considering cash rent)

Flexible cash rents – HOW?

- There is not a single right way to do this! (but there are plenty of wrong ways)
- A couple things to keep in mind
  - Risk-return trade-off suggests that higher risk is associated with higher expected returns and vice versa
  - Absolutely critical that all parties involved understand the flexible arrangement and how it can play out under different scenarios (i.e., have a written lease and include example calculations)
  - Important to remain "flexible" with flexible cash rents (somewhat of a learning process)

Landowner/producer risk-return tradeoff



Where flexible cash rent falls on this line depends on the specific terms (I would expect it to fall between cash rent and crop share)

Flexible Cash Rents – HOW?

1. Establish a base cash rent
   - A. USDA NASS survey value
     - Advantages – third party reported, county-level data now available, easy/transparent (requires no assumptions)
     - Disadvantages – county average may not fit specific situation, year lag in availability, subject to revisions
   - B. Budget-derived value (*KSU-Lease.xls*)
     - Advantages – tailored to specific situation (rotation, yields, etc.), equitable crop share can be calibrated to local area
     - Disadvantages – requires development of crop budgets and associated assumptions

Flexible Cash Rents – HOW?

Questions to ask

1. Does cash rent flex up and down or only up?
   (this should impact base price as it relates to market rate)

   If cash rent only flexes up (i.e., base rent is a floor), should base rent be adjusted to reflect risk situation?

   Examining the options market might help guide thinking on this issue…

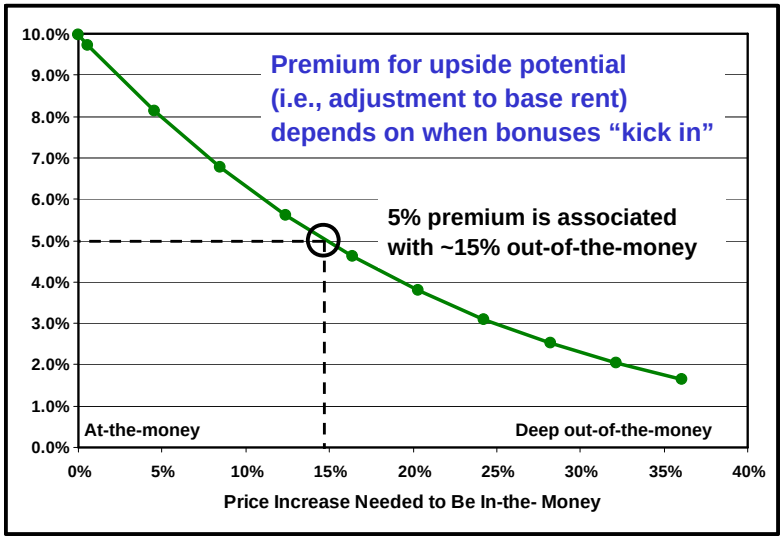
At-the-money call options premiums as % of futures*

Crop (contract)	Scenario A	Scenario B	Scenario C
Wheat (Jul 2011)	10.2%	9.5%	5.9%
Corn (Dec 2011)	13.5%	9.7%	6.2%
Soybean (Nov 2011)	10.8%	8.2%	6.0%

A. Current volatility (35.5, 36.6, 30.1) and current days to expiration (208-362)
B. Current volatility and 180 days to expiration (6 months)
C. Historical volatility (22.3, 23.5, 22.3) and 180 days to expiration

* Based on futures market closing prices on 11/26/2010 and Black-Scholes options model

Call options premiums as percent of current price*



* Based on 11/26/2010 DEC 2011 corn futures volatility, but assuming 180 days to expiration

Flexible Cash Rents – HOW?

Getting complicated enough yet?

(start to see why not many people are using flexible rents)

Flexible Cash Rents – HOW?

Questions to ask

2. What yields and prices are used to determine actual gross revenue?

a. Yields and prices used for determining adjustments to base rent need to be consistent with those used in determining base rent and should be spelled out in lease.

b. Suggestions – use actual crop yields as turned in for insurance records and a multi-week or monthly average cash price for a relevant market (if post-harvest prices are used, prices should be net of storage costs). I would not use actual prices received for crop. What about insurance prices?

Flexible Cash Rents – HOW?

Questions to ask

3. What crops should all be included in calculations?

a. Goal is to pay bonuses when income is high and thus it is important that bonuses are tied reasonably close to what is actually done. However, the benefits of additional complexity need to outweigh the associated costs.

b. Suggestion – include crops that account for the majority of the production and income and those which data will be readily available. Nothing wrong with applying percentage changes from 80-90% of acres to 100% of acres rented. Remember KISS principle…

Flexible Cash Rents – HOW?

Questions to ask

4. **Are crop insurance and government payments (e.g., ACRE, SURE) included / accounted for?**
   a. Typically crop insurance indemnity payments are received when income is low and thus they would not be expected to trigger bonuses. However, if working with gross income for farm they could be included (need to account for premium cost).
   b. Suggestion – do not factor in crop insurance or government payments to bonuses (i.e., these are handled strictly by tenant), but share information in case things need to be changed in the future.

Flexible Cash Rents – HOW?

Questions to ask

5. **What about flexing cash rent based on costs of crop inputs?**
   a. Probably only makes sense for major inputs that have considerable price risk (e.g., fertilizer, irrigation fuel). Establish a $/acre for each crop (and total for farm) based on quantity and price and then flex on price deviation from base (do not use actual price paid).
   b. Suggestion – if this is a major concern, consider going back to crop share lease. Focus on yield and price first to keep things slightly less complex.

Flexible Cash Rents – HOW?

Questions to ask

6. **What will final rent be under alternative potential outcomes?**
   a. Ask yourself lots of "what if" questions to make sure you know how things "turn out" under various price/yield scenarios.
   b. Suggestion – take time to create example outcomes as this will help with identifying the terms that need to be included in written lease (include examples showing relevant calculations in written lease).

Kansas State University
Department of Agricultural Economics

North Central Risk Management Education Center

Ethics of Leasing

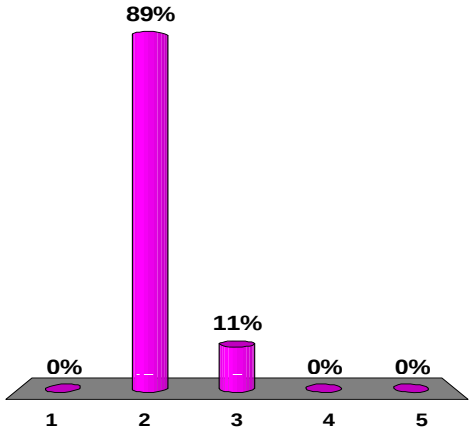
(thoughts from Kevin and Terry)

AG MANAGER.INFO
Kansas State Research & Extension
www.agmanager.info

View of other party to the lease…

How do you view the other party in a lease?

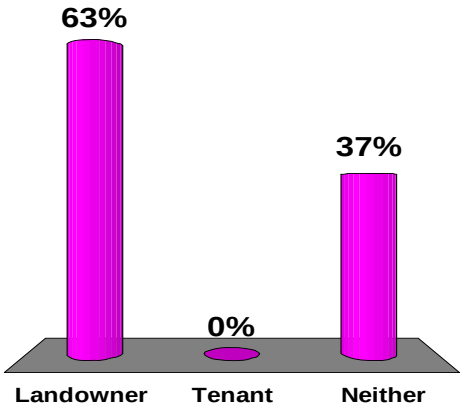
1. Competitor
2. Partner
3. Neither C nor P
4. Necessary evil
5. Does not apply



View of other party to the lease…

Who has more "power" in negotiating the terms of a lease?

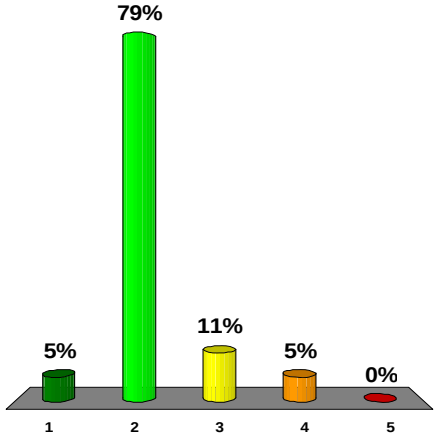
1. Landowner
2. Tenant
3. Neither
   (roughly equal)



"Other" government program payments…

Producers should receive 100% of payments from programs such as CSP that are due to their management.

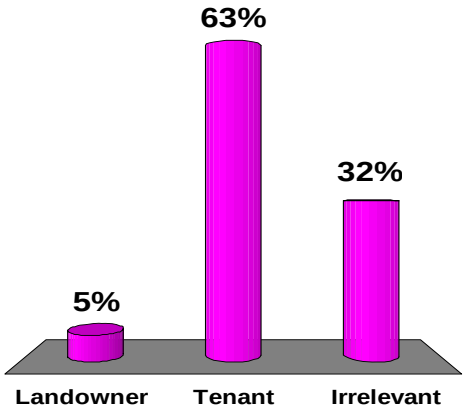
1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree



View of other party to the lease…

Who "typically" needs the income from the land the most?

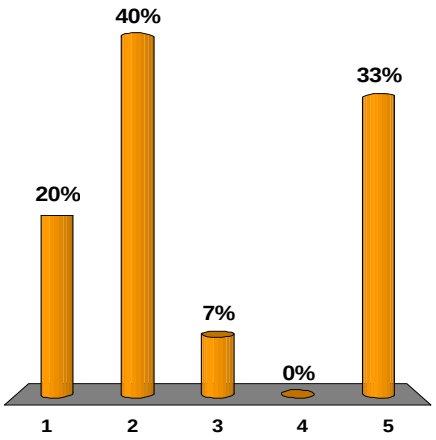
1. Landowner
2. Tenant
3. Does not matter



Fixed cash leases…

Of land that I rent (manage) on a fixed cash rent, on average, the rental rate is renegotiated…

1. Every year
2. Every 2-3 years
3. Every 3-5 years
4. 6 years or more
5. Does not apply



Rental Ethics -- Our perceptions…

- Tenants have the information (power)
- Cash rents tend to rise over time
- Manna-from-heaven payments often should be shared
- Foot-in-door high rents often inappropriate
- Landowners need money just like tenants
- Landowners are sometimes unethical too
- Family situations often are the worst
- Ethical behavior more profitable in long run

Tenants have the power!

- Landowners often:
  - Are generations and geographically removed
  - Are technologically removed
  - Are old and easily taken advantage of
  - View the arrangement with a tenant as a long-term commitment handed down from their parents
  - Think that farming is a low-income business and so want to "do their part" in aiding it
  - Believe there are few potential tenants and so are beholden to the existing tenant
- Tenants take advantage of the situation
  - Unintentionally (may be poor managers)
  - Intentionally ("she never asked me to raise rent")
- Only occasionally do we see a landowner shafting a tenant

Tenants have the power!

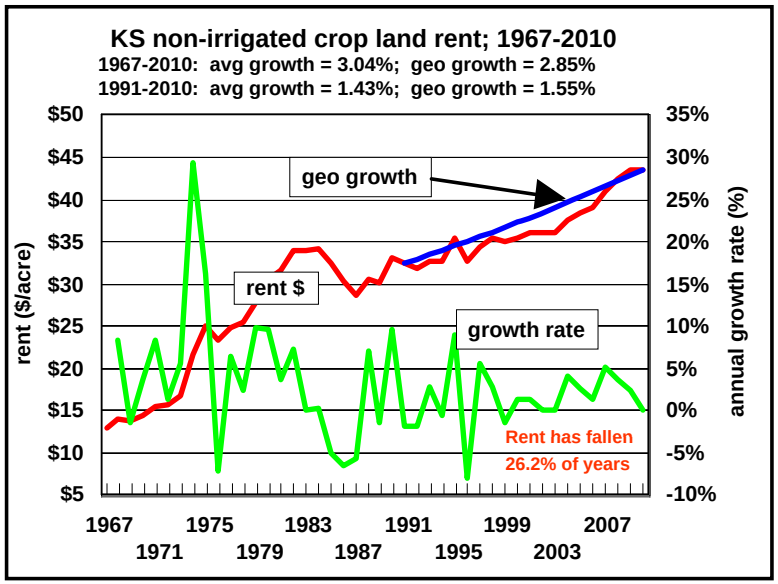
- Landowners often:
  - Are generations and geographically removed
  - Are technologically removed
  - Are
  - Viev com
  - Thir to "
  - Beli beh
- Tenan
  - Uni
  - Intentionally ("she never asked me to raise rent")
- Only occasionally do we see a landowner shafting a tenant

Many of these points are the result of the fact that a number of landowners are landowners "by inheritance" as opposed to investing in land intentionally. Thus, returns are often viewed as "money I never had before" as opposed to "what I expect from my investment."

Cash rents rise over time

- Although cash rents do fall about 30% of the years, on average they rise 2-3% annually
  - Unusual to see a 3-year contract rate that shouldn't be higher than the previous contract
- Landowners & tenants who see stable crop-share terms for years think that translates to stable cash rent
  - We see cash rental rates that haven't changed for years and decades
    - Landlord: "We didn't know."
    - Tenant: "She never asked for a higher rent."

Cash rent historical perspective



1967-2009 average land value growth = 5.09%

Manna-from-heaven payments

- Unexpected payments, typically from the government, should be shared according to parties' costs
  - Examples: CRP, CSP, EQIP
- If tenant does nothing to earn payment it should go to the land, i.e., the landowner
- Such payments should be discussed between landowner & tenant (especially the relative associated costs)

Foot-in-door high rental payments

- High rent payments on new contracts often are followed by stagnant rates for many years, which could be:
  - A) Tenant overbids to get land, then realizes he's not profitable so rationalizes stagnant rents
  - B) Tenant uses this as a strategy to acquire land and pay lower-than-market rents over time
    - This is the least ethical outcome of the two
- Some tenants who do this actually beg for lower rents in near future, realizing that landlords are reluctant to change tenants
  - This is really unethical!

Landowners need money too

- Tenants often make the argument that "she doesn't need the money"
  - This is completely irrelevant!
- Admittedly, landowners sometimes foster this perception
  - . . . which tends to change when investment-minded heirs acquire land being rented

Landowner ethics

- Landowners may use their land for non-ag purposes and yet expect the same rent
  - Utility poles, oil leases
  - Lease hunting
- Landowners think if they paid too much for land it should bring a higher rent
  - This is completely irrelevant!
- Landowners might demand certain farming practices yet expect market rent
  - e.g., no fertilizer; conventional tillage
- Landowners make demands on current tenants to "fix" problems of past tenants

Family situations often are the worst

- "Sweat-equity" parent-child relationships lead to unrealistic expectations across generations
- Family members have trouble believing their own parents, children, or siblings would cheat them
  - Backlash then goes overboard
- Family members often are "always around" and so the pain always resurfaces
  - Hard to "forget and move on"

"The more we treat our *family farm* like a *business*, the more likely we have a farm to pass on to the family."

Ethics is good long run economics

- Poor ethics results in high tenant turnover:
  - Increases the cost of relationship establishment and monitoring
  - Reduces profit to the land (tenant makes short run decisions)
- Bad business leads to unethical behavior
  - Poor management causes "I deserve more"
  - Bad behavior is rationalized
- Good ethics should emerge because it is the "right thing to do," not for the purpose of long-run profit-maximization

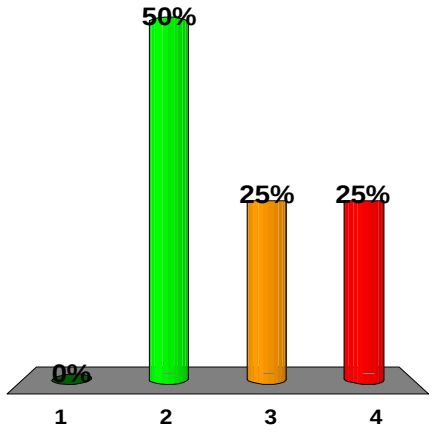
Miscellaneous

- **Landowners rarely will evict tenants!**
  - Often will sell land rather than evict tenants
  - Will put up with atrocious behavior of tenants (especially relatives)
- **Attorneys/educators have some blame**
  - Promote perceptions of "poor returns to farming," "sweat equity," etc.
  - Believe, like many, that farming is "special"
- **Attorneys/educators should**
  - Tell landowners it's okay to evict tenants
  - Help clients understand that FARMING IS A BUSINESS!

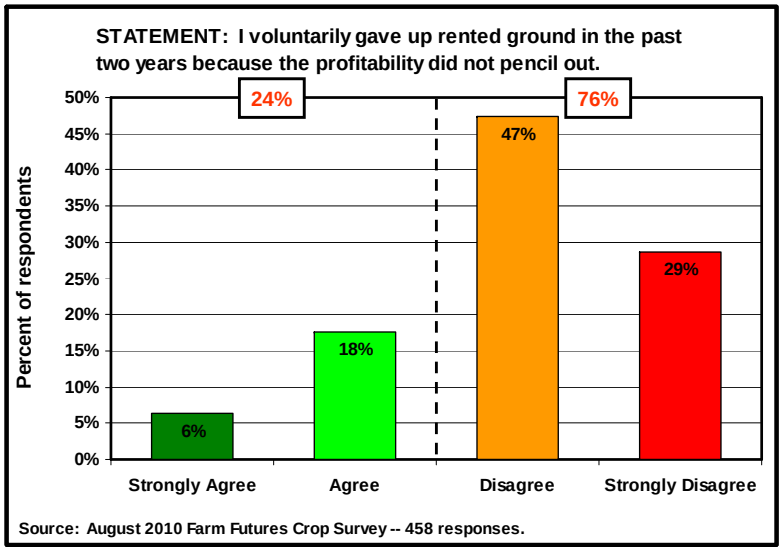
Do you agree or disagree with the following

I have voluntarily given up land in the past because the profitability didn't "pencil out"…

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree



Most producers do not give up land voluntarily…



The way we would like to see things…

"We have decided that we do not need to include [redacted] as a farm manager with your lease. We have complete confidence in your operation and always appreciate your open communication and response to any questions and or concerns."

Information sent from landowner to tenant
(sent prior to signing of second lease contract).

Kevin's thoughts as to what is important for a "good" lease arrangement…

- Good, open and honest communication
- Good farming practices are employed
  - Does the tenant farm the land the same as their own land?
- Lease terms that are ~~fair~~ equitable
  - Each party treats the other party like they would want to be treated if things were reversed
- Recognition that both parties bring something of value to the table
- Good, open and honest communication

Kansas State University
Department of Agricultural Economics

North Central Risk Management Education Center

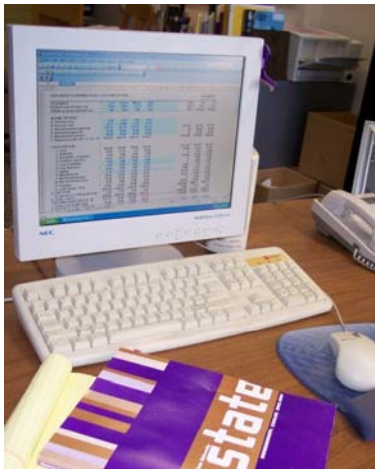
Using KSU-Lease.xls

AG MANAGER.INFO
Kansas State Research & Extension
www.agmanager.info

KSU-Lease.xls

- A what-if spreadsheet to analyze rents
- Delineates relative contributions
- Allows considering cash vs. crop-share
  - Can deal with a risk premium
- Very flexible; can handle
  - Net share leases
  - Fixed bushel rents
  - Cash transfers
- Important purpose is to allow people to move beyond traditional leases when they need to change
  (and to analyze impact of cash rent & flexible cash rent)

Using "*KSU-Lease.xls*" to determine equitable crop share and cash leases …



Information/data required:

1. Crop rotation/mix
2. Income information
3. Production inputs
4. Machinery costs
5. Land value
6. Irrigation equipment

---

7. Contributor of input
8. Risk adjustment

Sources of data …

- Crop budgets are designed to follow KSU Farm Management Guides (available on www.AgManager.info) and thus these budgets are often a good "first start" at inputs
- Machinery costs are based on custom rates approach (as opposed to investment per acre)
- Generally suggest using "average" data as opposed to farm-specific data, but this will depend on situation

Time horizon of lease …

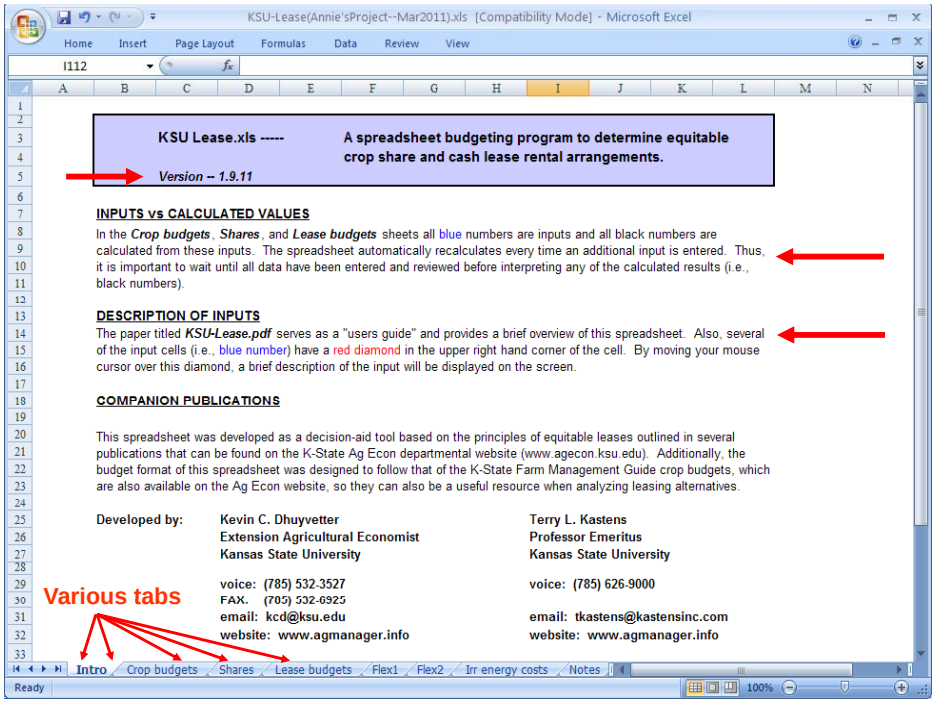
- If intent of analysis is to establish a one-year lease, inputs (e.g., rotation, yield, prices, costs) should be based on expectations for next year
- If intent of analysis is to establish a multi-year lease, inputs should be based on longer term averages

Level of complexity …

- *KSU-Lease* is extremely flexible and can be used to generate leases with terms that are quite simple to extremely complex
- For example equitable percentages for …
  - -- net share lease (i.e., no inputs shared)
  - -- fertilizer shared equitably (i.e., same % as income)
  - -- fertilizer shared equitably, herbicides shared in some other proportion
  - -- different inputs shared differently for each crop
  - -- combination of crop share and cash rent

Numbers I tend to focus on…

- Expected profit in crop budgets tab
  (remember, on average in the long run we expect this to be close to $0)
- Calculated equitable crop share percentages
  (crop share arrangements tend to be less variable in a region than cash rent)
- Cash rent vs. expected returns from equitable share (risk premium)
  (given history of crop share in KS, seems like a good "starting point")
- Cash rent values to use in budget are "iteratively" found by looking at all of these different values



KSU Lease.xls ----- **A spreadsheet budgeting program to determine equitable crop share and cash lease rental arrangements.**

Version -- 1.9.11

INPUTS vs CALCULATED VALUES

In the ***Crop budgets***, ***Shares***, and ***Lease budgets*** sheets all blue numbers are inputs and all black numbers are calculated from these inputs. The spreadsheet automatically recalculates every time an additional input is entered. Thus, it is important to wait until all data have been entered and reviewed before interpreting any of the calculated results (i.e., black numbers).

DESCRIPTION OF INPUTS

The paper titled ***KSU-Lease.pdf*** serves as a "users guide" and provides a brief overview of this spreadsheet. Also, several of the input cells (i.e., blue number) have a red diamond in the upper right hand corner of the cell. By moving your mouse cursor over this diamond, a brief description of the input will be displayed on the screen.

COMPANION PUBLICATIONS

This spreadsheet was developed as a decision-aid tool based on the principles of equitable leases outlined in several publications that can be found on the K-State Ag Econ departmental website (www.agecon.ksu.edu). Additionally, the budget format of this spreadsheet was designed to follow that of the K-State Farm Management Guide crop budgets, which are also available on the Ag Econ website, so they can also be a useful resource when analyzing leasing alternatives.

Developed by:

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Various tabs

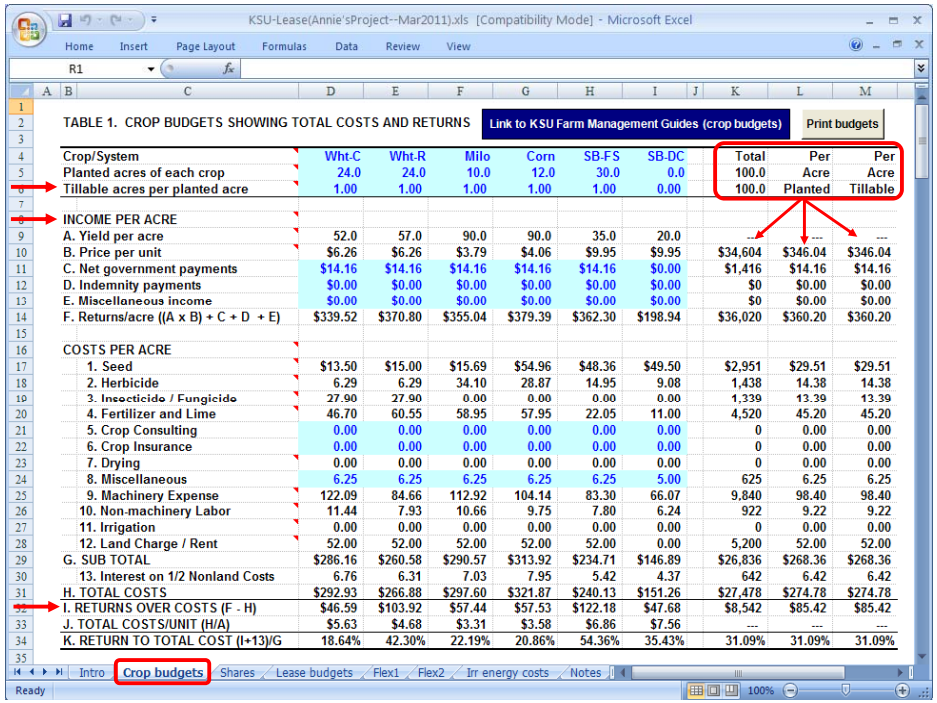


TABLE 1. CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Link to KSU Farm Management Guides (crop budgets) | Print budgets

Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total	Per Acre Planted	Per Acre Tillable
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0		
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	100.0		
INCOME PER ACRE									
A. Yield per acre	52.0	57.0	90.0	90.0	35.0	20.0	---	---	---
B. Price per unit	$6.26	$6.26	$3.79	$4.06	$9.95	$9.95	$34,604	$346.04	$346.04
C. Net government payments	$14.16	$14.16	$14.16	$14.16	$14.16	$0.00	$1,416	$14.16	$14.16
D. Indemnity payments	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
E. Miscellaneous income	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
F. Returns/acre ((A x B) + C + D + E)	$339.52	$370.80	$355.04	$379.39	$362.30	$198.94	$36,020	$360.20	$360.20
COSTS PER ACRE									
1. Seed	$13.50	$15.00	$15.69	$54.96	$48.36	$49.50	$2,951	$29.51	$29.51
2. Herbicide	6.29	6.29	34.10	28.87	14.95	9.08	1,438	14.38	14.38
3. Insecticide / Fungicide	27.90	27.90	0.00	0.00	0.00	0.00	1,339	13.39	13.39
4. Fertilizer and Lime	46.70	60.55	58.95	57.95	22.05	11.00	4,520	45.20	45.20
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	6.25	6.25	6.25	6.25	6.25	5.00	625	6.25	6.25
9. Machinery Expense	122.09	84.66	112.92	104.14	83.30	66.07	9,840	98.40	98.40
10. Non-machinery Labor	11.44	7.93	10.66	9.75	7.80	6.24	922	9.22	9.22
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	52.00	52.00	52.00	52.00	52.00	0.00	5,200	52.00	52.00
G. SUB TOTAL	$286.16	$260.58	$290.57	$313.92	$234.71	$146.89	$26,836	$268.36	$268.36
13. Interest on 1/2 Nonland Costs	6.76	6.31	7.03	7.95	5.42	4.37	642	6.42	6.42
H. TOTAL COSTS	$292.93	$266.88	$297.60	$321.87	$240.13	$151.26	$27,478	$274.78	$274.78
I. RETURNS OVER COSTS (F - H)	$46.59	$103.92	$57.44	$57.53	$122.18	$47.68	$8,542	$85.42	$85.42
J. TOTAL COSTS/UNIT (H/A)	$5.63	$4.68	$3.31	$3.58	$6.86	$7.56	---	---	---
K. RETURN TO TOTAL COST (I+13)/G	18.64%	42.30%	22.19%	20.86%	54.36%	35.43%	31.09%	31.09%	31.09%

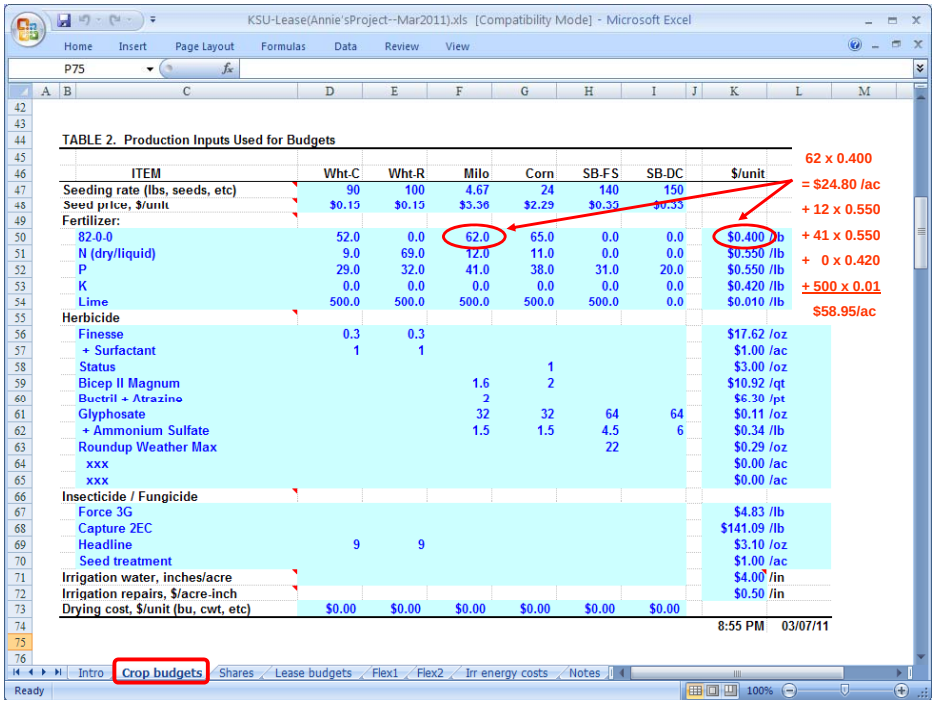


TABLE 2. Production Inputs Used for Budgets

ITEM	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	$/unit
Seeding rate (lbs, seeds, etc)	90	100	4.67	24	140	150	
Seed price, $/unit	$0.15	$0.15	$3.36	$2.29	$0.35	$0.33	
Fertilizer:							
82-0-0	52.0	0.0	62.0	65.0	0.0	0.0	$0.400 /lb
N (dry/liquid)	9.0	69.0	12.0	11.0	0.0	0.0	$0.550 /lb
P	29.0	32.0	41.0	38.0	31.0	20.0	$0.550 /lb
K	0.0	0.0	0.0	0.0	0.0	0.0	$0.420 /lb
Lime	500.0	500.0	500.0	500.0	500.0	0.0	$0.010 /lb
Herbicide							
Finesse	0.3	0.3					$17.62 /oz
+ Surfactant	1	1					$1.00 /ac
Status				1			$3.00 /oz
Bicep II Magnum			1.6	2			$10.92 /qt
Buctril + Atrazine			2				$6.30 /pt
Glyphosate			32	32	64	64	$0.11 /oz
+ Ammonium Sulfate			1.5	1.5	4.5	6	$0.34 /lb
Roundup Weather Max					22		$0.29 /oz
xxx							$0.00 /ac
xxx							$0.00 /ac
Insecticide / Fungicide							
Force 3G							$4.83 /lb
Capture 2EC							$141.09 /lb
Headline	9	9					$3.10 /oz
Seed treatment							$1.00 /ac
Irrigation water, inches/acre							$4.00 /in
Irrigation repairs, $/acre-inch							$0.50 /in
Drying cost, $/unit (bu, cwt, etc)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	

8:55 PM 03/07/11

62 x 0.400
= $24.80 /ac
+ 12 x 0.550
+ 41 x 0.550
+ 0 x 0.420
+ 500 x 0.01
$58.95/ac

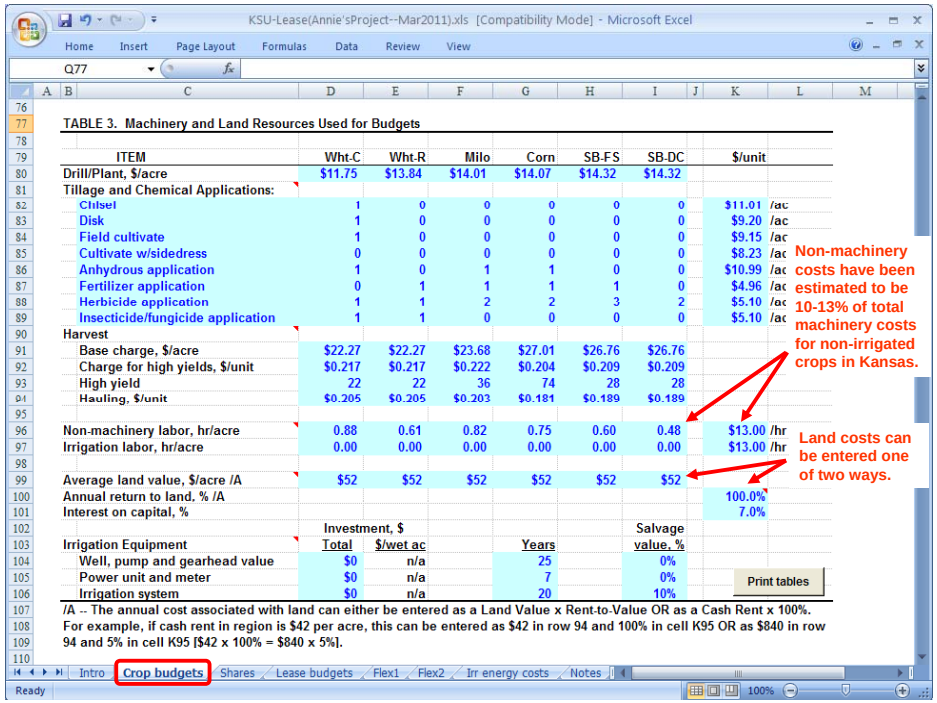


TABLE 3. Machinery and Land Resources Used for Budgets

ITEM	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	$/unit
Drill/Plant, $/acre	$11.75	$13.84	$14.01	$14.07	$14.32	$14.32	
Tillage and Chemical Applications:							
Chisel	1	0	0	0	0	0	$11.01 /ac
Disk	1	0	0	0	0	0	$9.20 /ac
Field cultivate	1	0	0	0	0	0	$9.15 /ac
Cultivate w/sidedress	0	0	0	0	0	0	$8.23 /ac
Anhydrous application	1	0	1	1	0	0	$10.99 /ac
Fertilizer application	0	1	1	1	1	0	$4.96 /ac
Herbicide application	1	1	2	2	3	2	$5.10 /ac
Insecticide/fungicide application	1	1	0	0	0	0	$5.10 /ac
Harvest							
Base charge, $/acre	$22.27	$22.27	$23.68	$27.01	$26.76	$26.76	
Charge for high yields, $/unit	$0.217	$0.217	$0.222	$0.204	$0.209	$0.209	
High yield	22	22	36	74	28	28	
Hauling, $/unit	$0.205	$0.205	$0.203	$0.181	$0.189	$0.189	
Non-machinery labor, hr/acre	0.88	0.61	0.82	0.75	0.60	0.48	$13.00 /hr
Irrigation labor, hr/acre	0.00	0.00	0.00	0.00	0.00	0.00	$13.00 /hr
Average land value, $/acre /A	$52	$52	$52	$52	$52	$52	
Annual return to land, % /A							100.0%
Interest on capital, %							7.0%

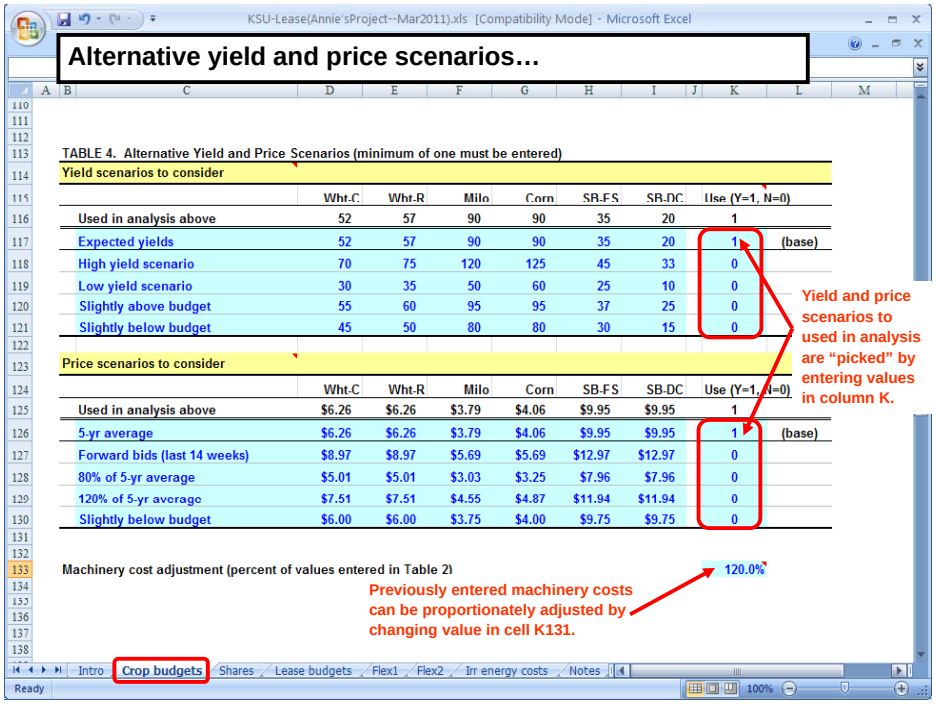
Irrigation Equipment	Investment, $ Total	$/wet ac	Years	Salvage value, %
Well, pump and gearhead value	$0	n/a	25	0%
Power unit and meter	$0	n/a	7	0%
Irrigation system	$0	n/a	20	10%

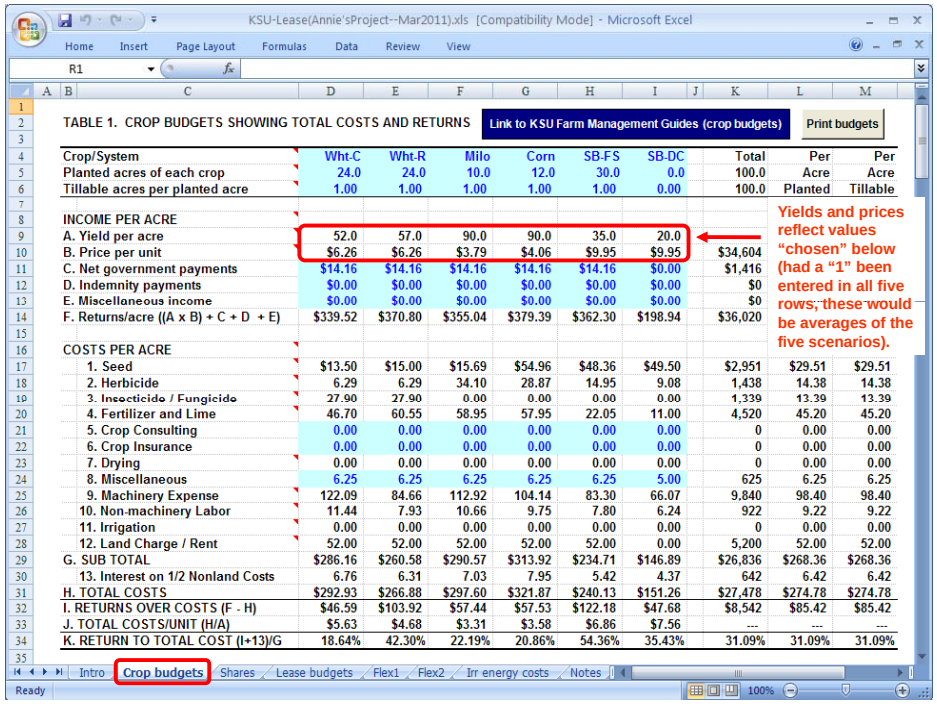
Print tables

/A -- The annual cost associated with land can either be entered as a Land Value x Rent-to-Value OR as a Cash Rent x 100%. For example, if cash rent in region is $42 per acre, this can be entered as $42 in row 94 and 100% in cell K95 OR as $840 in row 94 and 5% in cell K95 [$42 x 100% = $840 x 5%].

Non-machinery costs have been estimated to be 10-13% of total machinery costs for non-irrigated crops in Kansas.

Land costs can be entered one of two ways.


KSU-Lease(Annie'sProject--Mar2011).xls [Compatibility Mode] - Microsoft Excel
Alternative yield and price scenarios…
TABLE 4. Alternative Yield and Price Scenarios (minimum of one must be entered)
Yield scenarios to consider
Wht-C Wht-R Milo Corn SB-FS SB-DC Use (Y=1, N=0)
Used in analysis above 52 57 90 90 35 20 1
Expected yields 52 57 90 90 35 20 1 (base)
High yield scenario 70 75 120 125 45 33 0
Low yield scenario 30 35 50 60 25 10 0
Slightly above budget 55 60 95 95 37 25 0
Slightly below budget 45 50 80 80 30 15 0
Price scenarios to consider
Wht-C Wht-R Milo Corn SB-FS SB-DC Use (Y=1, N=0)
Used in analysis above $6.26 $6.26 $3.79 $4.06 $9.95 $9.95 1
5-yr average $6.26 $6.26 $3.79 $4.06 $9.95 $9.95 1 (base)
Forward bids (last 14 weeks) $8.97 $8.97 $5.69 $5.69 $12.97 $12.97 0
80% of 5-yr average $5.01 $5.01 $3.03 $3.25 $7.96 $7.96 0
120% of 5-yr average $7.51 $7.51 $4.55 $4.87 $11.94 $11.94 0
Slightly below budget $6.00 $6.00 $3.75 $4.00 $9.75 $9.75 0
Yield and price scenarios to used in analysis are "picked" by entering values in column K.
Machinery cost adjustment (percent of values entered in Table 2) 120.0%
Previously entered machinery costs can be proportionately adjusted by changing value in cell K131.
Intro Crop budgets Shares Lease budgets Flex1 Flex2 Irr energy costs Notes
Ready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Tillable acres per planted acre 1.00 1.00 1.00 1.00 1.00 0.00 100.0
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A. Yield per acre 52.0 57.0 90.0 90.0 35.0 20.0
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C. Net government payments $14.16 $14.16 $14.16 $14.16 $14.16 $0.00 $1,416
D. Indemnity payments $0.00 $0.00 $0.00 $0.00 $0.00 $0.00 $0
E. Miscellaneous income $0.00 $0.00 $0.00 $0.00 $0.00 $0.00 $0
F. Returns/acre ((A x B) + C + D + E) $339.52 $370.80 $355.04 $379.39 $362.30 $198.94 $36,020
COSTS PER ACRE
1. Seed $13.50 $15.00 $15.69 $54.96 $48.36 $49.50 $2,951 $29.51 $29.51
2. Herbicide 6.29 6.29 34.10 28.87 14.95 9.08 1,438 14.38 14.38
3. Insecticide / Fungicide 27.90 27.90 0.00 0.00 0.00 0.00 1,339 13.39 13.39
4. Fertilizer and Lime 46.70 60.55 58.95 57.95 22.05 11.00 4,520 45.20 45.20
5. Crop Consulting 0.00 0.00 0.00 0.00 0.00 0.00 0 0.00 0.00
6. Crop Insurance 0.00 0.00 0.00 0.00 0.00 0.00 0 0.00 0.00
7. Drying 0.00 0.00 0.00 0.00 0.00 0.00 0 0.00 0.00
8. Miscellaneous 6.25 6.25 6.25 6.25 6.25 5.00 625 6.25 6.25
9. Machinery Expense 122.09 84.66 112.92 104.14 83.30 66.07 9,840 98.40 98.40
10. Non-machinery Labor 11.44 7.93 10.66 9.75 7.80 6.24 922 9.22 9.22
11. Irrigation 0.00 0.00 0.00 0.00 0.00 0.00 0 0.00 0.00
12. Land Charge / Rent 52.00 52.00 52.00 52.00 52.00 0.00 5,200 52.00 52.00
G. SUB TOTAL $286.16 $260.58 $290.57 $313.92 $234.71 $146.89 $26,836 $268.36 $268.36
13. Interest on 1/2 Nonland Costs 6.76 6.31 7.03 7.95 5.42 4.37 642 6.42 6.42
H. TOTAL COSTS $292.93 $266.88 $297.60 $321.87 $240.13 $151.26 $27,478 $274.78 $274.78
I. RETURNS OVER COSTS (F - H) $46.59 $103.92 $57.44 $57.53 $122.18 $47.68 $8,542 $85.42 $85.42
J. TOTAL COSTS/UNIT (H/A) $5.63 $4.68 $3.31 $3.58 $6.86 $7.56
K. RETURN TO TOTAL COST (I+13)/G 18.64% 42.30% 22.19% 20.86% 54.36% 35.43% 31.09% 31.09% 31.09%
Yields and prices reflect values "chosen" below (had a "1" been entered in all five rows, these would be averages of the five scenarios).
Intro Crop budgets Shares Lease budgets Flex1 Flex2 Irr energy costs Notes
Ready

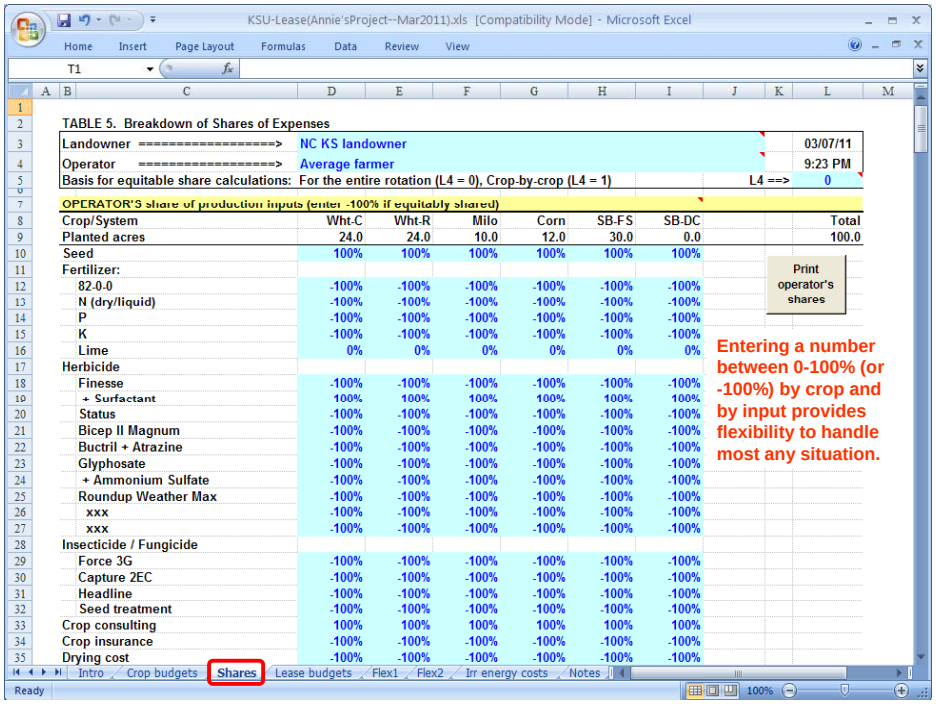
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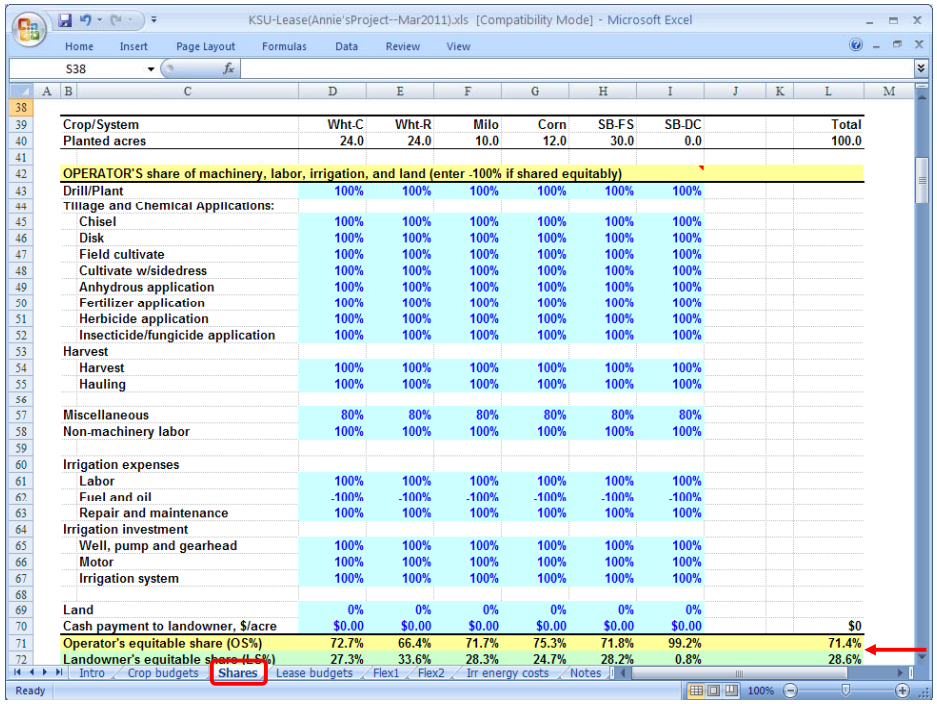
TABLE 5. Breakdown of Shares of Expenses
Landowner ==========> NC KS landowner 03/07/11
Operator ==========> Average farmer 9:23 PM
Basis for equitable share calculations: For the entire rotation (L4 = 0), Crop-by-crop (L4 = 1) L4 ==> 0
OPERATOR'S share of production inputs (enter -100% if equitably shared)
Crop/System Wht-C Wht-R Milo Corn SB-FS SB-DC Total
Planted acres 24.0 24.0 10.0 12.0 30.0 0.0 100.0
Seed 100% 100% 100% 100% 100% 100%
Fertilizer:
82-0-0 -100% -100% -100% -100% -100% -100%
N (dry/liquid) -100% -100% -100% -100% -100% -100%
P -100% -100% -100% -100% -100% -100%
K -100% -100% -100% -100% -100% -100%
Lime 0% 0% 0% 0% 0% 0%
Herbicide
Finesse -100% -100% -100% -100% -100% -100%
+ Surfactant 100% 100% 100% 100% 100% 100%
Status -100% -100% -100% -100% -100% -100%
Bicep II Magnum -100% -100% -100% -100% -100% -100%
Buctril + Atrazine -100% -100% -100% -100% -100% -100%
Glyphosate -100% -100% -100% -100% -100% -100%
+ Ammonium Sulfate -100% -100% -100% -100% -100% -100%
Roundup Weather Max -100% -100% -100% -100% -100% -100%
xxx -100% -100% -100% -100% -100% -100%
xxx -100% -100% -100% -100% -100% -100%
Insecticide / Fungicide
Force 3G -100% -100% -100% -100% -100% -100%
Capture 2EC -100% -100% -100% -100% -100% -100%
Headline -100% -100% -100% -100% -100% -100%
Seed treatment -100% -100% -100% -100% -100% -100%
Crop consulting 100% 100% 100% 100% 100% 100%
Crop insurance -100% -100% -100% -100% -100% -100%
Drying cost -100% -100% -100% -100% -100% -100%
Print operator's shares
Entering a number between 0-100% (or -100%) by crop and by input provides flexibility to handle most any situation.
Intro Crop budgets Shares Lease budgets Flex1 Flex2 Irr energy costs Notes
Ready


KSU-Lease(Annie'sProject--Mar2011).xls [Compatibility Mode] - Microsoft Excel
Crop/System Wht-C Wht-R Milo Corn SB-FS SB-DC Total
Planted acres 24.0 24.0 10.0 12.0 30.0 0.0 100.0
OPERATOR'S share of machinery, labor, irrigation, and land (enter -100% if shared equitably)
Drill/Plant 100% 100% 100% 100% 100% 100%
Tillage and Chemical Applications:
Chisel 100% 100% 100% 100% 100% 100%
Disk 100% 100% 100% 100% 100% 100%
Field cultivate 100% 100% 100% 100% 100% 100%
Cultivate w/sidedress 100% 100% 100% 100% 100% 100%
Anhydrous application 100% 100% 100% 100% 100% 100%
Fertilizer application 100% 100% 100% 100% 100% 100%
Herbicide application 100% 100% 100% 100% 100% 100%
Insecticide/fungicide application 100% 100% 100% 100% 100% 100%
Harvest
Harvest 100% 100% 100% 100% 100% 100%
Hauling 100% 100% 100% 100% 100% 100%
Miscellaneous 80% 80% 80% 80% 80% 80%
Non-machinery labor 100% 100% 100% 100% 100% 100%
Irrigation expenses
Labor 100% 100% 100% 100% 100% 100%
Fuel and oil -100% -100% -100% -100% -100% -100%
Repair and maintenance 100% 100% 100% 100% 100% 100%
Irrigation investment
Well, pump and gearhead 100% 100% 100% 100% 100% 100%
Motor 100% 100% 100% 100% 100% 100%
Irrigation system 100% 100% 100% 100% 100% 100%
Land 0% 0% 0% 0% 0% 0%
Cash payment to landowner, $/acre $0.00 $0.00 $0.00 $0.00 $0.00 $0.00 $0
Operator's equitable share (OS%) 72.7% 66.4% 71.7% 75.3% 71.8% 99.2% 71.4%
Landowner's equitable share (LS%) 27.3% 33.6% 28.3% 24.7% 28.2% 0.8% 28.6%
Intro Crop budgets Shares Lease budgets Flex1 Flex2 Irr energy costs Notes
Ready

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I112 =IF(I86>0,AVERAGE(I91,I101,I107),"")

TABLE 6. CROP BUDGETS SHOWING OPERATOR'S COSTS AND RETURNS — Print budgets

Average farmer — 03/07/11 9:23 PM

Equitable share (OS%) ==========	71.4%	71.4%	71.4%	71.4%	71.4%	71.4%	71.4%		
Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total	Per Planted Acre	Per Tillable Acre
Total tillable acre	==========						100.0		
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0		
Harvested yield per acre	52.0	57.0	90.0	90.0	35.0	20.0	---	---	---
INCOME PER ACRE									
A. Yield per acre	37.1	40.7	64.3	64.3	25.0	14.3	---	---	---
B. Price per unit	$6.26	$6.26	$3.79	$4.06	$9.95	$9.95	---	---	---
C. Net government payments	$10.11	$10.11	$10.11	$10.11	$10.11	$0.00	$1,011	$10.11	$10.11
D. Indemnity payments	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
E. Miscellaneous income	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
F. Returns/acre ((AxB) + C + D + E)	$242.41	$264.75	$253.49	$270.88	$258.68	$142.04	$25,718	$257.18	$257.18
COSTS PER ACRE									
1. Seed	$13.50	$15.00	$15.69	$54.96	$48.36	$49.50	$2,951	$29.51	$29.51
2. Herbicide	4.49	4.49	24.35	20.61	10.67	6.48	1,026	10.26	10.26
3. Insecticide / Fungicide	19.92	19.92	0.00	0.00	0.00	0.00	956	9.56	9.56
4. Fertilizer and Lime	29.77	39.66	38.52	37.81	12.17	7.85	2,870	28.70	28.70
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	5.00	5.00	5.00	5.00	5.00	4.00	500	5.00	5.00
9. Machinery Expense	122.09	84.66	112.92	104.14	83.30	66.07	9,840	98.40	98.40
10. Non-machinery Labor	11.44	7.93	10.66	9.75	7.80	6.24	922	9.22	9.22
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
G. SUB TOTAL	$206.21	$176.66	$207.14	$232.27	$167.31	$140.15	$19,067	$190.67	$190.67
13. Interest on 1/2 Nonland Costs	5.79	5.19	5.93	6.91	4.88	4.13	552	5.52	5.52
H. TOTAL COSTS	$212.00	$181.85	$213.06	$239.18	$172.18	$144.28	$19,619	$196.19	$196.19
I. RETURNS OVER COSTS (F - H)	$30.42	$82.90	$40.43	$31.70	$86.49	($2.24)	$6,099	$60.99	$60.99
J. TOTAL COSTS/UNIT (H/A)	$5.71	$4.47	$3.32	$3.72			---	---	---
K. RETURN TO TOTAL COST (I/H)	14.35%	45.59%	18.97%	13.25%	50.23%	-1.55%	31.09%	31.09%	31.09%

Intro | Crop budgets | Shares | Lease budgets | Flex1 | Flex2 | Irr energy costs | Notes

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I82

TABLE 7. CROP BUDGETS SHOWING LANDOWNER'S COSTS AND RETURNS

NC KS landowner — 03/07/11 9:23 PM

Equitable share (100 - OS%) =====>	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%		
Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total	Per Planted	Per Tillable
Total tillable acre	==========						100.0		
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0	Acre	Acre
Harvested yield per acre	52.0	57.0	90.0	90.0	35.0	20.0	---	---	---
INCOME PER ACRE									
A. Yield per acre	14.9	16.3	25.7	25.7	10.0	5.7	---	---	---
B. Price per unit	$6.26	$6.26	$3.79	$4.06	$9.95	$9.95	---	---	---
C. Net government payments	$4.05	$4.05	$4.05	$4.05	$4.05	$0.00	$405	$4.05	$4.05
D. Indemnity payments	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
E. Miscellaneous income	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
F. Returns/acre ((AxB) + C + D + E)	$97.11	$106.06	$101.55	$108.51	$103.62	$56.90	$10,302	$103.02	$103.02
COSTS PER ACRE									
1. Seed	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
2. Herbicide	1.80	1.80	9.75	8.26	4.28	2.60	411	4.11	4.11
3. Insecticide / Fungicide	7.98	7.98	0.00	0.00	0.00	0.00	383	3.83	3.83
4. Fertilizer and Lime	16.93	20.89	20.43	20.14	9.88	3.15	1,650	16.50	16.50
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	1.25	1.25	1.25	1.25	1.25	1.00	125	1.25	1.25
9. Machinery Expense	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
10. Non-machinery Labor	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	52.00	52.00	52.00	52.00	52.00	0.00	5,200	52.00	52.00
G. SUB TOTAL	$79.95	$83.92	$83.43	$81.65	$67.40	$6.74	$7,769	$77.69	$77.69
13. Interest on 1/2 Nonland Costs	0.98	1.12	1.10	1.04	0.54	0.24	90	0.90	0.90
H. TOTAL COSTS	$80.93	$85.03	$84.53	$82.69	$67.94	$6.98	$7,859	$78.59	$78.59
I. RETURNS OVER COSTS (F - H)	$16.17	$21.02	$17.01	$25.82	$35.68	$49.92	$2,443	$24.43	$24.43
J. TOTAL COSTS/UNIT (H/A)	$5.44	$5.22	$3.28	$3.21			---	---	---
K. RETURN TO TOTAL COST (I/H)	19.99%	24.72%	20.12%	31.23%	52.52%	715.28%	31.09%	31.09%	31.09%

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G94 15%

TABLE 8. ALTERNATIVE METHODS OF ESTIMATING CASH RENT — Print cash rent info — 03/07/11 9:46 PM

Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total	Per Planted	Per Tillable
Total tillable acre	==========						100.0		
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0	Acre	Acre
A. Landowner's COST									
Land	$52.00	$52.00	$52.00	$52.00	$52.00	$0.00	$5,200	$52.00	$52.00
Irrigation equipment	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0	$0.00	$0.00
Total	$52.00	$52.00	$52.00	$52.00	$52.00	$0.00	$5,200	$52.00	$52.00
B. Landowner's EQUITABLE SHARE RENT ----- risk adj factor				15.0%					
Total income	$339.52	$370.80	$355.04	$379.39	$362.30	$198.94	$36,020	$360.20	$360.20
Landowner's share	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%
Landowner's income	$97.11	$106.06	$101.55	$108.51	$103.62	$56.90	$10,302	$103.02	$103.02
Landowner operating expense	28.93	33.03	32.53	30.69	15.94	6.98	2,659	26.59	26.59
Income less operating expense	$68.17	$73.02	$69.01	$77.82	$87.68	$49.92	$7,643	$76.43	$76.43
Less risk adjustment	10.23	10.95	10.35	11.67	13.15	7.49	1,146	11.46	11.46
Cash rent equivalent	$57.95	$62.07	$58.66	$66.15	$74.53	$42.43	$6,497	$64.97	$64.97
C. Amount tenant CAN AFFORD TO PAY									
Total income	$339.52	$370.80	$355.04	$379.39	$362.30	$198.94	$36,020	$360.20	$360.20
Total operating expense	$240.93	$214.88	$245.60	$269.87	$188.13	$151.26	$22,278	$222.78	$222.78
Return to land and irr equip	$98.59	$155.92	$109.44	$109.53	$174.18	$47.68	$13,742	$137.42	$137.42
Comparison of alternative cash rent methods									
Low	$52.00	$52.00	$52.00	$52.00	$52.00	$0.00	$5,200	$52.00	$52.00
Average	$69.51	$90.00	$73.37	$75.89	$100.24	$30.04	$8,480	$84.80	$84.80
High	$98.59	$155.92	$109.44	$109.53	$174.18	$47.68	$13,742	$137.42	$137.42
Returns above all costs (profit)	$46.59	$103.92	$57.44	$57.53	$122.18	$47.68	$8,542	$85.42	$85.42

Intro | Crop budgets | Shares | Lease budgets | Flex1 | Flex2 | Irr energy costs | Notes

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