

Improving Land Leasing Skills for Kansas Landlords and Producers

Kevin Dhuyvetter and Richard Llewelyn
Department Agricultural Economics
Kansas State University



Risk Management Education
National Conference

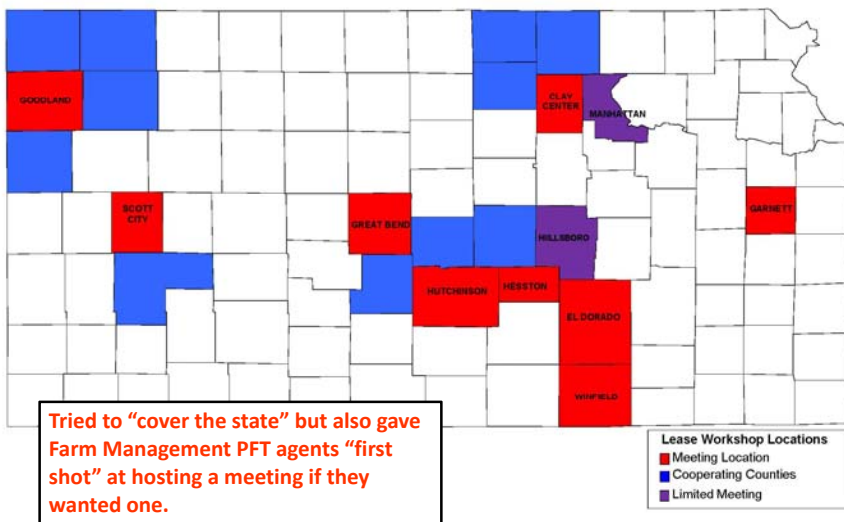
April 12-13, 2011
Pre-Conference Seminar April 11, 2011



Original Proposal and Actual Situation...

- The original grant proposed to hold six workshops with a target of 150 participants.
- In the end, a total of 11 workshops were conducted reaching a total of 276 participants. (topic of leasing was also discussed at other winter meetings)
- Of the 11, nine were “full” workshops, with lecture and discussion in the morning, followed by computer exercise and using *KSU-Lease* in the afternoon.
- Two partial meetings – one (Hillsboro) focused more on the computer aspects; and one (Manhattan) was principally a discussion and explanation of leasing principles.

2010-2011 K-State Lease Workshops



Tried to “cover the state” but also gave Farm Management PFT agents “first shot” at hosting a meeting if they wanted one.

SPONSORED BY:

North Central Risk Management Education Center (NCRME)



K-State Research and Extension



Reno County Extension

Kansas State University
Dept. of Agricultural Economics

MEET THE SPEAKERS

Kevin Dhuyvetter

Kevin Dhuyvetter is a professor and the State Extension director for Agricultural Economics. He assists farmers, landowners, and others throughout Kansas with risk and return assessment of alternative crop and livestock production and marketing systems. He works extensively with land-related issues such as buying and leasing land. Current research projects are looking at factors impacting land values, economics of no-tillage and other crop-related production technologies, the economics of grazing systems, and factors affecting feeder cattle prices and basis. One of Kevin's trademarks is his development of decision tools that can be used to help clientele with the myriad of decisions they face in their operations.

Rich Llewelyn

Rich Llewelyn is an Extension Assistant in the Department of Agricultural Economics at K-State. Raised on a farm in Riley, KS, he is a graduate of K-State with a PhD in Agricultural Economics in 1995. He then spent 10 years in economics and working with urban development in Surabaya, Indonesia, returning to Kansas in 2006 to work on the agmanager.info website and various conferences, including the annual Farm Management Conference and the statewide Farm Management Conference. He also conducts farm management topics, including teaching a "Price Analysis" class for producers in 2011.

Flyers/brochures were developed in Ag Econ Department for each location and shared with local Extension Agents as well as posted to www.AgManager.info.

AG 2010-2011

K-State Leasing & Excel Workshops

February 9, 2011

Reno County Chamber of Commerce
117 N. Walnut
Hutchinson, KS



2010-2011 Lease Workshops




Kansas State University
Department of Agricultural Economics

Schedule & Program Description	Schedule	2010-2011 K-STATE LEASING WORKSHOP Registration
<p>Program Description</p> <p>Price volatility in recent years, particularly in the grain markets, has led to difficulties for landlords and tenants to successfully determine and negotiate appropriate rental arrangements.</p> <p>This series of day-long workshops is being offered throughout Kansas to help landlords and tenants manage the risk associated with rental arrangements. Each workshop will be comprised of four parts. The first part will help participants better understand different rental arrangements, including cash rent, share rent, and the recently popular flex-rent arrangement, where rental rates can "flex" depending on changes in prices, yields, or both.</p> <p>The second part will include a discussion of ethics of leasing. The third section will provide computer training in using Excel spreadsheets. Finally, participants will be introduced to examples of alternative leasing scenarios and a decision-making tool, <i>KSU-Lease.xls</i>, will be demonstrated. Participants will then have the opportunity to sharpen their skills via hands-on computer application sessions.</p> <p>It is critical that producers understand the concepts, mechanics, and implications of alternative forms of leasing land. In addition to cash rent leases and share rent leases, flex-rent arrangements are of particular importance for risk management. These leases allow landlords and tenants to make the terms of the lease flexible, based on variations in crop prices, crop yields, or changes in both. Though relatively simple in concept, these leases can be complex in practice because of the various terms of the lease needing to be defined and agreed upon. Landowners expect less risk to be associated with cash leases (relative to crop share leases), however, depending on the terms of a flex lease, that may not be true. Thus, understanding how these leases work is critical to risk management.</p>	<p>9:00 a.m. Registration</p> <p>9:30 a.m. Introduction to Rental Arrangements Dr. Kevin Dhuyvetter <i>Discuss types of leases available to producers, including cash rent, share rent, and flex-rent.</i></p> <p>10:00 a.m. Ethics of Leasing Dr. Kevin Dhuyvetter <i>Discuss the ethics of leasing from both sides of the situation.</i></p> <p>11:00 a.m. Break</p> <p>11:15 a.m. Using Excel Spreadsheets Dr. Rich Llewellyn <i>Demonstrate and use Excel spreadsheets, including some of the more helpful aspects and functions of spreadsheets for application in a business operation. Includes hands-on use.</i></p> <p>12:00 p.m. Lunch</p> <p>1:00 a.m. Using Excel Spreadsheets (cont.) Dr. Rich Llewellyn</p> <p>2:00 p.m. Using <i>KSU-Lease.xls</i> Dr. Kevin Dhuyvetter <i>Description and discussion of several scenarios using cash rent, share rent, and flex-rent. Participants will then have a hands-on opportunity to use <i>KSU-Lease.xls</i>, a spreadsheet tool to assist landlords and tenants in their own situation and create a lease operation.</i></p> <p>3:15 p.m. Summary and Questions</p> <p>3:30 p.m. Adjourn</p>	<p>NAME _____</p> <p>Address: _____</p> <p>City: _____ State/Zip: _____</p> <p>Phone: _____</p> <p>Email: _____</p> <p>(In _____ State _____)</p>
	<p>Lecture with use of clickers (this ended up taking longer than initially planned).</p>	<p>Hands on use of computers – abilities and interest of participants varied greatly making it difficult to allocate the "right amount of time" for this exercise (we erred on too little time).</p>
	<p>The same basic program was conducted in nine locations, with examples tailored to local conditions (substitution for Rich in two western KS locations). Level of agent assistance with computer part varied from location to location.</p>	


What I'm going to do today...

- Share some of the slides that were presented in the workshops (those that tended to generate the most discussion)*
- Share results of some of the clicker questions
- Briefly demonstrate *KSU-Lease.xls*


* pdf files of the entire slide presentations for each of the workshops are available at www.agmanager.info/Faculty/dhuyvetter/presentations/



Kansas State UNIVERSITY
Department of Agricultural Economics



Introduction to Rental Arrangements



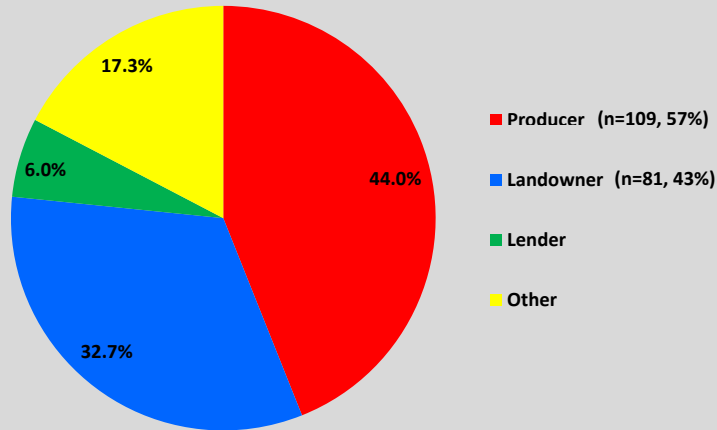
www.agmanager.info

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.

Which best describes you?



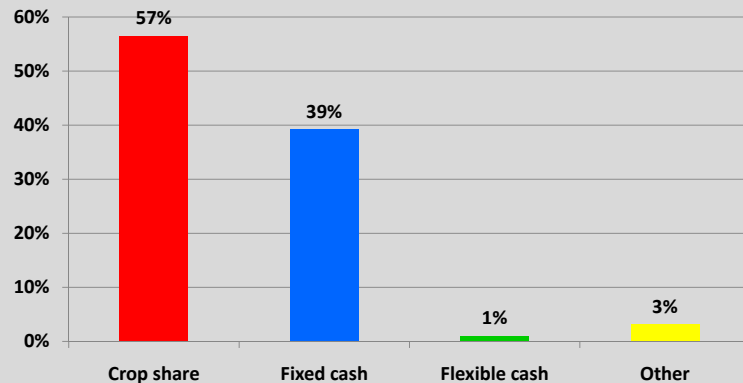
(n=248)

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 ...



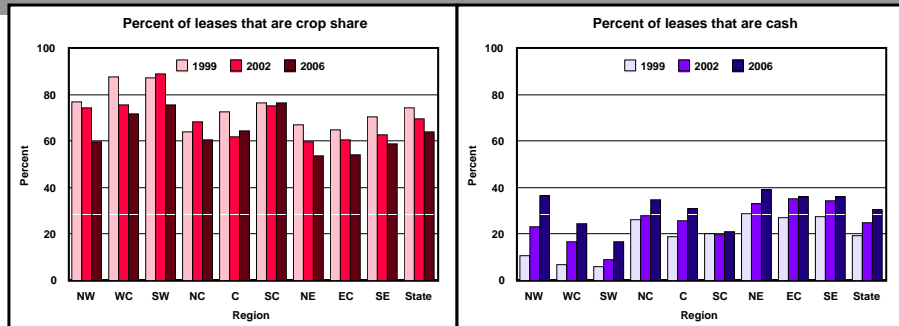
(n=209)

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

Trend towards more cash rent...



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

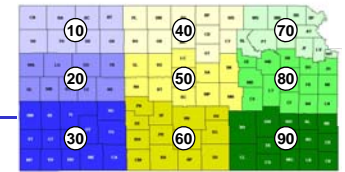
Crop share continues to be the most prevalent, but the trend has been a shift from crop share arrangements towards more cash rent leases.

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...

KAS Crop Reporting Districts



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

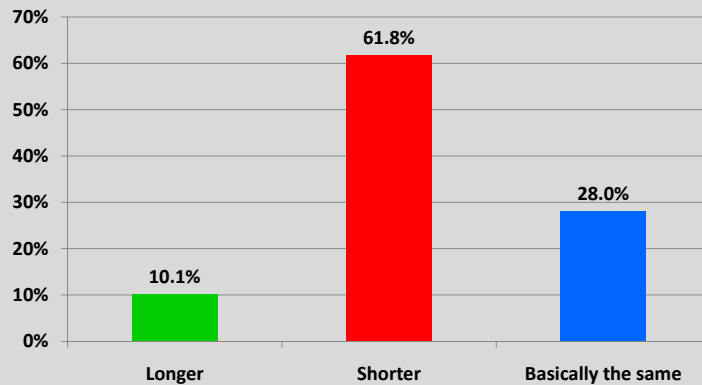
Producers tend to lease land from the same landowner for a long time.

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

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

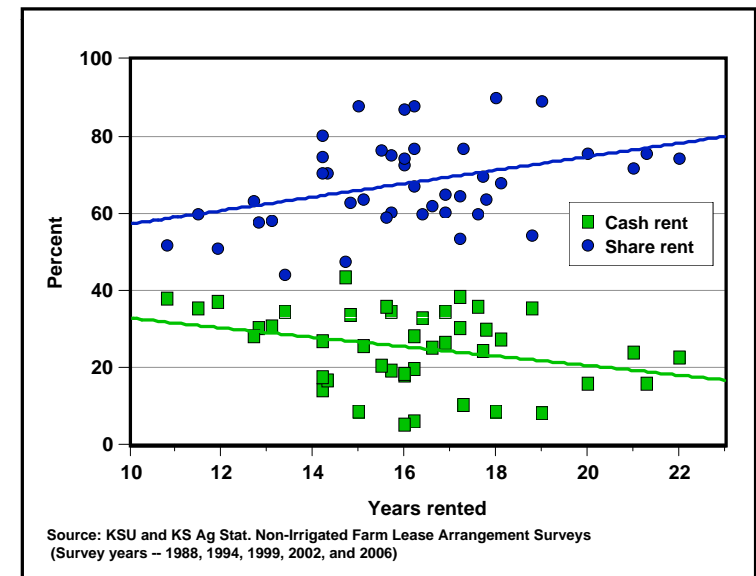
Crop share versus cash leases...

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



(n=207)

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.

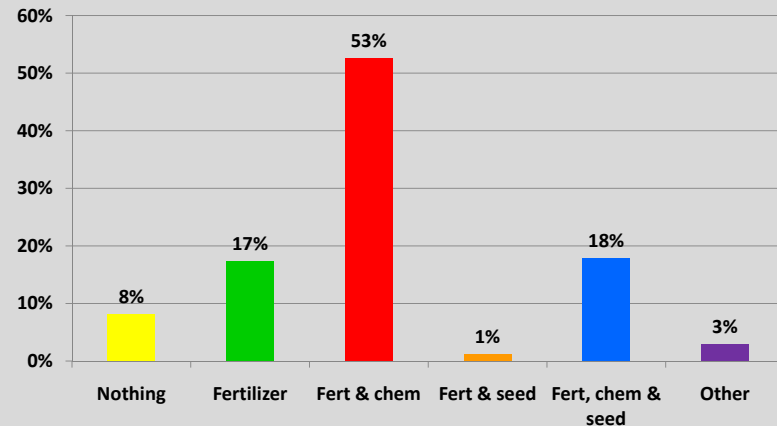


Market established rates...

- 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:



(n=211)

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)				
% of Total Leases in Lease Arrangement	100	29	1	1
% of Leases Sharing Fertilizer Costs	76.3%	22.1%	0.8%	0.8%
% of Leases Sharing Herbicide Costs	98.0%	100.0%	100.0%	100.0%
% of Leases Sharing Insecticide 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)				
% of Total Leases in Lease Arrangement	4	4	3	No Responses
% of Leases Sharing Fertilizer Costs	36.4%	36.4%	27.3%	No Responses
% of Leases Sharing Herbicide Costs	100.0%	100.0%	66.7%	No Responses
% of Leases Sharing Insecticide Costs	50.0%	100.0%	66.7%	No Responses
% of Leases Sharing Insecticide Costs	0.0%	75.0%	33.3%	No Responses
Sorghum (24 Leases)				
% of Total Leases in Lease Arrangement	18	4	1	1
% of Leases Sharing Fertilizer Costs	75.0%	16.6%	4.2%	4.2%
% of Leases Sharing Herbicide Costs	100.0%	100.0%	100.0%	100.0%
% of Leases Sharing Insecticide 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)				
% of Total Leases in Lease Arrangement	31	10	No Responses	No Responses
% of Leases Sharing Fertilizer Costs	75.6%	24.4%	No Responses	No Responses
% of Leases Sharing Herbicide Costs	100.0%	100.0%	100.0%	100.0%
% of Leases Sharing Insecticide Costs	51.6%	100.0%	100.0%	0.0%
% of Leases Sharing Insecticide Costs	25.8%	70.0%	0.0%	0.0%
Soybeans (19 Leases)				
% of Total Leases in Lease Arrangement	5	12	2	No Responses
% of Leases Sharing Fertilizer Costs	26.3%	63.2%	10.5%	No Responses
% of Leases Sharing Herbicide Costs	100.0%	100.0%	100.0%	100.0%
% of Leases Sharing Insecticide Costs	60.0%	83.3%	100.0%	0.0%
% of Leases Sharing Insecticide Costs	0.0%	75.0%	50.0%	0.0%

* 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)

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

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

“Non-traditional” leases ...

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

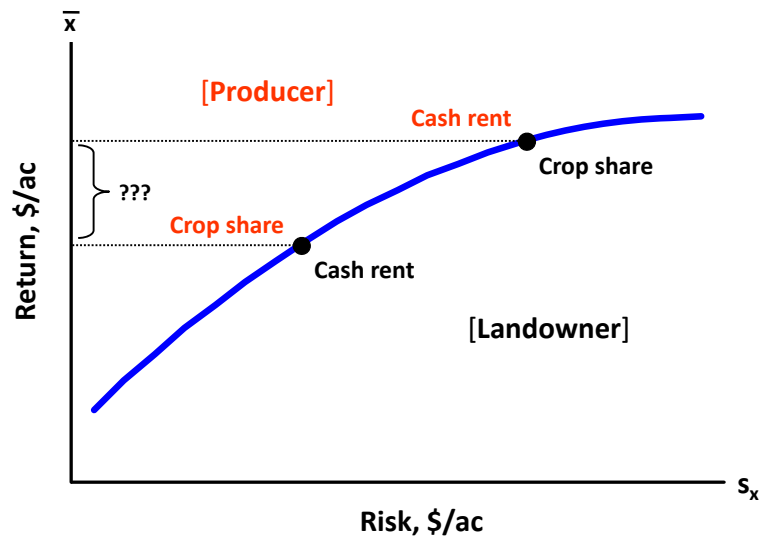
Because there is currently much interest in these types of leases, there must be good reasons to use them ...

Cash rents ...

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

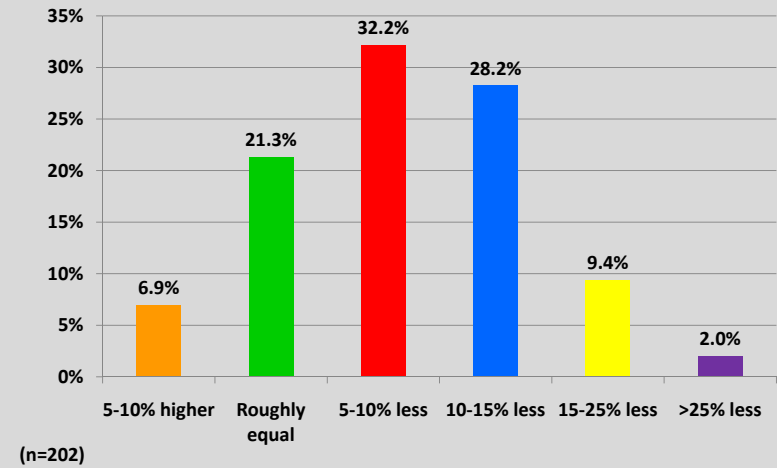
- Land tends to change hands more often
- Relative risks change

Landowner/producer risk-return tradeoff



Risk premium...

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



Methods of establishing cash rent values ...

- Market going rate (if available)

-
- Crop share equivalent (adjusted for risk)

- Landowner's cost

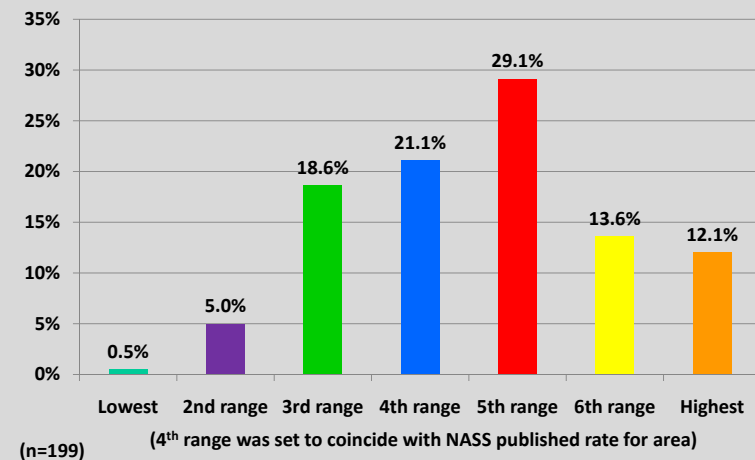
- Amount tenant can afford to pay



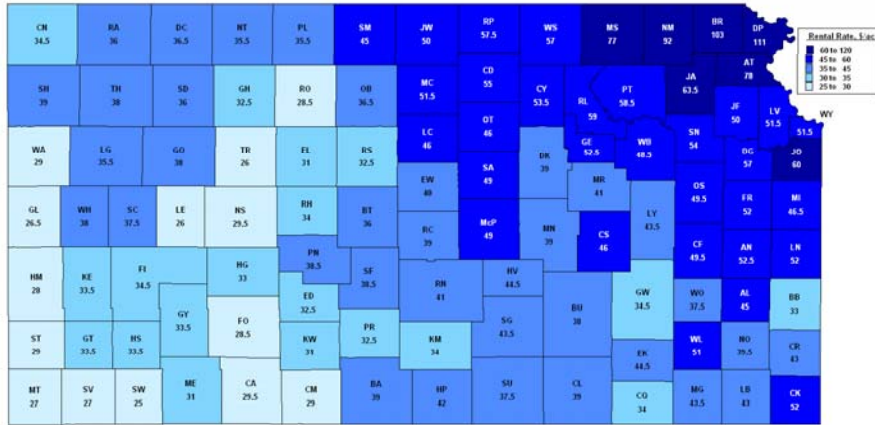
The last three require yield, price, and government payment projections (as well as cost information used for crop share).

Market rate for average cash rent...

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

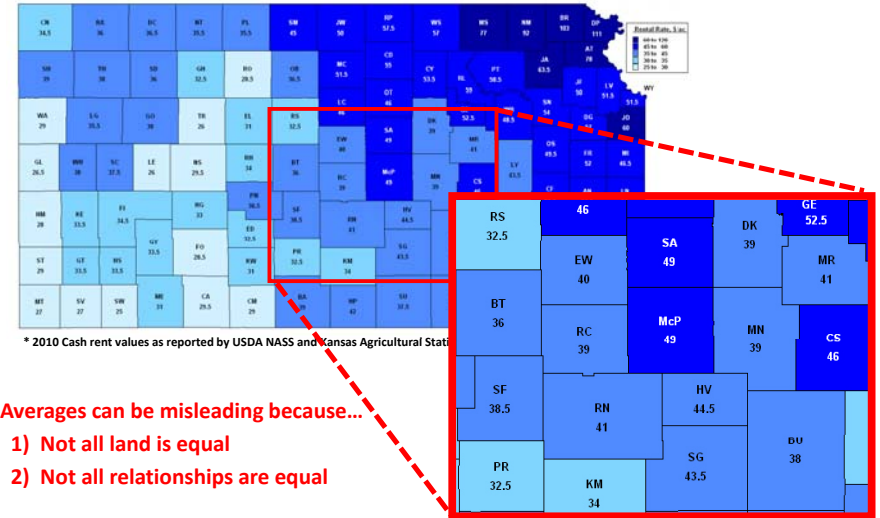


Kansas county-level non-irrigated crop cash rents...



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

Kansas county-level non-irrigated crop cash rents...



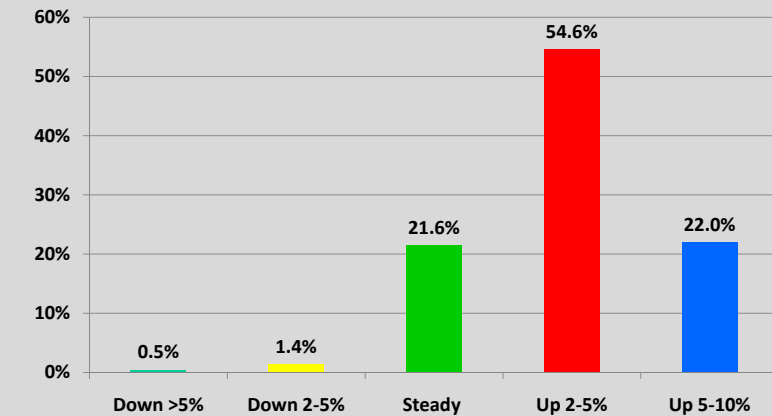
* 2010 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS).

Averages can be misleading because...

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

Crop land cash rents for 2011...

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



(n=218)

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)

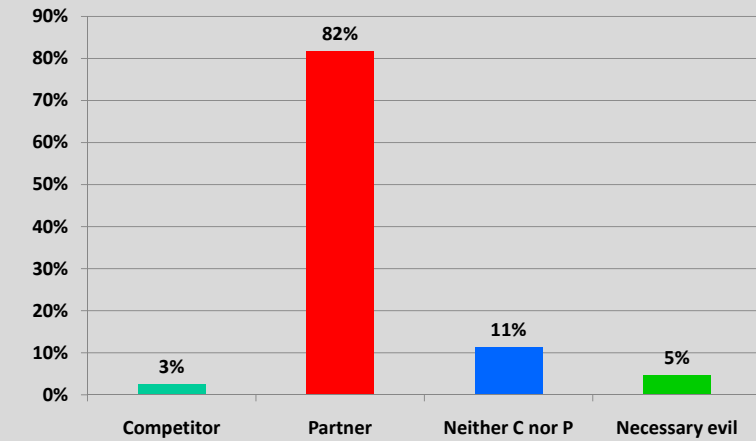
Flexible cash rents – HOW?

- 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)

The slide features a purple header with the Kansas State University logo and the text 'Kansas State UNIVERSITY' and 'Department of Agricultural Economics'. In the top right corner, there is a logo for the 'NORTH CENTRAL RISK MANAGEMENT EDUCATION CENTER'. The main content area is light blue and contains the title 'Ethics of Leasing' in a large, bold, black font, with the subtitle '(thoughts from Kevin and Terry)' in a smaller, italicized font below it. In the bottom right corner, there is a logo for 'AG MANAGER.INFO' with the text 'Kansas State Research & Extension' and the website 'www.agmanager.info'.

View of other party to the lease...

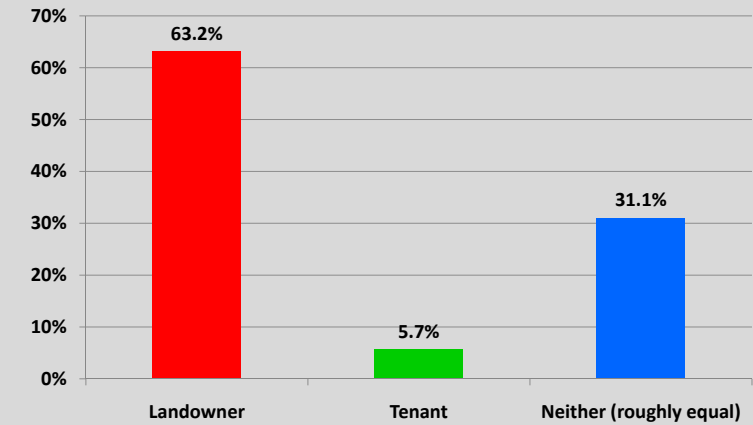
How do you view the other party in a lease?



(n=200)

View of other party to the lease...

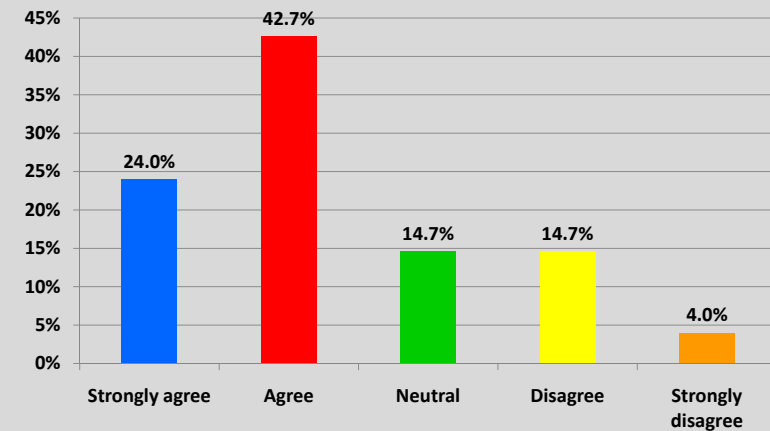
Who has more "power" in negotiating the terms of a lease?



(n=209)

"Other" government program payments...

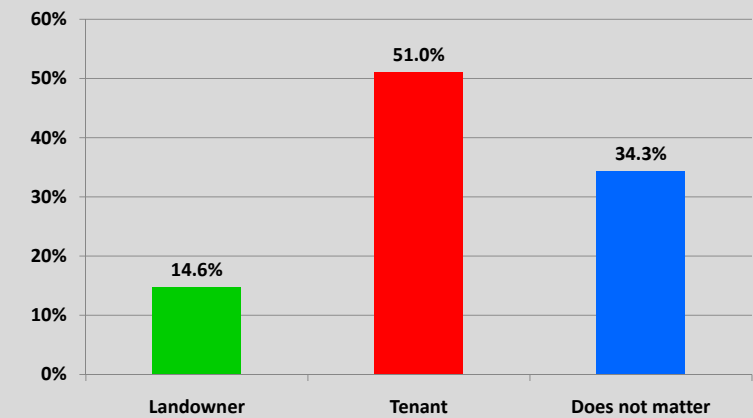
Producers should receive 100% of payments from programs such as CSP that are due to their management.



(n=75)

View of other party to the lease...

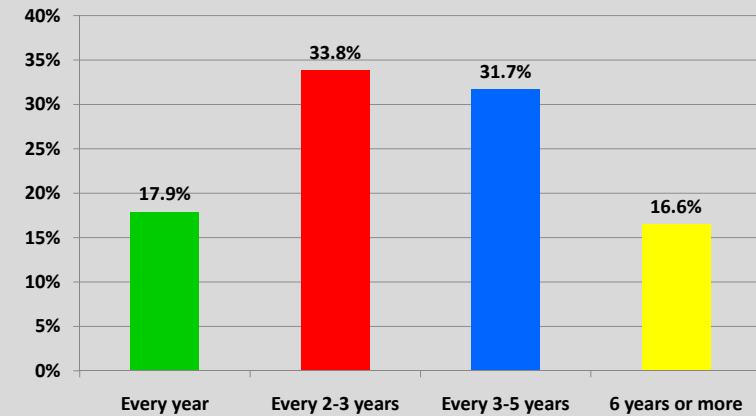
Who "typically" needs the income from the land the most?



(n=198)

Fixed cash leases...

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



(n=187)

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

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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."

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 and 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.”

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!

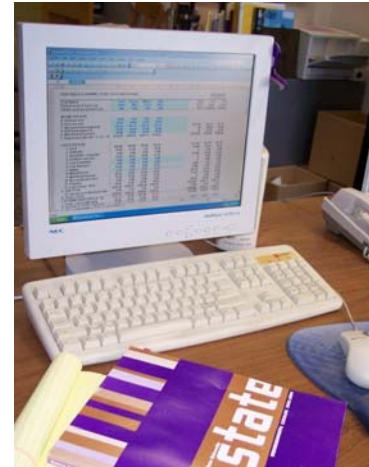
Kevin’s thoughts as to what is important for a “good” lease arrangement...

- 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

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)

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

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 (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 adjusted for 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

Calculating values using KSU-Lease.xls

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.

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Various tabs: Intro, Crop budgets, Shares, Lease budgets, Flex1, Flex2, Irr energy costs, Notes

Crop budgets for NC KS using 5-year average crop prices (increased fertilizer & machinery costs).

TABLE 1. CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total	Per	Per
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0	Acres	Acres
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	100.0	Planted	Tillable
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			
COSTS PER ACRE									
1. Seed	\$13.50	\$15.00	\$15.69	\$54.96	\$48.36	\$49.50			
2. Herbicide	6.29	6.29	34.10	28.87	14.95	9.08			
3. Insecticide / Fungicide	27.90	27.90	0.00	0.00	0.00	0.00			
4. Fertilizer and Lime	46.70	60.55	58.95	57.95	22.05	11.00			
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00			
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00			
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00			
8. Miscellaneous	6.25	6.25	6.25	6.25	6.25	5.00			
9. Machinery Expense	122.09	84.66	112.92	104.14	83.30	66.07			
10. Non-machinery Labor	11.44	7.93	10.66	9.75	7.80	6.24			
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00			
12. Land Charge / Rent	52.00	52.00	52.00	52.00	52.00	0.00			
G. SUB TOTAL	\$286.16	\$260.58	\$290.57	\$313.92	\$234.71	\$146.89			
13. Interest on 1/2 Nonland Costs	6.76	6.31	7.03	7.95	5.42	4.37			
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%

Returns over costs (i.e., profit) -- one of the numbers to focus on. We expect it to be "close" to \$0, on average, in the long-run.

If it is "too high" (as is the case here), land values and rents will increase.

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

Machinery cost adjustment (percent of values entered in Table 2)

Previously entered machinery costs can be proportionately adjusted by changing value in cell K131. 120.0%

Crop budgets for NC KS using 5-year average crop prices (increased fertilizer & machinery costs).

TABLE 5. Breakdown of Shares of Expenses

Landowner: NC KS landowner
Operator: Average farmer
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
Total tillable acre	24.0	24.0	10.0	12.0	30.0	0.0	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	---
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%	---
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%	---
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%

"Calculated" values for what is equitable -- numbers to focus on.

Typically what people are doing is equitable and thus this provides a check on costs in budget.

If landowners in area are typically getting a higher percentage than the calculated value (and profit > \$0), land charge likely should be increased.

Crop budgets for NC KS using 5-year average crop prices (increased fertilizer and machinery costs).

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

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
Total tillable acre	24.0	24.0	10.0	12.0	30.0	0.0	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
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 ((AxB) + C + D + E)	\$242.41	\$264.75	\$253.49	\$270.88	\$258.68	\$142.04	\$25,718
COSTS PER ACRE							
1. Seed	\$13.50	\$15.00	\$15.69	\$54.96	\$48.36	\$49.50	\$2,951
2. Herbicide	4.49	4.49	24.35	20.61	10.67	6.48	1,026
3. Insecticide / Fungicide	19.92	19.92	0.00	0.00	0.00	0.00	956
4. Fertilizer and Lime	29.77	39.66	38.52	37.81	12.17	7.85	2,870
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0
B. Miscellaneous	5.00	5.00	5.00	5.00	5.00	4.00	500
9. Machinery Expense	122.09	84.66	112.92	104.14	83.30	66.07	9,840
10. Non-machinery Labor	11.44	7.93	10.66	9.75	7.80	6.24	922
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0
12. Land Charge / Rent	0.00	0.00	0.00	0.00	0.00	0.00	0
G. SUB TOTAL	\$206.21	\$176.66	\$207.14	\$232.27	\$167.31	\$140.15	\$19,067
13. Interest on 1/2 Nonland Costs	5.79	5.19	5.93	6.91	4.88	4.13	552
H. TOTAL COSTS	\$212.00	\$181.85	\$213.06	\$239.18	\$172.18	\$144.28	\$19,619
I. RETURNS OVER COSTS (F - H)	\$30.42	\$82.90	\$40.43	\$31.70	\$86.49	(\$2.24)	\$6,099
J. RETURN TO COST/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%

Crop budgets for NC KS using 5-year average crop prices (increased fertilizer and machinery costs).

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
Total tillable acre	24.0	24.0	10.0	12.0	30.0	0.0	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	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
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 ((AxB) + C + D + E)	\$97.11	\$106.06	\$101.55	\$108.51	\$103.62	\$56.90	\$10,302
COSTS PER ACRE							
1. Seed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
2. Herbicide	1.80	1.80	9.75	8.26	4.28	2.60	411
3. Insecticide / Fungicide	7.98	7.98	0.00	0.00	0.00	0.00	383
4. Fertilizer and Lime	16.92	20.89	20.43	20.14	9.88	6.46	1,650
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0
8. Miscellaneous	1.25	1.25	1.25	1.25	1.25	1.00	125
9. Machinery Expense	0.00	0.00	0.00	0.00	0.00	0.00	0
10. Non-machinery Labor	0.00	0.00	0.00	0.00	0.00	0.00	0
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0
12. Land Charge / Rent	52.00	52.00	52.00	52.00	52.00	0.00	5,200
G. SUB TOTAL	\$79.95	\$83.92	\$83.43	\$81.65	\$67.40	\$6.74	\$7,769
13. Interest on 1/2 Nonland Costs	0.98	1.12	1.10	1.04	0.54	0.24	90
H. TOTAL COSTS	\$80.93	\$85.03	\$84.53	\$82.69	\$67.94	\$6.98	\$7,859
I. RETURNS OVER COSTS (F - H)	\$16.17	\$21.02	\$17.01	\$25.82	\$35.68	\$49.92	\$2,443
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%

Crop budgets for NC KS using 5-year average crop prices (increased fertilizer and machinery costs).

TABLE 8. ALTERNATIVE METHODS OF ESTIMATING CASH RENT

Print cash rent info 04/04/11 1:32 PM

Crop/System	Wht-C	Wht-R	Milo	Corn	SB-FS	SB-DC	Total
Total tillable acre	24.0	24.0	10.0	12.0	30.0	0.0	100.0
Planted acres of each crop	24.0	24.0	10.0	12.0	30.0	0.0	100.0
A. Landowner's COST							
Land	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$0.00	\$5,200
Irrigation equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Total	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$0.00	\$5,200
B. Landowner's EQUITABLE SHARE RENT ----- risk adj factor 0.0%							
Total income	\$339.52	\$370.80	\$355.04	\$379.39	\$362.30	\$198.94	\$36,020
Landowner's share	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
Landowner operating expense	28.93	33.03	32.53	30.69	15.94	6.98	2,659
Income less operating expense	\$68.17	\$73.02	\$69.01	\$77.82	\$87.68	\$49.92	\$7,643
Less risk adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cash rent equivalent	\$68.17	\$73.02	\$69.01	\$77.82	\$87.68	\$49.92	\$7,643
C. Amount tenant CAN AFFORD TO PAY							
Total income	\$339.52	\$370.80	\$355.04	\$379.39	\$362.30	\$198.94	\$36,020
Total operating expense	\$240.93	\$214.88	\$245.60	\$269.87	\$188.13	\$151.26	\$22,278
Return to land and irr equip	\$98.59	\$155.92	\$109.44	\$109.53	\$174.18	\$47.68	\$13,742

Cash rent from budget vs. cash rent equivalent with crop share (and imputed risk premium) -- numbers to focus on. Historically we have suggested a risk premium of ~10% (i.e., the value that would drive cash rent (A) and cash rent equivalent (B) equal -- in this example it is 32%).

If risk premium is "too high" this suggests that land rent will likely increase.

Workshop evaluation results are quite positive...

Evaluation Results - All Locations

Total Attendance: 276

Question	Responses	Average	Std. Dev	Yes	No					
3a. Attended previously?	146			40.6%	59.4%					
						Not at all				Very Valuable
						(1)	(2)	(3)	(4)	(5)
4. Value of information received	147	4.51	0.55	0.0%	0.0%	5.0%	41.5%	53.5%		
				Poor	Fair	Average	Good	Excellent		
Intro to Rental Arrangements										
7a. Speaker	145	4.69	0.47	0.0%	0.0%	0.0%	31.2%	68.8%		
7b. Content	145	4.68	0.47	0.0%	0.0%	0.0%	31.7%	68.3%		
Ethics										
8a. Speaker	144	4.60	0.51	0.0%	0.0%	0.5%	40.2%	59.3%		
8b. Content	144	4.54	0.55	0.0%	1.4%	0.9%	40.7%	57.0%		
Excel										
9a. Speaker	140	4.25	0.72	0.9%	3.9%	5.2%	44.5%	45.6%		
9b. Content	139	4.24	0.78	0.5%	4.9%	6.2%	40.9%	47.4%		
KSU-Lease										
10a. Speaker	139	4.44	0.60	0.0%	0.6%	3.4%	46.3%	49.7%		
10a. Content	139	4.39	0.68	0.0%	2.3%	5.7%	41.9%	50.1%		

Plan to do a follow-up online survey about six months after workshops to determine how information impacted practices/behavior.



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If interested in receiving weekly *AgManager.info Update* or any of our other Ag Econ newsletters via email, please let me know (kcd@ksu.edu or 785-532-3527).