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Developing a Fair Lease Arrangement for Farmland Leasing Arrangements Workshops

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Developing a Fair Lease Arrangement
for
Farmland Leasing Arrangements Workshops

February 8 and 15, 2008

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and
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Topics Covered

A. Cash Leasing

B. Flexible Cash Leasing

C. Crop share Leasing

D. Other Leasing Aspects

A. Cash Leasing

Shift from Crop-share to Cash leasing over time.

Tenant Preference:

- Greater management flexibility given multiple parcels being leased.
- Greater capture of returns to management abilities
- Greater opportunity to compete in rental land market.

Landlord Preference:

- Less management responsibility
 - Less risk (income variability) from year to year
 - Potentially greater \$ returns than crop share leasing.
-

Cash Rents

Cash rent % changes have lagged land value advances
Changes in NE Land Value and Cash rents 2002-2007.

Region and Land Type	Percent Change in	
	Average Values	Cash Rental Rates
Northeast:		
Dryland Cropland	75%	28%
Center Pivot Irrigation	73%	31%
Non-tillable Grazing	75%	15%
East:		
Dryland Cropland	71%	30%
Center Pivot Irrigation	52%	21%
Gravity Irrigation	45%	18%
Southeast:		
Dryland Cropland	80%	35%
Center Pivot Irrigation	56%	25%
Non-tillable Grazing	50%	20%

Why do cash rents lag values?

Cash Rents Headed Higher for Cropland: 2008 forecasted levels up 15 to 25 percent.

Northeast:	2007	2008 forecast		
	----- Dollars/acre -----			
Dryland Cropland Ave.	109	125	to	135
High	134	155	to	165
Low	88	100	to	110
Center Pivot Irrigated Ave	173	200	to	215
High	200	230	to	250
Low	146	165	to	180

**For Center pivot land, assume (1) land owner owns complete irrigation system, and (2) per-acre rent refers to the irrigated acres only

Cash Rents Headed Higher for Cropland: 2008 forecasted levels up 15 to 25 percent.

East:	2007	2008 forecast		
	----- Dollars/acre -----			
Dryland Cropland Average	113	130	to	140
High	134	155	to	165
Low	92	105	to	115
Center Pivot Irrigated Average	176	200	to	220
High	206	235	to	255
Low	152	175	to	190
Gravity Irrigated Average	160	180	to	200
High	188	215	to	235
Low	136	155	to	170

**For Center pivot land, assume (1) land owner owns complete irrigation system, and (2) per-acre rent refers to the irrigated acres only

Cash Rents Headed Higher for Cropland: 2008 forecasted levels up 15 to 25 percent.

Southeast:	2007	2008 forecast		
	----- Dollars/acre -----			
Dryland Cropland Ave.	93	105	to	120
High	114	130	to	140
Low	73	85	to	90
Center Pivot Irrigated Ave	169	195	to	210
High	196	225	to	245
Low	142	165	to	180

**For Center pivot land, assume (1) land owner owns complete irrigation system, and (2) per-acre rent refers to the irrigated acres only

Tenants readily negotiating 2008 levels upward because:

- ❑ Strong rental market competition
 - ❑ Good remaining profit potential even with higher rents
 - ❑ More savvy landlords
 - ❑ Tenant: “It’s the ethical thing to do.”
-

Cash Rent Guidelines

- Both parties current and professional
 - Written leases more important than ever
 - Yes!! Even in family situations!!

 - Negotiate cash rent levels annually.

 - Understand year-to-year cash rent levels can move both up and down.
-

Cash Rent Guidelines Cont.

- ❑ Landowner:

 - Recognize tenant's stewardship and other contributions "in-kind"

- ❑ Tenant:

 - Keep landowner informed

 - ❑ Tenants usually have more information than landowners

 - ❑ Tenants responsible for informing the landowner

- ❑ Be clear on sub-contracting

Cash Leases

□ Scenario 1:

- Center Pivot Irrigated Corn
 - \$200/ac Cash Rent
 - 130 acre pivot circle
 - \$3.25/bu Cash Price Received for Corn
-

Cash Rent Sensitivity

Tenant Revenue Less Total Costs (per Acre)
on a Cash Lease under Various Yields and Prices

Yields		Below		Average	Above	
		25%	10%		10%	25%
Irr Corn		169	203	225	248	281
Prices						
25% Below	Irr Corn	\$2.44				
			(\$163.09)	(\$87.88)	(\$37.74)	\$12.40
10% Below	Irr Corn	\$2.93				
			(\$80.82)	\$10.84	\$71.95	\$133.06
Average	Irr Corn	\$3.25				
			(\$25.98)	\$76.65	\$145.08	\$213.50
10% Above	Irr Corn	\$3.58				
			\$28.86	\$142.47	\$218.20	\$293.94
25% Above	Irr Corn	\$4.06				
			\$111.13	\$241.18	\$327.89	\$414.59

Cash Leases

□ Scenario 2:

- Dryland Corn-Soybean Rotation
 - \$135/ac Cash Rent
 - \$3.25/bu Cash Price Received for Corn
 - \$7.00/bu Cash Price Received for SB
-

Cash Rent Sensitivity

Tenant Revenue Less Total Costs (per Acre)
on a Cash Lease under Various Yields and Prices

Yields		Below		Average	Above		
		25%	10%		10%	25%	
Prices		Dry Corn	98	117	130	143	163
		Dry Soybeans	30	36	40	44	50
25% Below	Dry Corn	\$2.44	(\$121.49)	(\$83.42)	(\$58.04)	(\$32.66)	\$5.41
	Dry Soybeans	\$5.63					
10% Below	Dry Corn	\$2.93	(\$80.85)	(\$34.65)	(\$3.85)	\$26.95	\$73.15
	Dry Soybeans	\$6.75					
Average	Dry Corn	\$3.25	(\$53.75)	(\$2.14)	\$32.27	\$66.69	\$118.30
	Dry Soybeans	\$7.50					
10% Above	Dry Corn	\$3.58	(\$26.66)	\$30.38	\$68.40	\$106.42	\$163.46
	Dry Soybeans	\$8.25					
25% Above	Dry Corn	\$4.06	\$13.98	\$79.14	\$122.59	\$166.03	\$231.19
	Dry Soybeans	\$9.38					

B. Flexible Cash Leases

Advantages

- Actual rent paid adjusts automatically to yield and/or price shifts
- Risks, up-side and down-side, shared
- Owners paid in cash
- Reduced need for frequent re-negotiation

B. Flexible Cash Leases Cont.

Disadvantages

- No universal model
 - If flexed on yield risk, then direct and counter-cyclical payments must be shared by tenant and landlord
 - Lease detail needed for determining flex mechanism
 - Can get out-of-sync as input costs shift rapidly
-

Flexing based on:

- Yield shifts
 - Total gross revenue (commodity prices and yield)
 - Price shifts
-

Factors to Consider

- Determining yield
 - Weight tickets
 - Yield monitors
 - Storage bin capacity
 - Determining Price
 - Price near date of final rent payment
 - Local cash price at coop/processor on specified date (or average of time period)
 - Futures contract price minus normal basis value for location
 - Minimum and Maximum Rents?
-

Base rent plus bonus (Flexed on price)

- Relatively straight-forward for times of dynamic commodity prices
 - Allow both upside and downside price risk shared
 - Rational logic to cash rent determination
-

Key Variables to agree on:

- Crop rotation
 - Base rent
 - Yield and price for establishing base revenue
 - Landowner % of gross revenue above or below base revenue to “flex” base rent
-

Relation of Cash Rents to Average Gross Revenue for Eastern Nebraska Center Pivot Irrigated Land, 2003-2007

Year	Average Cash Rent Paid/acre ¹	Average Gross Revenue \$/acre ²		Average Cash Rent as % of Gross Revenue	
		Corn	Soybeans	Corn	Soybeans
		----- \$/acre -----		----- %- -----	
2003	145	415	382	35	38
2004	151	388	290	39	52
2005	155	334	335	46	46
2006	157	537	352	29	45
2007	176	620	527	28	33
Average	157	459	377	34	42

¹Source: Nebraska Farm Real Estate Market Developments 2006-2007, UNL Department of Agricultural Economics Report #183, 6/07.

² Source: National Agricultural Statistics Service, USDA. Average Eastern Nebraska Yield x December Cash Price.

Relation of Cash Rents to Average Gross Revenue for Eastern Nebraska Dryland Cropland, 2003-2007

Year	Average Cash Rent Paid/acre ¹	Average Gross Revenue \$/acre ²			Average Cash Rent as % of Gross Revenue		
		Corn	Soybeans	Wheat	Corn	Soybeans	Wheat
		----- \$/acre -----			----- %- -----		
2003	89	191	218	194	47	41	46
2004	94	306	225	158	31	42	59
2005	99	208	238	172	48	42	57
2006	102	341	269	208	30	38	49
2007	113	452	382	251	25	30	15
Average	99	300	266	197	33	37	50

¹Source: Nebraska Farm Real Estate Market Developments 2006-2007, UNL Department of Agricultural Economics Report #183, 6/07.

² Source: National Agricultural Statistics Service, USDA. Average Eastern Nebraska Yield x December Cash Price.

Flexible cash lease

□ Example 1:

- Base rent plus bonus based on price

- Given

- Irrigated corn
 - 200 BU/AC yield (set)
 - Base rent: \$175/AC
 - Base Revenue \$600 (200 bu x \$3.00)
 - Bonus Rent: 35% of gross revenue above base revenue
-

Example 1

Corn Price Dec 1	Base Rent \$/AC	Gross Revenue at 200 BU/AC	Gross Revenue less Base Revenue	Bonus (35% of Difference)	Total Rent Base + A Bonus \$/AC
\$2.50	\$175	\$500	(\$100)	-35	\$140
\$2.75	\$175	\$550	(\$50)	-17.5	\$158
\$3.00	\$175	\$600	\$0	0	\$175
\$3.25	\$175	\$650	\$50	17.5	\$193
\$3.50	\$175	\$700	\$100	35	\$210
\$3.75	\$175	\$750	\$150	52.5	\$228
\$4.00	\$175	\$800	\$200	70	\$245
\$4.25	\$175	\$850	\$250	87.5	\$263
\$4.50	\$175	\$900	\$300	105	\$280
\$4.75	\$175	\$950	\$350	122.5	\$298
\$5.00	\$175	\$1,000	\$400	140	\$315
\$5.25	\$175	\$1,050	\$450	157.5	\$333
\$5.50	\$175	\$1,100	\$500	175	\$350

Bonus portion rounded to nearest whole dollar

Flexible Cash Lease

- Example 2
 - Base rent plus bonus based on prices
 - Given
 - Dryland corn-soybean rotation
 - Yield average
 - Corn 135 BU/AC
 - Soybeans 40 BU/AC
 - Base Rent \$110/AC
 - Base revenue:
 - $\text{Corn } 135 \text{ Bu} \times \$3.00 = \$405$
 - $\text{S.B. } 40 \text{ Bu} \times \$6.75 = 270$
 - $\$405 + \$270 = \$675 / 2 = \337.50
 - Base rent as % of Base Revenue: 33%
 - Bonus rent: 33% of gross revenue above base revenue
-

Example 2

Commodity Prices	Base Rent	Gross Revenue	Gross Revenue less base Revenue	Bonus 33% of difference	Total Rent Base + Bonus
\$2.50 corn \$5.60 soybeans	\$110	\$282.44	(\$55.06)	(\$18.17)	\$92
\$3.00 corn \$6.75 soybeans	\$110	\$337.50	\$0	\$0	\$110
\$3.50 corn \$7.75 soybeans	\$110	\$391.00	\$53.50	\$17.66	\$127
\$4.00 corn \$8.90 soybeans	\$110	\$448.00	\$110.50	\$36.47	\$146
\$4.50 corn \$10.00 soybeans	\$110	\$503.75	\$166.25	\$54.86	\$165
\$5.00 corn \$11.10 soybeans	\$110	\$559.50	\$222.00	\$73.26	\$183
\$5.50 corn \$12.20 soybeans	\$110	\$615.25	\$277.75	\$91.66	\$202

Bonus portion rounded to nearest whole dollar.

Flexible Cash Rent Agreement

The amount of cash rent to be paid by the operator to the owner for the portion of the real estate designated as cropland shall be determined as follows (fill in the blanks where needed):

	Corn	Soybeans	
Area of cropland	_____	_____	acres
Base rent per acre (if applicable)	\$ _____	\$ _____	per acre
Base gross revenue (if applicable)	\$ _____	\$ _____	per acre
Percent of revenue to share (in excess of base)	_____%	_____%	
Minimum rent per acre (if applicable)	\$ _____	\$ _____	per acre
Maximum rent per acre (if applicable)	\$ _____	\$ _____	per acre

The actual **yield** use to calculate the rent shall be determined as follows: _____

The actual **price** used to calculate the rent shall be determined as follows: _____

The value of any payments received as the result of participation in programs of the United States Department of Agriculture for the crop year for which the variable cash rent applies shall be divided as follows: _____

Flexible Lease Agreement Worksheet

Ag Decision Maker -- Iowa State University Extension

For more information, see the information file "Flexible Farm Lease Agreements"

Place the cursor over cells with red triangles to read comments.

Enter your input values in shaded cells.

Basic Information

Expected acres planted to each crop
 Base rent-\$ per acre (can be zero)
 Base gross revenue-\$ per acre (can be zero)
 Share of gross revenue used to calculate rent or bonus-%
 USDA loan rate in county (optional)-\$ per bushel
 Minimum rent desired (optional)-\$ per acre
 Maximum rent desired (optional)-\$ per acre

Corn		Soybeans	
100	acres	100	acres
\$ 135	per acre	\$ 135	per acre
\$ 400	per acre	\$ 300	per acre
35%		40%	
\$ 1.85	per bushel	\$ 5.00	per bushel
			per acre
			per acre

Expected yield-bushels per acre
 Expected price-\$ per bushel
 Expected gross revenue under expected yield and price-\$/acre
 Bonus for expected gross revenue-\$ per acre
 Rent to pay under expected yield and price-\$ per acre
Average rent to pay for corn and soybeans-\$ per acre

165	bu. per acre	50	bu. per acre
\$ 3.25	per bushel	\$ 7.50	per bushel
\$ 536.25	per acre	\$ 375.00	per acre
\$ 47.69		\$ 30.00	
\$ 182.69	per acre	\$ 165.00	per acre
		\$ 173.84	per acre

		ADJUSTED AVERAGE RENT FOR CORN AND SOYBEANS COMBINED									
		Corn and Soybean Prices									
Corn Yield	Soybean Yield	\$ 2.00	\$ 2.31	\$ 2.63	\$ 2.94	\$ 3.25	\$ 3.56	\$ 3.88	\$ 4.19	\$ 4.50	
		\$ 5.00	\$ 5.63	\$ 6.25	\$ 6.88	\$ 7.50	\$ 8.13	\$ 8.75	\$ 9.38	\$ 10.00	
70.00	30.00	\$ 60	\$ 67	\$ 75	\$ 82	\$ 90	\$ 97	\$ 105	\$ 113	\$ 120	
90.00	35.00	\$ 72	\$ 81	\$ 90	\$ 99	\$ 109	\$ 118	\$ 127	\$ 137	\$ 146	
110.00	40.00	\$ 84	\$ 95	\$ 106	\$ 117	\$ 128	\$ 139	\$ 150	\$ 161	\$ 172	
130.00	45.00	\$ 96	\$ 108	\$ 121	\$ 134	\$ 146	\$ 159	\$ 172	\$ 185	\$ 197	
150.00	50.00	\$ 108	\$ 122	\$ 136	\$ 151	\$ 165	\$ 180	\$ 194	\$ 209	\$ 223	
170.00	55.00	\$ 120	\$ 136	\$ 152	\$ 168	\$ 184	\$ 200	\$ 217	\$ 233	\$ 249	
190.00	60.00	\$ 132	\$ 149	\$ 167	\$ 185	\$ 203	\$ 221	\$ 239	\$ 257	\$ 275	
210.00	65.00	\$ 144	\$ 163	\$ 183	\$ 202	\$ 222	\$ 242	\$ 261	\$ 281	\$ 300	
230.00	70.00	\$ 156	\$ 177	\$ 198	\$ 219	\$ 241	\$ 262	\$ 283	\$ 305	\$ 326	

Risk Analysis (optional)

Total USDA direct payment for farm-\$ per year
 USDA direct payment-\$ per acre
 Tenant's cost of production excluding rent-\$ per acre
 Landowner's costs for ownership-\$ per acre
 Owner's share of direct and counter-cyclical payments-%

Corn		Soybeans	
	\$ 7,000		
\$ 35.00		\$ 35.00	
\$ 300		\$ 185	
\$ 30		\$ 30	
35%		65%	

Version 1.5

Author: William Edwards

Date Printed:

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<http://www.extension.iastate.edu/agdm/wholefarm/html/c2-21.html>

NOTE: This interactive spreadsheet link is at the bottom of the page.

C. Crop Share Leasing

- ❑ Still can be the most equitable in sharing risk.
- ❑ But, traditional shares may need adjusting due to:
 - ❑ Changing farming practices
 - ❑ Shifting landowner contributions
- ❑ Adjust output shares and/or input shares or an additional cash “boot” so relative contributions of inputs equal output shares

Use “Farm Lease Calculator” to analyze

<http://www.agecon.unl.edu/resource/farmcalc.html>

(On Department website under [Resources/Publications](#))

C. Crop Share Leasing

Using “Farm Lease Calculator” to analyze crop share leases

<http://www.agecon.unl.edu/resource/farmcalc.html>

(On Department website under [**Resources/Publications**](#))

Interactive spreadsheet

Example: Eastern Nebraska Center Pivot Irrigated Land

Given:

- Landowner owns complete irrigation system
- 225 bushels/acre corn yield
- 65 bushels/acre soybean yield
- 50-50 corn-soybean rotation

50-50 Crop Share Lease With:	% Relative Contributions		
	Tenant	Landowner	Total
Conventional Sharing of Variable Inputs	41.5	58.5	100
Tenant covers 100% of herbicides	42.1	57.9	100
Conventional sharing w/ \$35/ac. "Boot"	44.9	55.1	100
Tenant covers 100% herbicides w/\$35/ac. "Boot"	47.5	52.52	100
Tenant covers 100% of seed, herbicides, and insecticides	48.7	51.3	100
Conventional sharing w/tenant providing center pivot and irrigation power unit	48.5	51.5	100

Example: Eastern Nebraska Dryland

Given:

- 130 bushels/acre corn yield
- 40 bushels/acre soybean yield
- 60-40 corn-soybean rotation

60-40 Crop Share Lease With:	% Relative Contributions		
	Tenant	Landowner	Total
Conventional Sharing of Variable Inputs	52.5	47.5	100
Tenant covers 100% of herbicides	56.3	43.7	100
Conventional sharing w/ \$35/ac. "Boot"	57.3	42.7	100
Tenant covers 100% herbicides w/\$35/ac. "Boot"	60.8	39.2	100
Tenant covers 100% of seed, herbicides, and insecticides	56.8	43.2	100
Tenant covers 100% of seed, herbicides, and insecticides w/\$35/ac. "Boot"	61.2	38.8	100

D. Other Leasing Aspects

1. On-farm grain storage leasing

- Increasingly valuable
 - Highly variable depending on usability of the storage
 - Size of bin(s)
 - Air dryers
 - Use logistics
 - Typical on-farm rates:
 - \$.02/bushel/month
 - \$.10 to \$.12/bushel/season (12 months)
-

D. Other Leasing Aspects Cont.

2. Corn stalk grazing

Highly Variable:

- Who fences?
- Amount of downed grain?
- Who checks on livestock?

Typical Rates

- \$6.00 to \$12.00/acre
 - \$.20 to \$.25/head/day
-

D. Other Leasing Aspects Cont.

3. Corn Stalk Baling

Typical Rates

\$10.00 to \$20.00/acre

4. Hunting Fees

Can be \$5.00 to \$10.00/acre

Key Resources

1. *Nebraska Farm Real Estate Market Developments* Annual Report Series

Electronic version at: <http://www.agecon.unl.edu/realestate.html>

Hard copies are available for \$20/copy from:

Ag Economics Department
UNL, 314 FYH
Lincoln, NE 68583-0922

2. Preliminary Values and Cash Rental Rates released mid-March of each year in *Cornhusker Economics* (weekly Newsletter of the Department of Agricultural Economics – UNL)

Electronic version at:

<http://www.agecon.unl.edu/Cornhuskereconomics.html>
