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UNIVERSITY OF TENNESSEE EXTENSION

FREE LUNCH WEBINAR SERIES: FARMLAND LEASING

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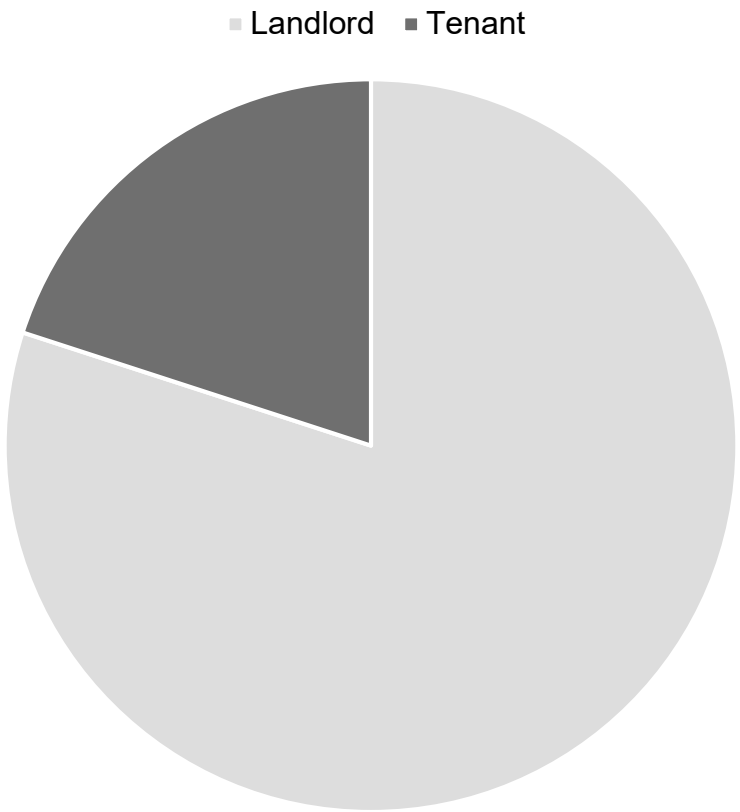
How to Figure Out a Fair Rental Rate

PARTICIPANTS SURVEY



Overview

- Quick Review of Lease Types
- Determining Fair Rental Rate
- Examples

Types of Farmland Leases

- Cash Leases
  - Fixed
  - Flexible
- Crop or Livestock Share Leases
- Hybrid Leases

Fixed Cash Lease

Rent is predetermined or fixed

- Prevailing or Market Rental Rate
  - Requires general knowledge of cash rents being paid for cropland in the area. Adjustments in rates should be made for differences in land productivity.
- Landowner's Cost & Tenant's Ability to Pay
  - Calculate landowner's cost of ownership
  - Calculate tenant's ability to pay
  - Negotiate

Prevailing Cash Rent Example

County & District	2019 Nonirrigated Cropland	2019 Irrigated Cropland ----Per Acre----	2019 Pastureland	2020 Nonirrigated Cropland	2020 Irrigated Cropland ----Per Acre----	2020 Pastureland
Humphreys	$67.00	--	$20.50	$62.00	--	$17.00
Lawrence	$75.00	--	$24.00	$72.00	--	$26.00
Lewis	--	--	$15.00	$35.00	--	--
Montgomery	$118.00	--	$23.50	$120.00	--	$25.50
Perry	$33.00	--	$16.50	--	--	$17.50
Robertson	$164.00	--	$36.00	$157.00	--	$40.00
Stewart	$95.00	--	$13.00	$85.00	--	$17.00
Wayne	$61.50	--	$20.50	$46.50	--	$18.50
Other	$28.00	--	--	$50.50	--	$21.00
Western Rim	$104.00	--	$21.50	$104.00	--	$23.00

https://extension.tennessee.edu/publications/Documents/W377.pdf

Landowner's Costs Worksheet

1. **Total property taxes paid on the farmland (minus buildings) + _____**

2. **PA 116 land tax refund received - _____**

3. **Net actual taxes paid; (line one minus line two = line three)= _____**

4. **Return on investment**
   a. **Land current cash market value of land _____**

   b. **Desired rate of return on land investment X ____6 %_ (range of 3% to 10%)**

   c. **Return on Ownership (4a times 4b = 4c) = _____**

5. **Total capital improvements allocated to each year + _____**

6. **Maintain cost; (brush control, lime application, tile repair, etc) + _____**

7. **Total Cost of Ownership (line 3 + 4c + 5 + 6 = line 7) = _____**

8. **Divide by the number of tillable acres to be rented. + _____**

9. **Desired land rental rate per acre; = _____**

FIRM team
Farm Information Resource Management

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Dennis Stein, MSU Extension.

Example

1. Acres		200
2. Value ($/acre)		$1,200
3. Interest Rate		5%
4. Interest on Investment	(line 1 x line 2 x line 3)	$12,000
5. Repairs ($/acre)		
6. Real Estate Tax Rate ($/acre)		$12
7. Real Estate Taxes	(line 1 x line 6)	$2,400
8. Depreciation on Improvements		
a. Buildings		
b. Fences		
Total	(line 8a + 8b)	
9. Total Costs	(line 4 + line 5 + line 7 + line 8)	$14,400
10. Per Acre Costs	(line 9/line 1)	$72

Owner's Cost of Ownership of Structures

- Costs involved in owning a building
  - Depreciation
    - Portion of the cost of the building that is counted as an expense each year
    - Way of spreading the initial cost of the building over its expected useful life
  - Return on investment
    - Multiply the rate of return on investment (annual interest rate) by the current value of the building
    - The interest rate can be based on the rate at which money is borrowed, the rate at which money can be invested
  - Taxes and insurance
  - Repairs
    - If not known, use a rate of 2 - 4% of the replacement value (not current value) of the building
  - Utilities
    - Who pays? Usually paid by the tenant

Greenhouse Example

Owner's Costs?			
	Item	Total Cost	Cash Cost
Current Market Value	$53,000		
Remaining life	15		
Depreciation	6.6%	3,500	
Return on Investment	6.0%	3,200	
Taxes & Insurance	1.5%	800	800
Total Ownership		7,500	
Annual Repairs	4%	2,120	2,120
Utilities			
TOTAL ANNUAL COST		9,620	2,920
Square footage (30*90)		2,700	2,700
Cost per Square Foot/month		$0.36	$0.10

How much can the tenant afford?

A. Gross Value of Crops Produced

A Crop	B Acres	C Expected Yield	D Production (B x C)	E Expected Price	F Gross Revenue (D x E)
Soybeans	150	35	5250	$6.25	$32,812.50
Corn	50	120	6000	$2.50	$15,000.00
				Total	$47,812.50

	A Crop	B Acres	C Cost ($/acre)	D Total Cost (B x C)
B. Less Costs:				
1. Variable				
	Soybeans	150	$78.13	$11,719.50
	Corn	50	$137.97	$6,898.50
			Total Variable Costs	$18,618.00
2. Fixed				
	Soybeans	150	$21.63	$3,244.50
	Corn	50	$26.69	$1,334.50
			Total Fixed Costs	$4,579.00
3. Labor				
	Soybeans	150	$5.10	$765.00
	Corn	50	$5.74	$287.00
			Total Labor Costs	$1,052.00
4. Management Allowance				
	a. Gross Revenue	$47,812.50		
	b. Percent	6%		$2,868.75
5. Total Specified Costs (lines 1 through 4)				$27,117.75
C. Maximum Rent Which Can be Paid for Land (line 4a less line 5)				$20,694.75
D. Maximum Cash Rental Rate Per Acre (line C divided by # acres)				$103.47

Tenants: Calculating Breakeven Rental Rate

- **Fair Rent** (Univ. of MN). A free tool that allows you to evaluate rental decisions.

  https://fairrent.umn.edu/

- Useful for operators to analyze breakeven rental rates at different yield, price scenarios.
- Useful for landowners to understand how much tenant can afford, however, it requires knowledge of the operation financials.

Flexible Cash Lease

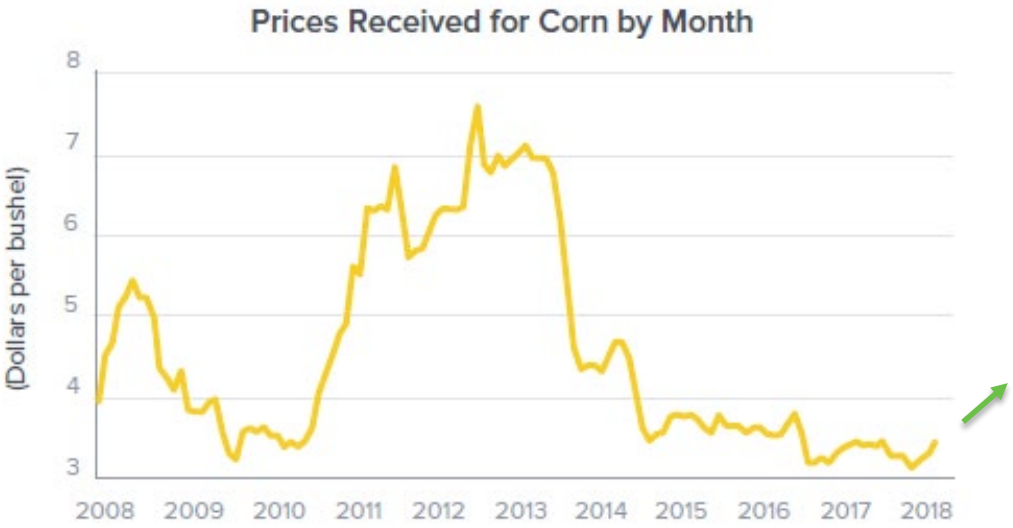
Rent is tied to yield or gain, crop or livestock prices, and/or input costs

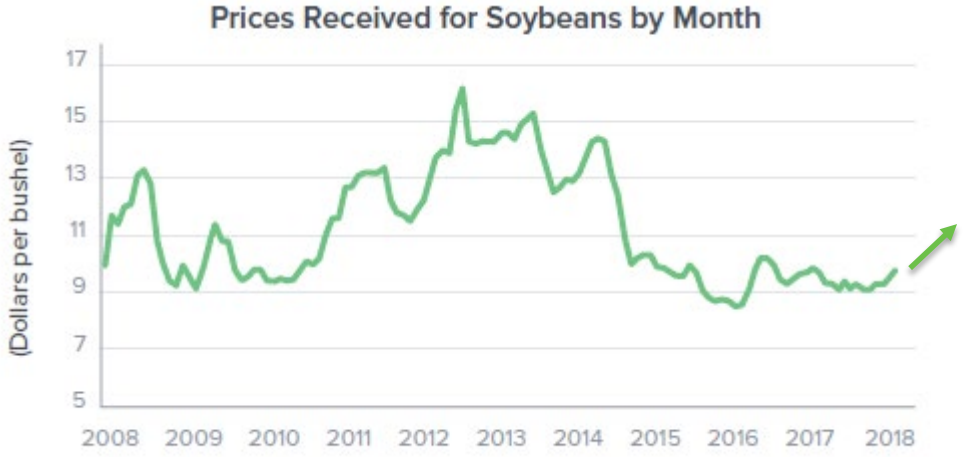
- Tenant makes most, if not all, production and marketing decisions
- Landowner and tenant share production and/or price risk

Flexible Cash Leases

- Adjusting rent for changes in crop or livestock price
  - $Cash\ Rent = Base\ Rent\ x\ \frac{Actual\ Price}{Base\ Price}$
  - Base Rent with schedule of adjustments for prices outside a specified range
  - Base Rent with upward adjustments for prices above a specified range

Crop Price Trend





Flexible Cash Lease Example

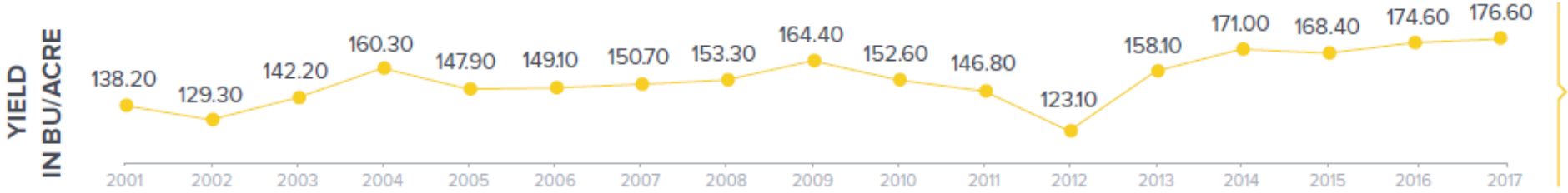
- Base rent of $120 per acre if price of soybeans is between $10 and $11 per bushel.
- Rent increases or decreases by $5.00 per acre for every $0.50 increase or decrease in price.

Flexible Cash Leases

- Adjusting rent for changes in yield or gain
  - $Cash\ Rent = Base\ Rent\ x\ \frac{Actual\ Yield\ or\ Gain}{Base\ Yield\ or\ Gain}$
  - Base Rent with schedule of adjustments for yields or weight gains outside a specified range
  - Actual yield or weight gain multiplied by predetermined rate ($/bu) or ($/lb)

Crop Yield Trend

Corn



Soybeans

Flexible Cash Leases

- Adjusting rent for changes in crop price and yield and input costs

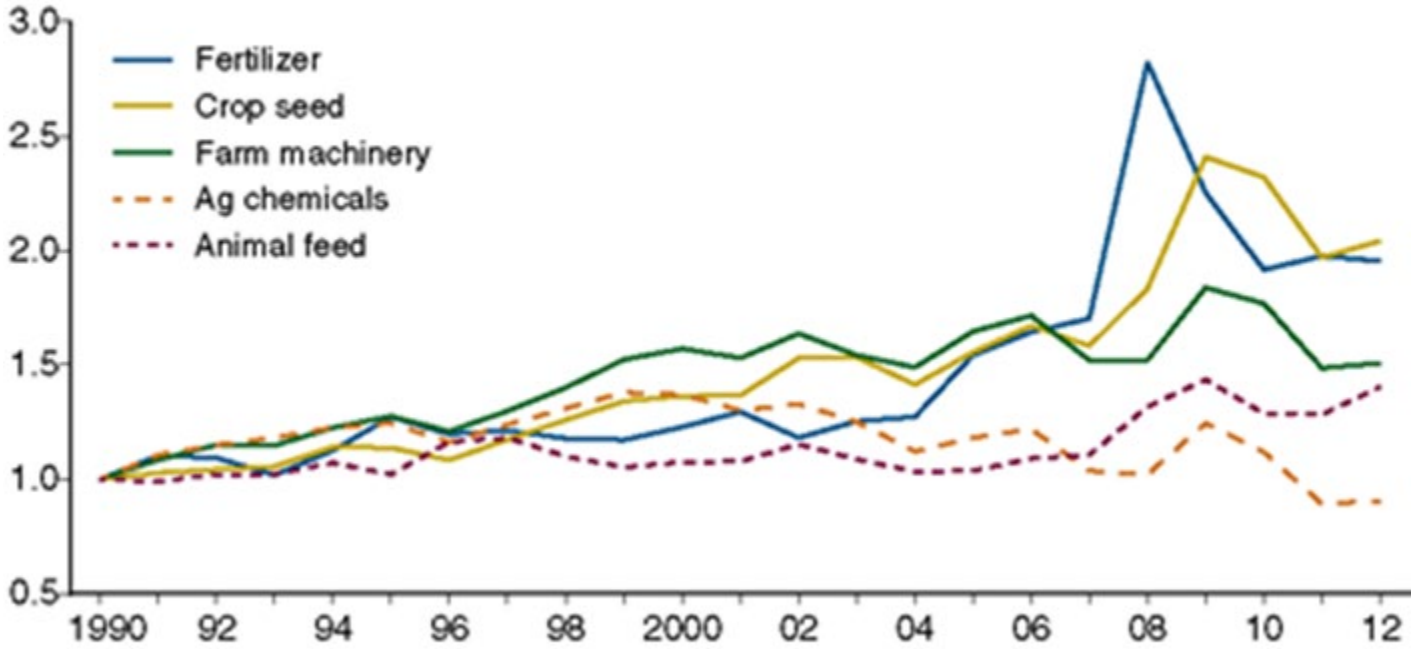
$$Cash\ Rent = Base\ Rent\ x\ \frac{Actual\ Crop\ Price}{Base\ Price}\ x\ \frac{Actual\ Yield}{Base\ Yield}\ x\ \frac{Base\ Input\ Costs}{Actual\ Input\ Costs}$$

- Note that since rent should be lower when input costs are higher than expected, the input cost ratio is base input cost over actual input cost

Farm Input Cost Trend

Agricultural input prices have risen faster than farm commodity prices in the U.S.

Index of agricultural input relative to output prices



Prices paid by U.S. farmers for farm inputs divided by prices received for farm commodities (indexes, 1990=1.00).

Source: USDA, Economic Research Service.

Example

- Base cash rent is $110
  - Base price = $11/bu, actual price = $12/bu
  - Base yield = 40 bu/ac, actual yield = 36 bu/ac
  - Base input costs = $250/ac, actual costs = $260/ac

$$Cash\ Rent = Base\ Rent\ x\ \frac{Actual\ Crop\ Price}{Base\ Price}\ x\ \frac{Actual\ Yield}{Base\ Yield}\ x\ \frac{Base\ Input\ Costs}{Actual\ Input\ Costs}$$

$$= \$110\ per\ acre\ x\ \frac{\$12\ per\ bushel}{\$11\ per\ bushel}\ x\ \frac{36\ bushels}{40\ bushels}\ x\ \frac{\$250\ per\ acre}{\$260\ per\ acre}$$

$$= \$94.41\ per\ acre$$

Crop or Livestock Share Leases

- Rent is a specified share of the crop or livestock produced
- Landowner and tenant share
  - Production and marketing decisions
  - Expenses associated with operation
  - Production and price risk

Example

Table 1 (cont). Crop Approach to Crop Share Arrangements

	Item	Total or per acre value		Rate or life	Annual Charge	Landowner	Tenant
Shared Items							
28.	Fertilizer	Enter Charge Only For Items Shared			$34.80	$11.63	$23.17
29.	Lime				$18.00	$6.02	$11.98
30.	Crop Insurance				$0.00	$0.00	$0.00
31.	Operating Interest				$1.58	$0.53	$1.05
32.							
33.	Total shared costs (Add Lines 28-32)				$54.38	$18.18	$36.20
34.	TOTAL COSTS (Line 26 + Line 33)				$497.82	$166.38	$331.44
35.	Percent total costs = Line 34 Landowner (Tenant) / Line 34 Total Annual Charge				100%	33.42%	66.58%
Income							
36.	Soybeans	40 bushels	x	$12.65	$506.00	$169.11	$336.89
37.	SPARC Assessment	40 bushels		(0.05%)	($2.53)	($0.85)	($1.68)
38.					$0.00	$0.00	$0.00
39.	Total Income (Lines 44-46)				$503.47	$168.26	$335.21
40.	Percent crop share = Line 39 Landowner (Tenant) / Line 39 Total Annual Charge				100%	33.42%	66.58%

Hybrid Leases

- Some combination of the above
- Examples (greenhouse)
  - Guaranteed lease – rent is predetermined by square footage
  - Minimum cash lease – fixed minimum rent plus a percentage of
    - Crop sales or Gross sales above some amount
- Landowner and Tenant share production and/or price risk

Example

- Recent case
  - 12 acres of pasture in Montgomery county, base rent is set at $25/acre, plus the proceeds of one calf.

Putting it Together

- Owners should have a clear understanding of their costs
- Tenants should have production records that will allow them to determine how much they can afford to pay
- Communication is Key!

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