

Estimating a cash rental rate for cropland

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Cash rent lease agreements are popular because the lease is simple, the rent is fixed, and the owner is relieved of making operating and marketing decisions. Likewise, the tenant has maximum freedom to plan and develop the cropping and livestock programs. The risk and returns from changing prices, yields and costs are all borne by the tenant.

Types of cash rent

A farm may be rented for a fixed amount per acre for all acres in the farm (e.g. 160 acres in a quarter section) regardless of the number or acres of cropland, pasture, buildings or waste. This is referred to as a whole-farm rental rate. Or, the farm may be rented for a fixed amount per cropland acre (i.e. 145 acres cropland in a 160 acre farm) with a different rental rate for any pasture or buildings.

Normally whole farm rental rates are lower than cropland rental rates because the land that is not cropped is often of lower productivity or not used. Exceptions are building sites and grain storage facilities.

Approaches for determining a rental rate

Determining a fair rate is not easy. Cash rents are likely to be too low during periods of rising prices and high yields and too high during periods of declining prices and low yields. Rates often reflect the results of the past few years more than the upcoming year.

An estimated a cash rental rate for cropland can be based on:

- what others are charging or paying
- average yields
- corn suitability ratings (CSR index)
- share of gross crop value
- return on investment
- crop share equivalent
- tenant's residual

What others are charging or paying

The most common method of establishing a cash rent is to set a rate similar to what other people in the area are charging. Extension publication FM-1851, "Cash Rental Rates for Iowa," shows typical rental rates reported for high, medium, and low quality cropland in each county in Iowa.

This method assumes that what others are charging is fair and equitable. A landowner receiving less rent per acre than the neighbors feels that he/she is not receiving what is rightfully due. However, a landowner receiving more than a neighbor may feel that he/she is being unfair to the tenant.

There are three potential pitfalls with this approach:

- Charging what others are charging may not be appropriate for a particular farm. Remember that most other tenants and landowners are in the same position you are. They are looking for someone to tell them what rental rate is fair and equitable. If you use this method, compare your rate to many other rates instead of just one.
- Rumors about cash rental rates may be quite different than the actual rates, especially in a rapidly changing market.
- Differences in the quality of land should be taken into account when comparing your rental rate to those of others. Landlords who are unfamiliar with farming often assume all land is of equal productivity. So, when using this method, be sure to compare your rate to rates for land of comparable quality, based on actual yields or productivity indices.

Average Yields

A cash rental rate can be based on a farm's average yields for the past five or ten years. For example, assume the average rental rates in your county are \$1.02 per bushel for corn and \$3.30 per bushel for soybeans, based on the latest survey information. If your farm has an average corn yield of 160 bu. per acre this results in a rental rate of \$163 ($\$1.02 \times 160 \text{ bu.} = \163) per acre. An average soybean yield of 50 bushels per acre results in a rental rate of \$165 ($\$3.30 \times 50 \text{ bu.} = \165) per acre.

Corn Suitability Ratings

Corn Suitability Rating (CSR) is a farmland productivity index. CSR values range up to 100 for the most productive soils in Iowa. Each soil type in Iowa has a CSR index rating. By identifying the soil types and acres of each soil type in a tract of land, a weighted average CSR rating can be computed for the tract. CSR values for a particular tract of land can be obtained from the county assessor's office. Remember to include only the land suitable for row crop production in the estimate.

A cropland cash rental rate can be computed by multiplying the average CSR by a rental rate per CSR point. For example, assume a typical rental rate per CSR index point of \$2.00 for your county. A tract of land with a CSR of 75 would have a rental rate of \$150 ($\$2.00 \times 75 \text{ CSR} = \150) per acre.

Share of Gross Crop Value

Cash rental rates tend to follow the gross value of the crops being produced. The table below shows average cash rents in Iowa as a percent of the gross value of corn and soybeans in recent years. The higher of the harvest cash market price or the USDA loan rate each year was used to compute the gross crop value, so that potential income from loan deficiency payments or

marketing loans is included. Direct and counter-cyclical payments from the USDA are not included, however. Rents have generally averaged about 35 to 40 percent of gross crop value from corn and 45 to 50 percent of gross crop value from soybeans. These percentages and estimated yields and prices for the coming year can be used to estimate a fair cash rental rate.

Table 1. Average Iowa Cash Rent as a Percent of Gross Crop Value

Year	Average cash rent per acre	Average gross crop value, \$/acre*		Average cash rent as % of gross crop value	
	Iowa	Corn	Soybeans	Corn	Soybeans
1997	\$ 119	\$ 338	\$ 305	35%	39%
1998	\$ 119	\$ 277	\$ 253	43%	47%
1999	\$ 117	\$ 282	\$ 252	42%	46%
2000	\$ 120	\$ 272	\$ 229	44%	52%
2001	\$ 122	\$ 276	\$ 231	44%	53%
2002	\$ 124	\$ 368	\$ 256	34%	48%
2003	\$ 128	\$ 339	\$ 228	38%	56%
2004	\$ 131	\$ 371	\$ 266	35%	49%
2005	\$ 135	\$ 337	\$ 299	40%	45%
2006	\$ 137	\$ 459	\$ 300	30%	46%
Average	\$ 125	\$332	\$262	38%	48%

*Iowa average yield x Oct.-Dec. average cash price for Iowa (National Ag Statistics Service)

Return on Investment

Another method is to multiply the estimated current market value for cropland by an expected rate of return. Surveys show that cash rents for good cropland in Iowa in recent years have averaged about 4 to 5 percent of current land values.

Table 2. Rental rates and land values

Land value	\$3,000	\$4,000
Rate of return	4 to 5 %	4 to 5 %
Rental rate	\$120 to \$150	\$160 to \$200

Estimates of current land market values are available in Extension publication FM-1825, "Iowa Land Value Survey." However, this method is rather imprecise, especially during periods of rapidly changing land values.

Crop Share Equivalent

Another way of calculating cash rental rates is to estimate the return that would be received from a 50-50 crop-share lease. With a crop-share lease, the owner's return is automatically adjusted by changes in yield, selling price, and input amounts and prices. However, to compute a cash rental rate using this method, estimates of yields, selling prices, and input costs must be made for the coming year, which is sometimes difficult to do.

An example using this method is presented in Table 3. Use five-year or ten-year average yields and current prices for harvest delivery. If prices are below the USDA county loan rate, use the loan rate instead, to reflect potential loan deficiency payments. Next, include the landowner's half of the USDA direct payments for the coming year. Then subtract the landowner's half of the seed, fertilizer, pesticides and other shared expenses. Property taxes are not included because they would be incurred under any type of lease.

Table 3. Crop share equivalent

Income per acre	Corn	Soybeans
Yield (1/2)	80 bu.	25 bu.
Price	\$3.25	\$8.00
USDA payments(1/2)	\$12	\$12
Total income to owner	\$272	\$212
Expenses per acre		
Seed (1/2)	\$27	\$16
Fertilizer (1/2)	41	24
Pesticides (1/2)	12	7
Crop insurance (1/2)	5	4
Drying and storage (1/2)	14	0
Miscellaneous (1/2)	4	4
Interest (1/2)	5	3
Total expenses paid by owner	\$108	\$58
Net return to owner	\$164	\$154

In the example, the landowner will receive a rent of \$164 and \$154 from corn and soybeans respectively. With a corn/soybean rotation, the average return will be \$159 per acre.

Tenant's residual

Another approach is to calculate how much income the tenant has available for rent payments after subtracting all the tenant's costs associated with producing the crop.

As in Table 3, you first need to estimate yields, selling prices, and government payments. Then subtract the operating expenses. Next, subtract the tenant's cost of machinery and equipment ownership. This includes depreciation, a return on investment, insurance, and machinery housing. Some people contend that these costs (fixed costs) are incurred by the tenant whether the land is rented or not and need not be considered when determining a rental rate. But in the long run, these costs are incurred on all acres farmed and must be paid. Finally, a charge for the tenant's labor and management is subtracted. The remaining amount is available for the payment of cash rent.

Based on the example values in Table 4, \$190 is available for rent payment from corn production and \$182 from soybean production. With a corn/soybean rotation, the average amount available for rent payment is \$186 per acre.

Table 4. Tenant's residual

Income per acre	<u>Corn</u>	<u>Soybeans</u>
Yield	160 bu.	50 bu.
Price	\$3.00	\$8.00
USDA payments, per acre	\$25	\$25
Total income	\$505	\$400
Operating costs per acre		
Seed	\$54	\$32
Fertilizer	82	49
Pesticides	24	15
Crop insurance	9	7
Drying and storage	29	0
Miscellaneous	9	9
Fuel and repairs	31	21
Interest	<u>10</u>	<u>6</u>
Total operating costs	\$248	\$155
Machinery ownership	\$42	26
Labor	29	27
Management (estimate at 5% of other costs)	16	10
Total all costs	\$335	\$218
Residual to tenant	\$190	\$182

Remember, no allowance has been made for risk due to variations in crop prices and yields. With a cash rent lease, the tenant assumes all of the risk. So the tenant should be compensated for assuming this risk. Do this by either using conservative price and yield estimates or adjusting the rental rate downward.

References

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