KANSAS FARM MANAGEMENT & MARKETING HANDBOOK

KSU Farm Management Guide MF-2161

Corn Cost-Return Budget in North Central Kansas

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Cost-Return Projections

Cost-return projections provide estimated costs and returns for forward farm planning. They are crop and region-of-Kansas specific. Production costs for individual farmers will vary considerably due to the amounts of fertilizer and chemicals applied, the type and amount of farm machinery owned, and land costs.

Yield Level

Cost per bushel and net returns in crop production are highly dependent on yields. The following estimated budget includes three different yield levels. The three yield levels are intended to represent expected yields of varying land quality for a given level of management. Land values, government payments, and various inputs vary as yield levels vary. Crop insurance was not included in the budget as an input expense because yields reflect an average of all years (good and bad). If crop insurance is included as an input expense, then an expected value for indemnity payments should be included in the returns section. Historically, MPCI indemnity payments have exceeded premiums due to government subsidies.

Variable and Fixed Costs

Table 1 shows some of the assumptions used to develop this budget. See MF-942, *Cost-Return Budgets — Nonirrigated Crops*, for herbicide and insecticide usage.

Variable costs, such as labor, fertilizer, repairs, and fuel-oil, are costs that vary with the level of production. Labor requirements include time for management and marketing, whether operator or hired labor. Interest on variable costs is estimated by using one-half of the accumulated variable costs for the year.

Fixed costs do not vary with the level of production and are incurred by virtue of owning assets such as land and machinery. Machinery investment was estimated for an average-sized farm to meet tillage, planting, and harvest requirements. Salvage value of machinery was assumed to be 35 percent of the initial investment. Interest on machinery was calculated on one-half the average investment [(initial investment + salvage value)÷2]. Land costs are based on owned land. If the land is cash rented, the cost of rent per acre should be listed on line 18 and no taxes or interest shown on lines 16 and 17. If land is rented on a cropshare basis, rent is reflected in the yield.

Profit and Return Factors

Net return on investment is the percentage return on investment. This measure enables comparisons to be made among other enterprises and investment alternatives. If the land market is efficient, the return on investment for land of varying qualities should be approximately equal. If the return on investment from lower quality land is low relative to the returns on investment from land of higher quality, this is a signal that the land is overpriced relative to better quality land.

Table 1. Factors Used for Cost-Return Budget

	Yield Level (bu)			
Item	**62**	**82**	**102**	
Fertilizer:				
N (Anhy.)	60	80	100	$0.15/lb
N (Dry)	10	10	10	$0.23/lb
P	30	30	30	$0.27/lb
K	0	0	0	$0.14/lb
Lime	0	0	0	$0.0045/lb
Seed, seeds/acre	22,800	22,800	22,800	
Seed price, $/1,000 seeds	$1.20	$1.20	$1.20	
Labor hours	2.73	3.00	3.27	
Labor price/hour				$10.80
Land value/acre	$535	$670	$805	
Land interest rate				6.00%
Land real estate value				0.50%
Machinery investment				$260
Machinery life				10 yrs
Salvage value				35.00%
Interest rate on machinery				10.00%
Insurance rate on machinery				0.25%
Interest on variable costs				10.00%

COST-RETURN PROJECTION — CORN — NORTH CENTRAL KANSAS

	Yield Level (bu)			Your
	62	**82**	**102**	**Farm**
VARIABLE COSTS PER ACRE:[1]				
1. Labor	$ 29.48	$ 32.40	$ 35.32	
2. Seed	27.36	27.36	27.36	
3. Herbicide	20.95	20.95	20.95	
4. Insecticide	15.03	15.03	15.03	
5. Fertilizer and Lime	19.40	22.40	25.40	
6. Fuel and Oil	7.46	8.19	8.93	
7.				
8. Machinery and Equipment Repairs	16.38	18.00	19.62	
9.				
10. Crop Insurance				
11. Drying	6.20	8.20	10.20	
12. Custom Hire				
13. Crop Consulting				
14. Miscellaneous	7.00	7.00	7.00	
15. Interest on 1/2 Variable Costs	7.46	7.98	8.49	
A. TOTAL VARIABLE COSTS	$ 156.72	$ 167.51	$ 178.30	
FIXED COSTS PER ACRE:[1]				
16. Real Estate Taxes	2.68	3.35	4.03	
17 Interest on Land[2]	32.10	40.20	48.30	
18. Rent for Rented Land				
19. Depreciation on Crop Machinery	16.90	16.90	16.90	
20. Interest on Crop Machinery[3]	17.55	17.55	17.55	
21.				
22.				
23. Insurance on Machinery	0.65	0.65	0.65	
B. TOTAL FIXED COSTS	$ 69.88	$ 78.65	$ 87.43	
C. TOTAL COSTS (A + B)	$ 226.60	$ 246.16	$ 265.72	
D. YIELD PER ACRE	62	82	102	
E. PRICE PER BUSHEL[4]	$ 2.16	$ 2.16	$ 2.16	
F. NET GOVERNMENT PAYMENT[4]	$ 11.34	$ 12.33	$ 13.32	
G. INDEMNITY PAYMENTS	$	$	$	
H. MISCELLANEOUS INCOME	$	$	$	
I. RETURNS PER ACRE [(D × E) + F + G + H]	$ 145.26	$ 189.45	$ 233.64	
J. RETURNS OVER VARIABLE COSTS (I – A)	$ –11.46	$ 21.94	$ 55.34	
K. RETURNS OVER TOTAL COSTS (I – C)	$ –81.33	$ –56.71	$ –32.09	
L. VARIABLE COSTS PER BUSHEL (A ÷ D)	$ 2.53	$ 2.04	$ 1.75	
M. TOTAL COSTS PER BUSHEL (C ÷ D)	$ 3.65	$ 3.00	$ 2.61	
N. NET RETURN ON INVESTMENT [(K+15+17+20) ÷ INVESTMENT][5]	-3.05%	0.97%	3.97%	

[1]Totals were derived using information listed in Table 1. [2]Assumes interest rate shown in Table 1. [3]Assumes one-half the average investment [(initial investment + salvage value) ÷ 2] at the interest rate shown in Table 1. [4]See MF-1013 "Prices for Crop and Livestock Cost-Return Budgets" and MF-2236 "Government Program Payments for Crop Cost Return Budgets" for additional information on crop prices and program payments. [5]Investment equals total value of all fixed assets shown in Table 1.

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