KANSAS FARM MANAGEMENT & MARKETING HANDBOOK

KSU Farm Management Guide MF-2150

No-Till Corn Cost-Return Budget (W-C-F Rotation) in Western Kansas

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No-Till Farming

Moisture conservation is the primary goal of reduced tillage programs. When herbicides are used in place of conventional tillage practices, weeds which deplete soil moisture are eliminated. Crop residue remains standing which reduces moisture evaporation from the soil surface and increases moisture captured from snowfall. Additional benefits of no-till farming over conventional tillage include increased erosion control, energy conservation, and reduced labor requirements. Crop residue requirements for conservation compliance are met more easily under no-till practices.

Effects of No-till on Cost Structure

Since weed control is achieved by herbicide use in no-till systems rather than with tillage, there is a shift among variable costs detailed in the following estimated crop budget. Herbicide costs increase markedly from a conventional tillage system, but fuel expense, labor, and equipment repairs decrease. The move from conventional tillage to no-till will alter machinery investment with the diminished need for tillage equipment offset by the increased need for spraying equipment.

Yield Goals, Return Factors

Cost per bushel and net returns in crop production are highly dependent on yields. The following estimated budget includes three different yield levels. Yield goals vary for a number of reasons such as soil type or land quality, historical weather patterns, input levels, and management. Budgeting for alternative yield goals can help producers examine the financial risk of a crop enterprise that is directly related to production risk as well as to compare the profitability of crop enterprises on farmland tracts with varying yield potentials. Multi-peril crop insurance expenses at a 65 percent yield level are included in this budget as a cost of managing production risk in an area prone to great yield variability. Land values have been adjusted for alternative yield goals in this budget. In customizing this budget to fit your farm, attention should be given to using land values representative of your farm's productive capacity. Projections of net percentage return on investment permit comparisons to be made among alternative enterprises and other investments.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (bu) 65	75	85	
Fertilizer:				
N (Anhy.)	65	80	95	$0.15/lb
N (Dry)	0	0	0	$0.23/lb
P	20	20	20	$0.27/lb
K	0	0	0	$0.14/lb
Lime	0	0	0	$0.0045/lb
Seed, seeds/acre	18,000	18,000	22,000	
Seed price, $/1,000 seeds	$1.20	$1.20	$1.20	
Labor hours	0.94	1.00	1.06	
Labor price/hour				$10.80
Land value/acre*	$430	$540	$650	
Land interest rate				6.00%
Land real estate tax rate				0.50%
Machinery investment**				$188
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%

**All land costs were computed and then multiplied by a factor of 1.5 to account for fallow land (two crops every three years).*

***Investment required per crop and fallow acres.*

COST-RETURN PROJECTION — NO-TILL CORN (W-C-F ROTATION) — WESTERN KANSAS

	Yield Level (bu)			Your
	65	75	85	Farm
VARIABLE COSTS PER ACRE:[1]				
1. Labor	$ 10.17	$ 10.80	$ 11.43	
2. Seed	21.60	21.60	26.40	
3. Herbicide	30.03	30.03	30.03	
4. Insecticide	0.75	0.75	0.75	
5. Fertilizer and Lime	15.15	17.40	19.65	
6. Fuel and Oil	3.39	3.60	3.80	
7.				
8. Machinery and Equipment Repairs	11.23	11.92	12.61	
9.				
10. Crop Insurance	4.88	4.87	5.04	
11. Drying	6.50	7.50	8.50	
12. Custom Hire				
13. Crop Consulting				
14. Miscellaneous	5.00	5.00	5.00	
15. Interest on ½ Variable Costs	5.43	5.67	6.16	
A. TOTAL VARIABLE COSTS	$ 114.13	$119.14	$129.37	
FIXED COSTS PER ACRE:[1]				
16. Real Estate Taxes	3.23	4.05	4.88	
17 Interest on Land[2]	38.70	48.60	58.50	
18. Rent for Rented Land				
19. Depreciation on Crop Machinery	12.22	12.22	12.22	
20. Interest on Crop Machinery[3]	12.69	12.69	12.69	
21.				
22.				
23. Insurance on Machinery	0.47	0.47	0.47	
B. TOTAL FIXED COSTS	$ 67.31	$ 78.03	$ 88.76	
C. TOTAL COSTS (A + B)	$ 181.44	$197.17	$ 218.13	
D. YIELD PER ACRE	65	75	85	
E. PRICE PER BUSHEL[4]	$ 2.34	$ 2.34	$ 2.34	
F. NET GOVERNMENT PAYMENT[4]	$ 11.77	$ 12.80	$ 13.82	
G. INDEMNITY PAYMENTS	$	$	$	
H. MISCELLANEOUS INCOME	$	$	$	
I. RETURNS PER ACRE [(D × E) + F + G + H]	$ 163.87	$ 188.30	$ 212.72	
J. RETURNS OVER VARIABLE COSTS (I – A)	$ 49.74	$ 69.16	$ 83.35	
K. RETURNS OVER TOTAL COSTS (I – C)	$ -17.57	$ -8.87	$ -5.41	
L. VARIABLE COSTS PER BUSHEL (A ÷ D)	$ 1.76	$ 1.59	$ 1.52	
M. TOTAL COSTS PER BUSHEL (C ÷ D)	$ 2.79	$ 2.63	$ 2.57	
N. NET RETURN ON INVESTMENT [(K+15+17+20) ÷ INVESTMENT][5]	4.71%	5.82%	6.19%	

[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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