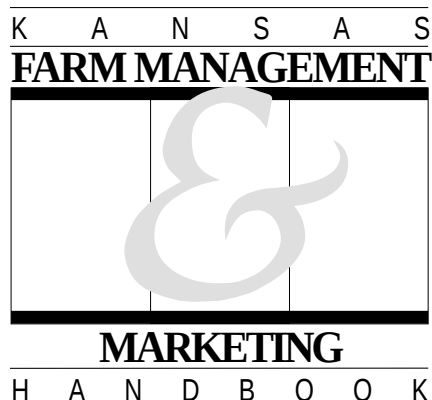




Flood-Irrigated Ridge-Till Corn Cost-Return Budget

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Producing flood-irrigated corn under a ridge-till cropping system has several advantages over conventional tillage. Profit potential is increased through decreased per-acre variable costs. Fewer tillage operations before planting reduce labor, fuel, and machinery repair expenses. Herbicide expense also is reduced, as most chemicals are band-applied rather than broadcast. After several years, weed pressure is often decreased, resulting in lower chemical application rates and usage. Another potential saving is the possibility of applying less irrigation water, reducing pumping costs, and irrigation equipment repairs.

Ridge-till requires a different level of management than conventional tillage. Residue management and distribution are major concerns during the first watering with furrow irrigation. Water flow through the field can be a problem and could require increased labor during the initial watering period. It is crucial that implement tires do not disturb the ridges. This may require adjustments in machinery tire size and spacing so that travel is confined to the area within the furrows. Some benefits of ridge-till (reduced weed pressure, improved yields) are only seen after several years of continuous ridge-till. It is important that producers commit to ridge-till for a minimum of 3 years to assess its effect fully.

Making the switch from conventional to ridge-till will require an added machinery investment. The amount of extra investment will vary depending on whether old machinery is modified or new machinery is purchased. With time, less machinery investment is required under ridge-till.

Expected Yields and Enterprise Returns

Crop production costs per unit and net returns are highly dependent on yields. The following estimated budget includes three different yield levels, which are intended to represent expected yields for land of varying quality for a given level of management. Alternative expected yields can help producers compare the profitability of crop enterprises on farmland tracts with varying yield potentials. Land values, government payments and some variable inputs have been adjusted for alternative yield levels in this budget. In customizing this budget to 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 or other investments.

Crop insurance was not included as an input expense in this budget 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.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (bu)			
	150	180	210	
Water, 260 TDH	20 in	22 in	24 in	\$3.39/inch
Fertilizer:				
N (Anhy.)	133	160	186	\$0.15/lb
N (Dry)	44	53	62	\$0.24/lb
P	64	77	90	\$0.18/lb
K	0	0	0	\$0.14/lb
Lime	0	0	0	\$0.01/lb
Seed,				
seeds/acre	28,000	32,000	36,000	
Seed price,				
\$/1000 seeds	\$1.19	\$1.19	\$1.19	
Labor hours	2.57	2.85	3.13	
Labor price/hour				\$10.80
Land value/acre	\$611	\$764	\$917	
Land interest rate				6.00%
Land real estate tax				0.50%
Machinery investment				\$208
Machinery life				10 yrs
Salvage value				35%
Well, pump and gearhead value				\$250.00
Well, pump and gearhead life				15 yrs
Power unit and meter value				\$32.50
Power unit and meter life				7 yrs
Irrigation system value				\$32.86
Irrigation system life				10 yrs
Interest rate on machinery and equipment				10.00%
Insurance rate on machinery and equipment				0.25%
Interest on variable costs				10.00%

COST-RETURN PROJECTION — FLOOD-IRRIGATED RIDGE-TILL CORN

	Yield Level (bu)			Your
	150	180	210	Farm
VARIABLE COSTS PER ACRE:¹				
1. Labor	\$ 27.76	\$ 30.78	\$ 33.80	
2. Seed	33.32	38.08	42.84	
3. Herbicide	25.91	25.91	25.91	
4. Insecticide	39.70	39.70	39.70	
5. Fertilizer and Lime	42.03	50.58	58.98	
6. Fuel and Oil — Crop	15.50	17.19	18.87	
7. Fuel and Oil — Pumping ²	67.80	74.58	81.36	
8. Machinery and Equipment Repairs	22.37	24.80	27.23	
9. Irrigation Repairs and Maintenance	4.00	4.40	4.80	
10. Crop Insurance				
11. Drying	15.00	18.00	21.00	
12. Custom Hire ³				
13. Crop Consulting	6.50	6.50	6.50	
14. Miscellaneous	8.00	8.00	8.00	
15. Interest on 1/2 Variable Costs	15.40	16.93	18.45	
A. TOTAL VARIABLE COSTS	\$ 323.30	\$355.45	\$ 387.44	
FIXED COSTS PER ACRE:¹				
16. Real Estate Taxes (including well)	4.31	5.07	5.84	
17. Interest on Land and Well ⁴	51.66	60.84	70.02	
18. Rent for Rented Land ⁵				
19. Depreciation on Crop Machinery	13.52	13.52	13.52	
20. Interest on Crop Machinery ⁶	14.04	14.04	14.04	
21. Depreciation on Irrigation Equipment and Well	24.60	24.60	24.60	
22. Interest on Irrigation Equipment ⁶	3.27	3.27	3.27	
23. Insurance on Machinery and Equipment	0.68	0.68	0.68	
B. TOTAL FIXED COSTS	\$ 112.07	\$ 122.02	\$ 131.96	
C. TOTAL COSTS (A + B)	\$ 435.37	\$477.46	\$ 519.40	
D. YIELD PER ACRE	150	180	210	
E. PRICE PER BUSHEL⁷	\$ 2.10	\$ 2.10	\$ 2.10	
F. NET GOVERNMENT PAYMENT⁷	\$ 8.67	\$ 9.42	\$ 10.17	
G. INDEMNITY PAYMENTS	\$	\$	\$	
H. MISCELLANEOUS INCOME	\$	\$	\$	
I. RETURNS PER ACRE [(D × E) + F + G + H]	\$ 323.67	\$ 387.42	\$ 451.17	
J. RETURNS OVER VARIABLE COSTS (I – A)	\$ 0.37	\$ 31.97	\$ 63.73	
K. RETURNS OVER TOTAL COSTS (I – C)	\$ -111.70	\$ -90.04	\$ -68.23	
L. VARIABLE COSTS PER BUSHEL (A ÷ D)	\$ 2.16	\$ 1.97	\$ 1.84	
M. TOTAL COSTS PER BUSHEL (C ÷ D)	\$ 2.90	\$ 2.65	\$ 2.47	
N. NET RETURN ON INVESTMENT				
[(K+15+17+20+22) ÷ INVESTMENT] ⁸	-2.41%	0.39%	2.61%	

¹Totals were derived using information listed in Table 1. ²See MF-836, "Irrigation Capital Requirements and Energy Costs." ³If using custom hire, adjust lines 6, 8, 19, and 20. ⁴Assumes interest rate shown in Table 1. ⁵If cash rented, insert zero in lines 16 and 17. ⁶Assumes one-half the average investment [(initial investment + salvage value) ÷ 2] at the interest rate shown in Table 1. ⁷See 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. ⁸Investment equals total value of all fixed assets shown in Table 1.

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