

Flood-Irrigated Corn Cost-Return Budget in Western Kansas

Department of Agricultural Economics



Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Troy J. Dumler
Agricultural Economist, SW

Curtis R. Thompson
Crops and Soils, SW

Roger Stockton
Crops and Soils, NW

This budget provides cost and return estimates for furrow flood irrigated corn in western Kansas. Feed demand from the area's cattle feeding complex and developing hog industry make irrigated corn an important crop for the agricultural and overall economy of the western one-third of Kansas. The majority of irrigated corn production in Kansas is located in the western one-third of the state, averaging nearly 186 million bushels during the 2000-2002 period, or 51 percent of the state's total corn production during that period.

Income Per Acre

Crop production costs per unit and net returns are highly dependent on yields. The following estimated budgets include three different yield levels, which are intended to represent expected yields for land of varying quality for a given level of management. Producers can compare the profitability of crop enterprises on farmland tracts with varying yield potential by considering alternative expected yield scenarios. Land values and government payments have been adjusted for alternative yield levels in this budget.

Price per bushel represents an expected harvest price in Scott City, Kan., accounting for government marketing

Table 1. Production Inputs — Flood-Irrigated Corn

Item	Yield Level (bu)			
	160	190	220	
Seed, 1,000/a	28	32	36	\$1.16/1,000
Fertilizer:				
N (anhydrous)	216	257	297	\$0.20/lb
N	0	0	0	\$0.28/lb
P	69	82	94	\$0.23/lb
K	0	0	0	\$0.15/lb
Lime	0	0	0	\$0.01/lb
Herbicide				
Bicep II Magnum	2.0	2.0	2.0	\$10.24/qt
Marksman	2.0	2.0	2.0	\$3.97/pt
+ Aim	0.33	0.33	0.33	\$5.95/oz
+ Adjuvants	1.0	1.0	1.0	\$1.00/a
Insecticide / Fungicide				
Force 3G	5.4	5.4	5.4	\$4.38/lb
Capture 2EC	0.08	0.08	0.08	\$207.30/lb
Irrigation water, in	18	21	24	\$2.53/in

Table 2. Machinery and Land Resources — Flood-Irrigated Corn

Item	Yield Level (bu)			Custom Rate	Farm Rate
	160	190	220		
Tillage/Planting/Chemical Applications:					
Chisel/disk	2	2	2	\$6.34	\$8.01/a
Field cultivate	1	1	1	\$6.16	\$7.78/a
Bed/furrow	1	1	1	\$6.72	\$8.49/a
Plant	1	1	1	\$8.54	\$10.79/a
Anhydrous application	1	1	1	\$5.90	\$7.45/a
Fertilizer application	0	0	0	\$3.58	\$4.52/a
Herbicide application	2	2	2	\$3.81	\$4.81/a
Insecticide / fungicide application	1	1	1	\$3.90	\$4.93/a
Harvest					
Base charge	1	1	1	\$19.15	\$24.19/a
Extra charge for yields exceeding	0	0	0	\$0.000	\$0.000/bu
Hauling	160	190	220	\$0.132	\$0.167/bu
Non-machinery labor	1.31	1.37	1.42		\$10.00/hr
Irrigation labor	1.00	1.00	1.00		\$10.00/hr
Land value/acre	\$612	\$765	\$917		
Interest on capital					7.0%
Irrigation Equipment	Investment, \$/a		Years	Salvage value	
Well, pump and gearhead value	\$305.00		25	0%	
Power unit and meter	\$45.00		7	0%	
Irrigation system	\$34.00		20	0%	

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loan price support levels. Corn producers in other regions of western Kansas should use an expected price that is representative for their location.

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, crop insurance indemnity payments have exceeded premiums due to government subsidies.

Costs Per Acre

Production costs at the three production levels are shown on lines 1 through 13. Kansas Custom Rates for specific field operations are used to represent fuel and labor costs as well as machinery repair, depreciation, and interest expenses in these budgets. Table 1 identifies the typical seed, fertilizer, herbicide, insecticide, and irrigation water requirements (rate and cost/unit) for flood-irrigated corn. Herbicide requirements include both pre-crop and in-crop treatments. Table 2 outlines the machinery, irrigation equipment, and land resources used for flood-irrigated corn. Each tillage, planting, and harvest operation is identified.

COST-RETURN PROJECTION — FLOOD-IRRIGATED CORN

	Yield Level (bu)			Your Farm
	160	190	220	
INCOME PER ACRE				
A. Yield per acre	160	190	220	
B. Price per bushel	\$ 2.27	\$ 2.27	\$ 2.27	
C. Net government payment	\$ 37.35	\$ 40.60	\$ 43.85	
D. Indemnity payments	\$	\$	\$	
E. Miscellaneous income	\$	\$	\$	
F. Returns/acre ((A × B) + C + D + E)	\$ 400.55	\$471.90	\$543.25	
COSTS PER ACRE				
1. Seed	\$ 32.48	\$ 37.12	\$ 41.76	
2. Herbicide	31.38	31.38	31.38	
3. Insecticide / Fungicide	40.24	40.24	40.24	
4. Fertilizer and Lime	59.07	70.26	81.02	
5. Crop Consulting	6.50	6.50	6.50	
6. Crop Insurance				
7. Drying				
8. Miscellaneous	10.00	10.00	10.00	
9. Custom Hire / Machinery Expense	115.93	120.93	125.94	
10. Non-machinery Labor	13.10	13.67	14.23	
11. Irrigation				
a. Labor	10.00	10.00	10.00	
b. Fuel and Oil	45.54	53.13	60.72	
c. Repairs and Maintenance	3.78	4.41	5.04	
d. Depreciation on Equipment and Well	20.33	20.33	20.33	
e. Interest on Equipment	13.44	13.44	13.44	
12. Land Charge / Rent	35.19	43.96	52.73	
G. SUB TOTAL	\$ 436.98	\$ 475.37	\$513.32	
13. Interest on 1/2 Nonland Costs	12.88	13.92	14.94	
H. TOTAL COSTS	\$ 449.86	\$ 489.28	\$528.26	
I. RETURNS OVER COSTS (F - H)	\$ -49.30	\$ -17.38	\$ 14.99	
J. TOTAL COSTS/BUSHEL (H ÷ A)	\$ 2.81	\$ 2.58	\$ 2.40	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-8.34%	-0.73%	5.83%	

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-578

October 2003

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