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Corn Cost-Return Budget in South Central Kansas

Department of Agricultural Economics — *www.agmanager.info*

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South central Kansas historically has accounted for only a small portion of the total non-irrigated corn acres in the state (1.4 percent of total acres from 1980-84). However, non-irrigated corn production has been increasing steadily in south central Kansas for the last two decades (5.2 percent of total acres from 1995-99). This increase in corn acres is likely the result of improvements in hybrids as well as the trend for producers to conserve moisture by reducing tillage. As with many south central Kansas crops, corn is produced using various crop rotation and tillage systems. No-till acres in the region are increasing, however, this budget is based on a limited amount of tillage as that currently is the prevalent system.

Income Per Acre

Crop production costs per unit and net returns are highly dependent on yields. The following estimated budget includes three yield levels, which are intended to represent expected yields for land of varying quality for a given level of management. Yield levels are based on trend-adjusted data from Kansas Agricultural Statistics and the South Central Kansas Farm Management Association. Comparing alternative expected yields can help producers analyze the profitability of crop enterprises on farmland tracts with varying yield potential. Land values and government payments have been adjusted for alternative yield levels in this budget. In customizing a budget to your farm, attention should be given to using land values representative of your farm's productive capacity as well farm-specific government payments.

Table 1. *Production Inputs — Corn*

	Yield Level (bu)			
Item	70	90	110	
Seed, 1,000/a*	18	21	23	$1.49/1,000
Fertilizer:**				
N (anhydrous)	68	86	105	$0.29/lb
N	15	20	25	$0.40/lb
P	30	39	47	$0.25/lb
K	0	0	0	$0.20/lb
Lime	500	500	500	$0.01/lb
Herbicide				
Bicep Lite II Magnum (PRE)	2.0	2.0	2.0	$13.17/qt
Atrazine 4L + crop oil	2.0	2.0	2.0	$3.96/pt
Insecticide / Fungicide				
Seed treatment	1.0	1.0	1.0	$1.00/a

** Bt seed*

*** Reduce N by 30 pounds if following soybeans*

Price per bushel represents an expected harvest price in Hutchinson, Kan., accounting for government marketing loan price support levels. Producers in other areas of south central Kansas should use an expected price representative of their location. Typically, a reasonable price expectation is the futures market adjusted by the historical basis for a particular location, where basis = cash price – futures price.

Table 2. *Machinery and Land Resources — Corn*

	Yield Level (bu)			Custom
Item	70	90	110	Rate
Tillage/Planting/Chemical Applications:				
Chisel	0	0	0	$8.56/a
Disk	1	1	1	$7.36/a
Field cultivate	1	1	1	$6.75/a
Plant	1	1	1	$11.35/a
Anhydrous application	1	1	1	$7.46/a
Fertilizer application	1	1	1	$4.07/a
Herbicide application	1	1	1	$4.34/a
Cultivate with sidedress N	1	1	1	$7.24/a
Harvest				
Base charge	1	1	1	$21.62/a
Extra charge for yields exceeding	76	76	76	$0.154/bu
Hauling	70	90	110	$0.127/bu
Non-machinery labor	0.89	0.95	1.01	$10.00/hr
Land value/a	$584	$730	$876	5.10%
Interest on capital				8.0%

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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 typically exceeded premiums due to government subsidies.

Costs Per Acre

Production costs at the three yield 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. Table 1 identifies seed, fertilizer, herbicide, and insecticide requirements (rate and cost/unit) for corn. Herbicide requirements include both pre-crop and in-crop treatments. Table 2 outlines the machinery and land resources used for corn produced in a reduced tillage system.

COST-RETURN PROJECTION — CORN — SOUTH CENTRAL KANSAS

	Yield Level (bu)			Your
	70	**90**	**110**	**Farm**
INCOME PER ACRE				
A. Yield per acre	70	90	110	
B. Price per bushel	$ 2.39	$ 2.39	$ 2.39	
C. Net government payment	$ 15.79	$ 17.16	$ 18.53	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 183.09	$ 232.26	$ 281.43	
COSTS PER ACRE				
1. Seed	$ 26.82	$ 31.29	$ 34.27	
2. Herbicide	34.27	34.27	34.27	
3. Insecticide / Fungicide	1.00	1.00	1.00	
4. Fertilizer and Lime	38.22	47.69	57.20	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	5.75	5.75	5.75	
9. Custom Hire / Machinery Expense	79.08	83.78	89.40	
10. Non-machinery Labor	8.94	9.47	10.10	
11. Irrigation				
a. Labor				
b. Fuel and Oil				
c. Repairs and Maintenance				
d. Depreciation on Equipment and Well				
e. Interest on Equipment				
12. Land Charge / Rent	29.78	37.23	44.68	
G. SUB TOTAL	$ 223.86	$ 250.47	$ 276.66	
13. Interest on ½ Nonland Costs	7.76	8.53	9.28	
H. TOTAL COSTS	$ 231.62	$ 259.00	$ 285.94	
I. RETURNS OVER COSTS (F - H)	$ –48.53	$ –26.74	$ –4.51	
J. TOTAL COSTS/BUSHEL (H ÷ A)	$ 3.31	$ 2.88	$ 2.60	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-18.21%	-7.27%	1.73%	

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