

Soybean Cost-Return Budget in South Central Kansas

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The 1996 Federal Agricultural Improvement and Reform Act gave south central Kansas grain producers near-complete planting flexibility. As a result of this planting flexibility as well as changing technologies, soybeans are becoming more popular as a rotation crop in south central Kansas. An advantage of including soybeans in a rotation is that they break weed and insect cycles that may exist in a monoculture environment. As with many south central Kansas crops, soybeans are produced using various crop rotation and tillage systems. This budget is based on planting Roundup Ready soybeans without tillage (i.e., no-till) as that is the system most commonly used.

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 — Soybean

Item	Yield Level (bu)			
	20	27	35	
Seed, 1,000/a*	120	135	150	\$0.18/1,000
Fertilizer:				
N (anhydrous)	0	0	0	\$0.21/lb
N	0	0	10	\$0.30/lb
P	18	24	31	\$0.24/lb
K	0	0	0	\$0.16/lb
Lime	500	500	500	\$0.01/lb
Herbicide				
Roundup Ultra Max II	22.0	22.0	22.0	\$0.26/oz
+ 2% Ammonium Sulfate	1.5	1.5	1.5	\$0.24/lb
Roundup Ultra Max II	22.0	22.0	22.0	\$0.26/oz
+ 2% Ammonium Sulfate	1.5	1.5	1.5	\$0.24/lb
Insecticide / Fungicide				

* Roundup Ready

Price per bushel represents an expected harvest price in Hutchinson, Kan., accounting for government marketing loan price support levels. Soybean producers in other areas of south central Kansas should use an expected price rep-

Table 2. Machinery and Land Resources — Soybean

ITEM	Yield Level (bu)			Custom Rate	Farm Rate*
	20	27	35		
Tillage/Planting/Chemical Applications:					
Chisel	0	0	0	\$8.02	\$10.17/a
Disk	0	0	0	\$6.42	\$8.14/a
Field cultivate	0	0	0	\$6.18	\$7.84/a
No-till plant	1	1	1	\$10.90	\$13.83/a
Anhydrous application	0	0	0	\$6.18	\$7.84/a
Fertilizer application	0	0	0	\$3.68	\$4.67/a
Herbicide application	2	2	2	\$3.85	\$4.88/a
Insecticide / fungicide application	0	0	0	\$3.92	\$4.97/a
Harvest					
Base charge	1	1	1	\$19.35	\$24.55/a
Extra charge for yields exceeding	0	0	0	\$0.000	\$0.000/bu
Hauling	20	27	35	\$0.124	\$0.157/bu
Non-machinery labor	0.58	0.59	0.61		\$10.00/hr
Land value/acre	\$536	\$670	\$804		
Interest on capital					7.0%

* Farm Rate equals Custom Rate x 126.5%

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.

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 soybeans. Herbicide requirements include both pre-crop and in-crop treatments. Table 2 outlines the machinery and land resources used for no-till soybeans.

COST-RETURN PROJECTION — SOYBEANS — SOUTH CENTRAL KANSAS

	Yield Level (bu)			Your Farm
	20	27	35	
INCOME PER ACRE				
A. Yield per acre	20	27	35	
B. Price per bushel.....	\$ 5.53	\$ 5.53	\$ 5.53	
C. Net government payment.....	\$ 14.12	\$ 15.35	\$ 16.58	
D. Indemnity payments.....	\$	\$	\$	
E. Miscellaneous income	\$	\$	\$	
F. Returns/acre ((A × B) + C + D + E)	\$ 124.72	\$ 164.66	\$ 210.13	
COSTS PER ACRE				
1. Seed	\$ 21.60	\$ 24.30	\$ 27.00	
2. Herbicide.....	12.29	12.29	12.29	
3. Insecticide / Fungicide				
4. Fertilizer and Lime.....	9.32	10.76	15.44	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	5.75	5.75	5.75	
9. Custom Hire / Machinery Expense	51.29	52.39	53.65	
10. Non-machinery Labor.....	5.80	5.92	6.06	
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	30.82	38.53	46.23	
G. SUB TOTAL	\$ 136.87	\$ 149.94	\$ 166.42	
13. Interest on ½ Nonland Costs.....	3.71	3.90	4.21	
H. TOTAL COSTS	\$ 140.58	\$ 153.84	\$ 170.63	
I. RETURNS OVER COSTS (F - H).....	\$ -15.86	\$ 10.82	\$ 39.50	
J. TOTAL COSTS/BUSHEL (H ÷ A)	\$ 7.03	\$ 5.70	\$ 4.88	
K. RETURN TO ANNUAL COST (I + 13) ÷ G.....	-8.87%	9.82%	26.26%	

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