Soybean Cost-Return Budget in Southeast Kansas

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Eight of the state's top 10 soybean producing counties are in southeast Kansas. However, it is not unusual for southeast Kansas to have the lowest per acre soybean yields in the state, typically caused by a period of low rainfall. Yields per acre can vary significantly and one year's performance is rarely a good predictor of future yields, depending upon planting date, maturity group, variety and the area's rainfall pattern. Despite this fluctuation, soybean acres remain high in southeast Kansas year after year. Two major changes in soybean production in recent years have been the discovery of Soybean Cyst Nematode (SCN) and the availability of Roundup Ready technology. Roundup Ready soybeans make up the majority of acres planted in the area and in an effort to mimic the management practices of producers in southeast Kansas, this budget was developed assuming the use of Roundup Ready technology. The following budget outlines the expected costs and returns for soybeans in southeast Kansas.

Table 1. *Production Inputs — Soybean*

Item	Yield Level (bu) 20	30	40	
Seed, 1,000/acre*	130.0	130.0	140.0	$0.22/1,000
Fertilizer:				
N (anhydrous)	0	0	0	$0.29/lb
N	0	0	0	$0.40/lb
P	25	30	35	$0.25/lb
K	30	30	40	$0.20/lb
Lime	333	333	333	$0.01/lb
Herbicide				
Roundup Ultra	3.0	3.0	3.0	$5.37/pt
+ 2% Ammonium Sulfate	3.0	3.0	3.0	$0.26/lb
Insecticide / Fungicide				

** Roundup Ready (inoculated and treated with fungicide)*

Income per Acre

Crop production costs per unit 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 and government payments 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 production capacity.

Price per bushel represents an expected harvest price in Emporia, Kan. Producers in other regions of southeast Kansas should account for local basis (cash price – futures price) when making their own price forecasts.

Table 2. *Machinery and Land Resources — Soybean*

Item	Yield Level (bu) 20	30	40	Custom Rate
Tillage/Planting/Chemical Applications:				
Chisel	0	1	1	$8.56/a
Disk	1	1	1	$7.36/a
Field cultivate	2	1	1	$6.75/a
Plant	1	1	1	$9.63/a
Anhydrous application	0	0	0	$7.46/a
Fertilizer application	1	1	1	$4.07/a
Herbicide application	2	2	2	$4.34/a
Insecticide / fungicide application	0	0	0	$4.33/a
Harvest				
Base charge	1	1	1	$21.58/a
Extra charge for yields exceeding	26	26	26	$0.145/bu
Hauling	20	30	40	$0.139/bu
Non-machinery labor	0.76	0.81	0.84	$10.00/hr
Land value/a	$770	$962	$1,154	5.10%
Interest on capital				8.0%

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.

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, and insecticide requirements (rate and cost/unit) for conventional till soybeans. Each tillage, planting, and harvest operation is identified. Table 2 outlines the machinery and land resources used for conventional till soybeans. Each tillage, planting, and harvest operation is identified.

COST-RETURN PROJECTION — SOYBEANS — SOUTHEAST KANSAS

	Yield Level (bu)			Your
	20	**30**	**40**	**Farm**
INCOME PER ACRE				
A. Yield per acre	20	30	40	
B. Price per bushel	$ 6.02	$ 6.02	$ 6.02	
C. Net government payment	$ 11.03	$ 11.99	$ 12.95	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 131.43	$ 192.59	$ 253.75	
COSTS PER ACRE				
1. Seed	$ 28.87	$ 28.87	$ 31.09	
2. Herbicide	16.89	16.89	16.89	
3. Insecticide / Fungicide				
4. Fertilizer and Lime	15.58	16.83	20.08	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	7.00	7.00	7.00	
9. Custom Hire / Machinery Expense	67.60	71.38	74.22	
10. Non-machinery Labor	7.64	8.07	8.39	
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	39.27	49.06	58.85	
G. SUB TOTAL	$ 182.85	$ 198.09	$ 216.52	
13. Interest on ½ Nonland Costs	5.74	5.96	6.31	
H. TOTAL COSTS	$ 188.59	$ 204.06	$ 222.82	
I. RETURNS OVER COSTS (F - H)	$ –57.16	$ –11.47	$ 30.92	
J. TOTAL COSTS/BUSHEL (H ÷ A)	$ 9.43	$ 6.80	$ 5.57	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-28.12%	-2.78%	17.20%	

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