

Soybean Cost-Return Budget in Western Kansas

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The 1996 Federal Agricultural Improvement and Reform Act gave western Kansas grain producers near-complete planting flexibility. In an intensified dryland wheat-summer crop-fallow cropping system, soybeans are a viable summer crop alternative. The primary advantage of including soybeans in a dryland cropping system is that they are less input intensive relative to some alternative summer crops. Also, the addition of soybean processing plants in western Kansas offers producers a market for their soybeans. Following is a cost-return budget for no-till soybeans in a wheat-soybean-fallow (W-SB-F) rotation in western Kansas.

Income Per Acre

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 potential. 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 productive capacity.

Price per bushel represents an expected harvest price in Scott City, Kan. Producers in other regions of western

Table 1. Production Inputs — Wheat-Soybean-Fallow

Item	Yield Level (bu)			
	20	27	35	
Seed, 1,000/acre*	120	120	120	\$0.16/1,000
Fertilizer:				
N (anhydrous)	0	0	0	\$0.16/lb
N	0	0	0	\$0.23/lb
P	17	26	31	\$0.21/lb
K	0	0	0	\$0.14/lb
Lime	0	0	0	\$0.01/lb
Herbicide				
RT Master + 2,4-D + Additive	1.0	1.0	1.0	\$6.72/ac
RT Master + 2,4-D + Additive	1.0	1.0	1.0	\$6.72/ac
Roundup Ultra + Adjuvants	1.0	1.0	1.0	\$8.90/ac
Roundup Ultra + Adjuvants	1.0	1.0	1.0	\$8.90/ac
Insecticide / Fungicide				

* Roundup Ready

Table 2. Machinery and Land Resources — Wheat-Soybean-Fallow

ITEM	Yield Level (bu)			
	20	27	35	
Tillage/Planting/Chemical Applications:				
Sweep	0	0	0	\$5.13/ac
Disk	0	0	0	\$5.60/ac
Field cultivate	0	0	0	\$5.74/ac
No-till plant	1	1	1	\$10.78/ac
Anhydrous application	0	0	0	\$5.23/ac
Fertilizer application	0	0	0	\$3.64/ac
Herbicide application	4	4	4	\$3.61/ac
Insecticide application	0	0	0	\$3.66/ac
Harvest				
Base charge	1	1	1	\$19.47/ac
Extra charge for yields exceeding	28	28	28	\$0.122/bu
Hauling	20	27	35	\$0.118/bu
Non-machinery labor	0.50	0.50	0.50	\$10.00/hr
Irrigation labor	0.00	0.00	0.00	\$10.00/hr
Land value/acre	\$406	\$508	\$610	6.00%
Interest on capital				8.0%

Kansas should account for local basis (cash price – futures price) when making their own price forecasts.

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, and insecticide requirements (rate and cost/unit) for no-till soybeans. Herbicide requirements include both pre-crop and in-crop treatments. Table 2 outlines the machinery and land resources used for no-till soybeans in a wheat-soybean-fallow rotation. Each tillage, planting, and harvest operation is identified.

COST-RETURN PROJECTION — SOYBEANS (W-SB-F ROTATION) — WESTERN KANSAS

	Yield Level (bu)			Your
	20	27	35	Farm
INCOME PER ACRE				
A. Yield per acre	20	27	35	
B. Price per bushel	\$ 5.03	\$ 5.03	\$ 5.03	
C. Net government payment	\$ 22.15	\$ 24.07	\$ 26.00	
D. Indemnity payments	\$	\$	\$	
E. Miscellaneous income	\$	\$	\$	
F. Returns/acre ((A × B) + C + D + E)	\$ 122.75	\$ 159.88	\$ 202.05	
COSTS PER ACRE				
1. Seed	\$ 19.20	\$ 19.20	\$ 19.20	
2. Herbicide	31.24	31.24	31.24	
3. Insecticide / Fungicide				
4. Fertilizer and Lime	3.57	5.46	6.51	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	5.50	5.50	5.50	
9. Custom Hire / Machinery Expense	47.05	47.88	49.63	
10. Non-machinery Labor	5.00	5.00	5.00	
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	36.54	45.72	54.90	
G. SUB TOTAL	\$ 148.10	\$ 159.99	\$ 171.98	
13. Interest on 1/2 Nonland Costs	4.46	4.57	4.68	
H. TOTAL COSTS	\$ 152.56	\$ 164.56	\$ 176.66	
I. RETURNS OVER COSTS (F - H)	\$ -29.81	\$ -4.68	\$ 25.38	
J. TOTAL COSTS/BUSHEL (H ÷ A)	\$ 7.63	\$ 6.09	\$ 5.05	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-17.12%	-0.07%	17.48%	

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2366

October 2001

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