

Soybean Cost-Return Budget in Western Kansas

Department of Agricultural Economics — www.agmanager.info

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Troy J. Dumler
Agricultural Economist

Daniel M. O'Brien
Agricultural Economist

Brian L.S. Olson
Crops and Soils, NW

Kent L. Martin
Crops and Soils, SW

The 1996 Federal Agricultural Improvement and Reform Act provided western Kansas grain producers with near-complete planting flexibility. Soybeans may be a viable summer crop alternative in an intensified dryland wheat-summer crop-fallow cropping system. The primary advantage of including soybeans in these cropping systems 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 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 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. In customizing a budget to your farm, attention should be given to using land values representative of your farm's productive capacity and local farmland market conditions.

Table 1. Production Inputs — Wheat-Soybean-Fallow

Item	Yield Level (bu)			
	20	27	35	
Seed, 1,000/a*	120	120	120	\$0.33/1,000
Fertilizer:				
N (anhydrous)	0	0	0	\$0.33/lb
N	0	0	0	\$0.50/lb
P	17	26	31	\$0.51/lb
K	0	0	0	\$0.42/lb
Lime	0	0	0	\$0.01/lb
Herbicide				
RT3 + 2,4-D + Additive	1.0	1.0	1.0	\$7.60/a
Glyhposate + Adjuvants	1.0	1.0	1.0	\$4.52/a
Glyhposate + Adjuvants	1.0	1.0	1.0	\$4.52/a

*Roundup Ready

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

Item	Yield Level (bu)			Custom Rate
	20	27	35	
Tillage/Planting/Chemical Applications:				
Sweep	0	0	0	\$7.82/a
Disk	0	0	0	\$9.20/a
Field cultivate	0	0	0	\$9.15/a
No-till plant	1	1	1	\$14.32/a
Anhydrous application	0	0	0	\$10.99/a
Fertilizer application	0	0	0	\$4.96/a
Herbicide application	4	4	4	\$5.10/a
Insecticide application	0	0	0	\$5.10/a
Harvest				
Base charge	1	1	1	\$26.76/a
Extra charge for yields exceeding	28	28	28	\$0.209/bu
Hauling	20	27	35	\$0.189/bu
Non-machinery labor	0.57	0.58	0.60	\$13.00/hr
Land charge/rent	\$44.40	\$55.50	\$66.60	
Interest on capital				7.0%

Price per bushel represents an expected harvest price in Scott City, Kan. Producers in other regions of western 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, than 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 1-13. 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 Farm
	20	27	35	
INCOME PER ACRE				
A. Yield per acre	20	27	35	
B. Price per bushel	\$ 10.26	\$ 10.26	\$ 10.26	
C. Net government payment	\$ 11.22	\$ 12.20	\$ 13.17	
D. Indemnity payments	\$	\$	\$	
E. Miscellaneous income.....	\$	\$	\$	
F. Returns/acre ((A × B) + C + D + E)	\$ 216.42	\$ 289.22	\$ 372.27	
COSTS PER ACRE				
1. Seed	\$ 39.60	\$ 39.60	\$ 39.60	
2. Herbicide	16.64	16.64	16.64	
3. Insecticide / Fungicide				
4. Fertilizer and Lime	8.59	13.13	15.66	
5. Crop Consulting.....				
6. Crop Insurance				
7. Drying				
8. Miscellaneous.....	5.50	5.50	5.50	
9. Custom Hire / Machinery Expense.....	65.26	66.58	69.56	
10. Non-machinery Labor	7.37	7.52	7.86	
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.....	44.40	55.50	66.60	
G. SUB TOTAL	\$ 187.36	\$ 204.48	\$ 221.41	
13. Interest on ½ Nonland Costs	5.00	5.21	5.42	
H. TOTAL COSTS	\$ 192.36	\$ 209.69	\$ 226.83	
I. RETURNS OVER COSTS (F - H)	\$ 24.06	\$ 79.53	\$ 145.44	
J. TOTAL COSTS/BUSHEL (H ÷ A)	\$ 9.62	\$ 7.77	\$ 6.48	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	15.51%	41.44%	68.13%	

Publications from Kansas State University are available on the World Wide Web at: www.ksre.ksu.edu.

Publications are reviewed or revised annually by appropriate faculty to reflect current research and practice. Date shown is that of publication or last revision. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Troy J.

Dumler et al., *Soybean Cost-Return Budget in Western Kansas*, Kansas State University, November 2010.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2366

November 2010

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Gary Pierzynski, Interim Director.