Soybean Cost-Return Budget in Western Kansas

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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.

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

Table 1. *Production Inputs — Wheat-Soybean-Fallow*

Item	Yield Level (bu) 20	27	35	
Seed, 1,000/a*	120	120	120	$0.18/1,000
Fertilizer:				
N (anhydrous)	0	0	0	$0.21/lb
N	0	0	0	$0.30/lb
P	17	26	31	$0.24/lb
K	0	0	0	$0.16/lb
Lime	0	0	0	$0.01/lb
Herbicide				
RT Master II + 2,4-D + Additive	1.0	1.0	1.0	$5.66/a
RT Master II + 2,4-D + Additive	1.0	1.0	1.0	$5.66/a
Roundup Ultra Max II + Adjuvants	1.0	1.0	1.0	$6.79/a
Roundup Ultra Max II + Adjuvants	1.0	1.0	1.0	$6.79/a
Insecticide / Fungicide				

** Roundup Ready*

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

Item	Yield Level (bu) 20	27	35	Custom Rate	Farm Rate*
Tillage/Planting/Chemical Applications:					
Sweep	0	0	0	$5.47	$6.91/a
Disk	0	0	0	$6.42	$8.11/a
Field cultivate	0	0	0	$6.18	$7.81/a
No-till plant	1	1	1	$10.90	$13.77/a
Anhydrous application	0	0	0	$6.18	$7.81/a
Fertilizer application	0	0	0	$3.68	$4.65/a
Herbicide application	4	4	4	$3.85	$4.86/a
Insecticide application	0	0	0	$3.92	$4.95/a
Harvest					
Base charge	1	1	1	$19.35	$24.44/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	0.69	0.70	0.71		$10.00/hr
Land value/acre	$416	$520	$624		
Interest on capital					7.0%

** Farm Rate equals Custom Rate x 126.3%*

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 ma-

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	$ 5.48	$ 5.48	$ 5.48	
C. Net government payment	$ 11.22	$ 12.20	$ 13.17	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 120.82	$ 160.16	$ 204.97	
COSTS PER ACRE				
1. Seed	$ 21.60	$ 21.60	$ 21.60	
2. Herbicide	24.89	24.89	24.89	
3. Insecticide / Fungicide				
4. Fertilizer and Lime	4.08	6.24	7.44	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	5.50	5.50	5.50	
9. Custom Hire / Machinery Expense	60.79	61.89	63.14	
10. Non-machinery Labor	6.87	6.99	7.13	
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	35.88	44.85	53.82	
G. SUB TOTAL	$ 159.61	$ 171.96	$ 183.52	
13. Interest on ½ Nonland Costs	4.33	4.45	4.54	
H. TOTAL COSTS	$ 163.94	$ 176.40	$ 188.06	
I. RETURNS OVER COSTS (F - H)	$ -43.11	$ -16.25	$ 16.91	
J. TOTAL COSTS/BUSHEL (H ÷ A)	$ 8.20	$ 6.53	$ 5.37	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-24.30%	-6.86%	11.69%	

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2366 October 2004

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