



Wheat Cost-Return Budget (W-S-F Rotation) in Western Kansas

Department of Agricultural Economics



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Because of increased planting flexibility available to farmers through the 1996 Federal Agricultural Improvement and Reform Act and the incentive to increase profitability of nonirrigated crop enterprises, many Western Kansas crop producers are switching from traditional wheat-fallow rotations to more intensive wheat-spring crop-fallow rotations. The goal of farmers using these more intensive rotations is to increase crop production and income through effective soil moisture conservation and utilization. The primary spring crops to be considered in this rotation and their associated KSU Management Guides are as follows: grain sorghum (MF-904), corn (MF-2150), oil-type sunflowers (MF-887), confectionary sunflowers (MF-937), and cane hay (MF-997).

Yield Goals

Cost per bushel and net returns in crop production are highly dependent on yields. The following estimated budget includes three different yield levels. Yield goals vary for a number of reasons such as soil type/land quality, historical weather patterns, input levels, and management. Budgeting for alternative yield goals can help producers compare the profitability of crop enterprises on farmland tracts with varying yield potentials. Multi-peril crop insurance expenses at a 65 percent yield level are included in this budget as a cost of managing production risk in an area prone to great yield variability.

Variable and Fixed Costs, Return Factors

Variable costs such as fertilizer, repairs, and fuel-oil are costs that may vary with the level of production. The cost columns show the interest on the variable costs (Lines 1 through 15) for one-half year. Fixed costs do not vary with level of production and are incurred by virtue of owning

assets such as land and machinery. Land values have been adjusted for alternative yield goals in this budget. In customizing this budget to fit your farm, attention should be given to using land values representative of your farm's productive capacity. Projections of net percentage return on investment permit comparisons to be made among alternative enterprises or other investments.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (bu)			
	35	45	55	
Fertilizer:				
N (Anhy.)	40	60	75	\$0.17/lb
N (Dry)	0	0	0	\$0.31/lb
P	30	30	30	\$0.28/lb
K	0	0	0	\$0.13/lb
Lime	0	0	0	\$0.005/lb
Seed, lbs	45	55	70	
Seed price, \$/lb	\$0.20	\$0.20	\$0.20	
Labor hours	1.07	1.10	1.13	
Labor price/hour				\$10.80
Land value/acre*	\$420	\$525	\$630	
Land interest rate				6.00%
Land real estate tax				0.50%
Machinery investment**				\$190
Machinery life				10 yrs
Salvage value				35.00%
Interest rate on machinery				10.00%
Insurance rate on machinery				0.25%
Interest on variable costs				10.00%

*All land costs were computed and then multiplied by a factor of 1.5 to account for fallow land.

**Investment required per crop and fallow acres.

COST-RETURN PROJECTION—WHEAT (W-S-F ROTATION)—WESTERN KANSAS

	Yield Level (bu)			Your Farm
	35	45	55	
VARIABLE COSTS PER ACRE: ¹				
1. Labor	\$ 11.51	\$ 11.88	\$ 12.25	
2. Seed	9.00	11.00	14.00	
3. Herbicide	16.25	16.25	16.25	
4. Insecticide				
5. Fertilizer and Lime	15.20	18.60	21.15	
6. Fuel and Oil	6.15	6.35	6.54	
7.				
8. Machinery and Equipment Repairs	10.58	10.92	11.26	
9.				
10. Crop Insurance	4.99	4.95	5.55	
11. Drying				
12. Custom Hire				
13. Crop Consulting				
14. Miscellaneous	5.00	5.00	5.00	
15. Interest on 1/2 Variable Costs	3.93	4.25	4.60	
A. TOTAL VARIABLE COSTS	\$ 82.62	\$ 89.19	\$ 96.60	
FIXED COSTS PER ACRE: ¹				
16. Real Estate Taxes	3.15	3.94	4.73	
17 Interest on Land ²	37.80	47.25	56.70	
18. Rent for Rented Land				
19. Depreciation on Crop Machinery	12.35	12.35	12.35	
20. Interest on Crop Machinery ³	12.83	12.83	12.83	
21.				
22.				
23. Insurance on Machinery	0.48	0.48	0.48	
B. TOTAL FIXED COSTS	\$ 66.60	\$ 76.84	\$ 87.08	
C. TOTAL COSTS (A + B)	\$ 149.22	\$166.03	\$ 183.68	
D. YIELD PER ACRE	35	45	55	
E. PRICE PER BUSHEL ⁴	\$ 3.69	\$ 3.69	\$ 3.69	
F. NET GOVERNMENT PAYMENT ⁴	\$ 12.18	\$ 13.23	\$ 14.29	
G. INDEMNITY PAYMENTS	\$	\$	\$	
H. MISCELLANEOUS INCOME	\$	\$	\$	
I. RETURNS PER ACRE [(D × E) + F + G + H]	\$ 141.33	\$179.28	\$ 217.24	
J. RETURNS OVER VARIABLE COSTS (I – A)	\$ 58.71	\$ 90.09	\$ 120.64	
K. RETURNS OVER TOTAL COSTS (I – C)	\$ –7.89	\$ 13.25	\$ 33.56	
L. VARIABLE COSTS PER BUSHEL (A ÷ D)	\$ 2.36	\$ 1.98	\$ 1.76	
M. TOTAL COSTS PER BUSHEL (C ÷ D)	\$ 4.26	\$ 3.69	\$ 3.34	
N. NET RETURN ON INVESTMENT				
[(K+15+17+20) ÷ INVESTMENT] ⁵	5.69%	7.94%	9.49%	

¹Totals were derived using information listed in Table 1.²Assumes interest rate shown in Table 1.³Assumes one-half the average investment [(initial investment + salvage value) ÷ 2] at the interest rate shown in Table 1.⁴See MF-1013 “Prices for Crop and Livestock Cost-Return Budgets” and MF-2236 “Government Program Payments for Crop Cost Return Budgets” for additional information on crop prices and program payments.⁵Investment equals total value of all fixed assets shown in Table 1.**Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan, Kansas**

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