Alfalfa Cost-Return Budget in South Central and Southeast Kansas

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Historically, alfalfa has been one of the most profitable crops grown in south central and southeast Kansas. However, it is a very labor-intensive operation that forces producers to take on marketing responsibilities that are not associated with more commodity-based crops. As a result, many area producers are hesitant to go into alfalfa production because of the changes that it might mean to their cropping rotations, labor distribution, and machinery investments. Producers should be sensitive to a number of factors that contribute to the success of alfalfa production. Fertilizing based on soil testing and timely cuttings can increase yields by as much as 1.25 tons per acre. In addition, if alfalfa weevil is not controlled, producers can lose as much as forty percent of total yearly production by not being able to take the first cutting.

Alfalfa is a forage crop and thus and can be grazed. Grazing alfalfa frequently results in very strong average daily gains. However, cattle grazing alfalfa can bloat so producers wishing to graze alfalfa should take steps to be sure the cattle receive a bloat prevention product daily.

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

Table 1. *Production Inputs — Alfalfa **

Item	Yield Level (ton) 2.5	3.5	4.5	
Seed, lbs	3.0	3.0	3.0	$2.74/lb
Fertilizer:				
N (anhydrous)	0	0	0	$0.16/lb
N	0	0	0	$0.23/lb
P	30	40	50	$0.21/lb
K	30	40	60	$0.14/lb
Lime	500	500	500	$0.01/lb
Herbicide				
Pursuit	.38	.38	.38	$11.14/oz
Insecticide / Fungicide				
Warrior	0.03	0.03	0.03	$346.27/lb
Insecticide / Fungicide				

** Inputs represent annualized amounts over the 5-year stand.*

Table 2. *Machinery and Land Resources — Alfalfa **

ITEM	Yield Level (ton) 2.5	3.5	4.5	
Tillage/Planting/Chemical Applications:				
Disk	0.2	0.2	0.2	$6.28/ac
Harrow	0.4	0.4	0.4	$5.30/ac
Field cultivate	0.2	0.2	0.2	$5.80/ac
Drill	0.2	0.2	0.2	$7.61/ac
Anhydrous application	0	0	0	$6.03/ac
Fertilizer application	1	1	1	$3.36/ac
Herbicide application	.45	.45	.45	$3.58/ac
Insecticide / fungicide application	0	0	0	$3.66/ac
Harvest				
Swathing and conditioning	4	4	4	$8.51/ac
Sideraking	1	1	1	$3.12/ac
Baling (number of bales/acre)**	3.3	4.7	6.0	$10.66/bale
Non-machinery labor	0.00	0.00	0.00	$10.00/hr
Irrigation labor	0.00	0.00	0.00	$10.00/hr
Interest on capital				8.0%

** Machinery operations represent annualized amounts over the 5-year stand.*

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.

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 alfalfa. Each tillage, planting, and harvest operation is identified. Table 2 outlines the machinery and land resources used for alfalfa. Each tillage, planting, and harvest operation is identified.

COST-RETURN PROJECTION — ALFALFA — SOUTH CENTRAL AND SOUTHEAST KANSAS

	Yield Level (ton)			Your
	2.5	3.5	4.5	Farm
INCOME PER ACRE				
A. Yield per acre	2.5	3.5	4.5	
B. Price per ton	$ 90.67	$ 90.67	$ 90.67	
C. Net government payment	$ 12.80	$ 13.91	$ 15.03	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 239.47	$331.26	$423.04	
COSTS PER ACRE				
1. Seed	$ 8.22	$ 8.22	$ 8.22	
2. Herbicide	4.18	4.18	4.18	
3. Insecticide / Fungicide	10.39	10.39	10.39	
4. Fertilizer and Lime	15.50	19.00	23.90	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	6.38	6.38	6.38	
9. Custom Hire / Machinery Expense	83.67	97.95	112.13	
10. Non-machinery Labor				
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	34.98	43.74	52.50	
G. SUB TOTAL	$ 163.31	$189.85	$217.69	
13. Interest on 1/2 Nonland Costs	5.13	5.84	6.61	
H. TOTAL COSTS	$ 168.44	$195.69	$224.29	
I. RETURNS OVER COSTS (F - H)	$ 71.04	$135.56	$ 198.75	
J. TOTAL COSTS/TON (H ÷ A)	$ 67.38	$ 55.91	$ 49.84	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	46.64%	74.48%	94.34%	

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