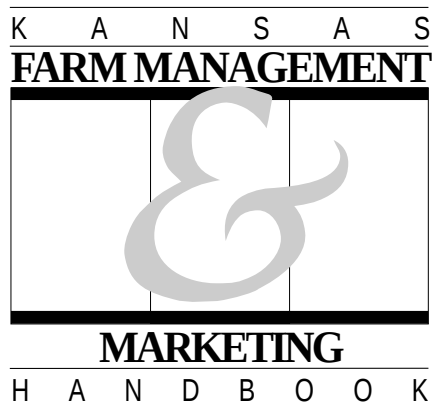




Fescue Hay Cost-Return Budget in Central and Eastern Kansas

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Resources

Typically fescue hay is cut with a tractor and mower, raked with a side delivery rake, baled with a large round baler, and moved to storage with a tractor and bale fork. Other equipment may include a swather and a trailer for hauling large bales. Labor per acre and per ton vary with size of equipment and distance to storage.

Yield Level

Cost per ton and net returns in crop production are highly dependent on yields. The following estimated budget includes three different yield levels. Yield levels vary for a number of reasons including soil type or land quality, weather, input levels, and management. The three yield levels reflect variability due to input levels and management as opposed to land quality since land values are held constant. Budgeting at multiple yield levels can help producers examine the financial risk of a crop enterprise that is directly related to production risk.

Variable and Fixed Costs

Variable costs, such as fertilizer, repairs, and fuel-oil, are costs that vary with level of production. Fuel-oil and machinery-equipment repair expenses are estimated by use of factors. Interest on variable costs is estimated by using one-half of the accumulated variable costs for the year.

Fixed costs do not vary with the level of production, and are incurred by virtue of owning assets such as land and machinery. If land is cash rented, the cost of the rent per acre should be listed on line 18 and no taxes or interest shown on lines 16 and 17. If land is rented on a cropshare basis, rent is reflected in yield.

In this projection, the cost of machinery and equipment is allocated to hay production in accordance with the hours the machine was used for this enterprise. Estimated equipment investment, based on 200 acres, for hay production is shown at right, above. Interest on machinery was calculated on one-half the average investment [(initial investment + salvage value) ÷ 2].

Equipment	Investment	% Used for Hay Production
Tractor (85 H.P.)	\$40,000	25
Tractor (65 H.P.)	25,000	35
Mower (9 ft.)	4,500	100
Rake (9 ft.)	3,500	100
Bale Fork	1,000	100
Baler	10,500	100

Profit and Return Factors

Net return on investment is the percentage return on investment. This measure enables comparisons to be made among other enterprises and investment alternatives. Asset turnover is the percentage of investment recovered by total returns.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (ton)			
	1.0	2.3	3.0	
Fertilizer*:				
N (Anhy.)	0	0	0	\$0.17/lb
N (Dry)	0	80	100	\$0.30/lb
P	0	30	30	\$0.28/lb
K	0	10	10	\$0.13/lb
Lime	500	500	500	\$0.005/lb
Seed, lbs**	18	18	18	
Seed price, \$/lb	\$0.75	\$0.75	\$0.75	
Labor hours	1.25	1.40	1.70	
Labor price/hour				\$9.00
Land value/acre				\$425
Land interest rate				6.00%
Land real estate tax rate				0.50%
Machinery investment				\$191
Machinery life				10 yrs
Salvage value				20.00%
Interest rate on machinery				10.00%
Insurance rate on machinery				0.25%
Interest on variable costs				10.00%

*An additional 60 pounds nitrogen, 40 pounds phosphate, and 60 pounds potash applied at seeding time prorated over 10 years

**Prorated over 10 years

COST-RETURN PROJECTION — FESCUE HAY — CENTRAL AND EASTERN

	Yield Level (ton)			Your Farm
	1.0	2.3	3.0	
VARIABLE COSTS PER ACRE: ¹				
1. Labor	\$ 11.25	\$ 12.60	\$ 15.30	
2. Seed	1.35	1.35	1.35	
3. Herbicide				
4. Insecticide				
5. Fertilizer and Lime	6.20	39.90	45.90	
6. Fuel and Oil	4.65	5.10	5.40	
7.				
8. Machinery and Equipment Repairs	8.65	8.65	8.65	
9.				
10. Crop Insurance				
11. Drying				
12. Custom Hire				
13. Crop Consulting				
14. Miscellaneous	5.25	5.25	5.25	
15. Interest on 1/2 Variable Costs	1.87	3.64	4.09	
A. TOTAL VARIABLE COSTS	\$ 39.22	\$ 76.49	\$ 85.94	
FIXED COSTS PER ACRE: ¹				
16. Real Estate Taxes	2.13	2.13	2.13	
17 Interest on Land ²	25.50	25.50	25.50	
18. Rent for Rented Land				
19. Depreciation on Crop Machinery	15.28	15.28	15.28	
20. Interest on Crop Machinery ³	11.46	11.46	11.46	
21.				
22.				
23. Insurance on Machinery	0.48	0.48	0.48	
B. TOTAL FIXED COSTS	\$ 54.84	\$ 54.84	\$ 54.84	
C. TOTAL COSTS (A + B)	\$ 94.06	\$ 131.34	\$ 140.79	
D. YIELD PER ACRE	1.0	2.3	2.8	
E. PRICE PER TON ⁴	\$ 55.00	\$ 55.00	\$ 55.00	
F. NET GOVERNMENT PAYMENT ⁴				
G. RETURNS PER ACRE [(D × E) + F]	\$ 55.00	\$ 126.50	\$ 154.00	
H. RETURNS OVER VARIABLE COSTS (G-A)	\$ 15.78	\$ 50.01	\$ 68.06	
I. RETURNS OVER TOTAL COSTS (G-C)	\$ -39.06	\$ -4.83	\$ 13.22	
J. VARIABLE COSTS PER TON (A ÷ D)	\$ 39.22	\$ 33.26	\$ 30.69	
K. FIXED COSTS PER TON (B ÷ D)	\$ 54.84	\$ 23.84	\$ 19.59	
L. TOTAL COSTS PER TON (C ÷ D)	\$ 94.06	\$ 57.10	\$ 50.28	
M. ASSET TURNOVER (G ÷ INVESTMENT) ⁵	8.93%	20.54%	25.00%	
N. NET RETURN ON INVESTMENT [(I+15+17+20) ÷ INVESTMENT] ⁵	-0.04%	5.81%	8.81%	

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.**COOPERATIVE EXTENSION SERVICE, MANHATTAN, KANSAS**

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