



Fescue Hay

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Resources

Typically brome or 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 Levels

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 such as soil type, land quality, weather, input levels, and management. The three yield levels included in this estimated budget reflects yield 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 are costs that vary with level of production such as fertilizer, repairs, and fuel-oil. 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 by level of production, and are incurred by virtue of owning assets such as land and machinery. If the land is rented, use line 17 in lieu of lines 15 and 16.

In this projection, the cost of machinery and equipment is allocated to hay production in accordance with the hours that 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 is estimated on one-half the value of machinery investment plus salvage value.

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 between other enterprises as well as other investment alternatives. Asset turnover is the percentage of investment

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (ton)			
	1.00	2.30	2.80	
Fertilizer:				
N (Anhy.)	0	0	0	\$0.19/lb
N (Dry)	0	80	100	\$0.29/lb
P	0	30	30	\$0.27/lb
K	0	10	10	\$0.13/lb
Lime	500	500	500	\$0.01/lb
Seed, lbs.	18	18	18	
Seed cost, \$/lb.	\$0.75	\$0.75	\$0.75	
Labor Hours	1.25	1.40	1.70	
Labor Price/Hour				9.00
Land Value/Acre				\$390.00
Land Interest Rate				6.00%
Machinery Investment				\$191.00
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%

COST-RETURN PROJECTION—FESCUE HAY

	Yield Level (ton)			Your Farm
	1.0	2.5	3.0	
VARIABLE COSTS PER ACRE:				
1. Labor (_____ hrs × \$9.00/hr)	\$11.25	\$12.60	\$15.30	
2. Seed (18 lbs × \$0.75 ÷ 10 yrs)	1.35	1.35	1.35	
3. Herbicide and Insecticide				
4. Fertilizer and Lime	6.10	38.70	44.50	
5. Fuel and Oil	4.65	5.10	5.40	
6.				
7. Machinery & Equipment Repairs	8.65	8.65	8.65	
8.				
9. Crop Insurance				
10. Drying				
11. Custom Hire				
12. Crop Consulting				
13. Miscellaneous	6.25	6.25	6.25	
14. Interest on 1/2 Variable Costs @ 10%	1.91	3.63	4.07	
A. TOTAL VARIABLE COSTS	\$40.16	\$76.28	\$85.52	
FIXED COSTS PER ACRE:				
15. Real Estate Taxes @ 0.5%	1.95	1.95	1.95	
16. Interest on Land ¹ (\$390/A × 6%)	23.40	23.40	23.40	
17. Rent for Rented Land				
18. Depreciation on Crop Machinery	15.28	15.28	15.28	
19. Interest on Crop Machinery ² @10%	11.46	11.46	11.46	
20.				
21.				
22. Insurance on Machinery @ 0.25%	0.48	0.48	0.48	
B. TOTAL FIXED COSTS	\$52.57	\$52.57	\$52.57	
C. TOTAL COSTS (A + B)	\$92.73	\$128.85	\$138.09	
D. YIELD PER ACRE	1.0	2.3	2.8	
E. PRICE PER TON	\$60.00	\$60.00	\$60.00	
F. NET GOVERNMENT PAYMENT ³				
G. RETURNS PER ACRE ((D × E) + F)	\$60.00	\$138.00	\$168.00	
H. RETURNS OVER VARIABLE COSTS (G-A)	\$19.84	\$61.72	\$82.48	
I. RETURNS OVER TOTAL COSTS (G-C)	\$ -32.73	\$9.15	\$29.91	
J. VARIABLE COSTS PER TON (A ÷ D)	\$40.16	\$33.17	\$30.54	
K. FIXED COSTS PER TON (B ÷ D)	\$52.57	\$22.86	\$18.77	
L. TOTAL COSTS PER TON (C ÷ D)	\$92.73	\$56.02	\$49.32	
M. ASSET TURNOVER (G ÷ INVESTMENT) ⁴	10.33%	23.75%	28.92%	
N. NET RETURN ON INVESTMENT ((I+14+16+19) ÷ INVESTMENT) ⁴	0.70%	8.20%	11.85%	

¹Assumes interest rate shown in Table 1.²Assumes one-half the (original cost plus salvage value) at the interest rate shown in Table 1.³Net government payment equals yield per acre (D) times expected deficiency payment minus prorated cost of set-aside acres. Based on 15% flex acres and 5% ARP. The price used was a five-year average price. The twelve month national average price for the crop year. The 1995 farm program may have major changes.⁴Investment equals total value of all fixed assets shown in Table 1.**COOPERATIVE EXTENSION SERVICE, MANHATTAN, KANSAS**

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