

Alfalfa Small Bales Planning Budget

This budget presents information useful to farmers planning the production, financing and marketing of alfalfa small bales. Establishment costs for alfalfa can be found in MU Extension publication, G661, *Alfalfa Establishment Planning Budget*. Table 1 presents estimates for the 2021 crop year for established alfalfa small bale production in northern, central and southwest Missouri. Assumptions were based on price conditions as of October 2020. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common in Missouri. Farmers are encouraged to modify this budget based on their circumstances. For example, an alfalfa large round bale planning budget could be developed by modifying machinery activities and hay sales.

Table 1. Missouri alfalfa small bales planning budget for 2021.

	Dollars per acre ¹	Your estimate
Income per acre		
Hay sales (60 pound bales)	1,000.02	
Other income	0.00	
Total income per acre	1,000.02	
Operating costs per acre		
Seed	0.00	
Fertilizer and soil amendments	82.60	
Crop protection chemicals	16.00	
Crop supplies, storage, and marketing	12.00	
Custom hire and rental	161.07	
Machinery fuel and irrigation energy	22.55	
Machinery repairs and maintenance	29.77	
Operator and hired labor	52.78	
Operating interest	8.48	
Total operating costs per acre	385.25	
Ownership costs per acre		
Farm business overhead	11.25	
Machinery overhead	13.02	
Machinery depreciation	57.28	
Real estate charge	105.00	
Total ownership costs per acre	186.55	
Total costs per acre	571.80	
Income over operating costs per acre	614.77	
Income over total costs per acre	428.22	

¹ Totals may not sum due to rounding.

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Table 2 shows input assumptions used to estimate the alfalfa small bales budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs are added. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 2. Input assumptions used in alfalfa small bales planning budget for 2021.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	166.67	Alfalfa market price, per bale	6.00
Phosphorus rate, pounds P ₂ O ₅	70	Phosphorus, per pound P ₂ O ₅	0.38
Potassium rate, pounds K ₂ O	200	Potassium, per pound K ₂ O	0.28
Lime rate, tons	0	Lime, per ton	0
Sum of allocated labor, hours	2.74	Skilled labor, per hour	0
		Farm diesel, per gallon	3.04

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using an economic engineering approach.

Table 3. Machinery assumptions used in alfalfa small bales planning budget for 2021, on a per acre basis.

Machine activity (not custom fieldwork)	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)	Trips across field
Boom sprayer (90 feet); 75 hp	0.04	0.14	2.32	3.89	6.22	2
Swather mower-conditioner (9 feet); 105 MFWD	0.92	4.24	38.62	35.01	73.63	4
Hay tedder (8.5 feet); 60 2WD	0.21	0.55	5.03	2.65	7.68	2
Wheel rake (2-16'); 60 2WD	0.15	0.40	4.96	6.71	11.67	4
Small square baler; 75 2WD	0.92	3.03	41.99	15.42	57.41	4
Pickup truck		1.04	4.43	6.62	11.04	
Total³	2.24	9.40	97.35	70.30	167.65	16

¹ Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.

² Machinery ownership cost is the sum of machinery overhead and depreciation.

³ Totals may not sum due to rounding.

Abbreviations: 2WD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; hp = horsepower

Farmers can see other Missouri budgets or customize existing Missouri budgets by visiting <https://extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets>.