

Alfalfa Small Bales Planning Budget

Using this planning budget, farmers growing alfalfa can estimate their costs and returns associated with producing small square bales in 2022. Establishment costs for alfalfa can be found in MU Extension publication G661, [Alfalfa Establishment Planning Budget](https://extension.missouri.edu/g661) (https://extension.missouri.edu/g661). Table 1 presents estimates for established alfalfa with small bale production. Assumptions were based on price forecasts as of October 2021. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. 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. Use the “Your estimate” column to plan your operation’s costs and returns for 2022.

Table 1. Missouri alfalfa small bales planning budget for 2022.

	Dollars per acre ¹	Your estimate
Income		
Hay sales (60 pound bales)	1,333.36	
Other income	0.00	
Total income	1,333.36	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	161.50	
Crop protection chemicals	16.00	
Crop supplies, storage, and marketing	13.00	
Custom hire and rental	177.84	
Machinery fuel and irrigation energy	27.54	
Machinery repairs and maintenance	33.43	
Operator and hired labor	58.26	
Operating interest	11.95	
Total operating costs	499.51	
Ownership costs		
Farm business overhead	11.25	
Machinery overhead	13.78	
Machinery depreciation	55.57	
Real estate charge	119.00	
Total ownership costs	199.60	
Total costs	699.11	
Income over operating costs	833.85	
Income over total costs	634.25	

¹ Totals may not sum due to rounding.

Table 2 shows input assumptions for the alfalfa small bales budget. Price estimates reflect harvest time prices out-of-the-field. 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 2022.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	166.67	Alfalfa market price, per bale	8.00
Phosphorus rate, pounds P ₂ O ₅	70	Phosphorus, per pound P ₂ O ₅	0.65
Potassium rate, pounds K ₂ O	200	Potassium, per pound K ₂ O	0.58
Lime rate, tons	0.00	Lime, per ton	0.00
Sum of allocated labor, hours	2.74	Skilled labor, per hour	23.00
		Farm diesel, per gallon	2.91

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Table 3. Machinery assumptions used in alfalfa small bales planning budget for 2022, 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 2WD	0.04	0.14	2.50	3.89	6.39	2
Swather (haybine) mower-conditioner	0.92	4.24	43.04	35.01	78.05	4
Hay tedder (8.5 feet); 60 2WD	0.21	0.55	5.78	2.65	8.43	2
Wheel rake (2-16'); 60 2WD	0.15	0.40	4.91	3.97	8.88	4
Small square baler; 75 2WD	0.92	3.03	48.91	17.44	66.35	4
Pickup truck		1.04	5.34	6.39	11.73	
Total³	2.24	9.40	110.48	69.35	179.83	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; hp = horsepower

Farmers can also customize this budget to fit their own operations by using the [Missouri Forage Budget Generator](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/ForageBudgets.xlsx) (<https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/ForageBudgets.xlsx>). Download the spreadsheet tool to create an electronic copy of your cost and return estimates for alfalfa and other forages in Missouri.