

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 2024. Establishment costs for alfalfa can be found in MU Extension publication G661, [Alfalfa Establishment Planning Budget](https://extension.missouri.edu/g661) (extension.missouri.edu/g661). Table 1 presents estimates for established Roundup Ready® alfalfa with small bale production. Assumptions were based on price forecasts as of October 2023. 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 2024.

Table 1. Missouri alfalfa small bales planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income		
Hay sales (60 pound bales)	1,350.00	
Other income	0.00	
Total income	1,350.00	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	125.40	
Crop protection chemicals	62.49	
Crop supplies, storage, and marketing	15.00	
Custom hire and rental	149.04	
Machinery fuel	27.89	
Machinery repairs and maintenance	27.56	
Operator and hired labor	45.12	
Operating interest	20.36	
Total operating costs	472.87	
Ownership costs		
Farm business overhead	21.66	
Machinery ownership	95.34	
Real estate charge	120.72	
Total ownership costs	237.71	
Total costs	710.58	
Income over operating costs	877.13	
Income over total costs	639.42	

¹ Totals may not sum due to rounding.

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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 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	150	Alfalfa market price, per bale	9.00
Phosphorus rate, pounds P ₂ O ₅	70	Phosphorus, per pound P ₂ O ₅	0.62
Potassium rate, pounds K ₂ O	200	Potassium, per pound K ₂ O	0.41
Sum of allocated labor, hours	2.61	Labor, per hour	17.31
Operating interest, %	9	Farm diesel, per gallon	4.00

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 2024, on a per acre basis.

Machine activity (including custom fieldwork)	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)	Trips across field
Boom sprayer - pull-type (90 feet), 130 HP MFWD	0.03	0.14	1.49	5.19	13.37	2
Disk mower/conditioner (12 feet), 130 HP MFWD	0.14	0.83	7.40	11.79	76.76	4
Hay tedder (16 feet), 75 HP TWD	0.06	0.22	2.14	2.72	9.72	2
Hay rake (20 feet), 75 HP TWD	0.07	0.23	2.35	1.78	16.52	4
Small square baler, 75 HP TWD	0.15	0.50	7.50	4.56	48.24	4
Pickup truck			7.00	7.00	14.00	
Dry fertilizer application, custom charge					14.04	2
Accumulate/stack/haul small square bales (mechanical collection), custom charge					135.00	
Total³	1.61	6.97	83.27	95.34	327.64	18

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: TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

Farmers can also customize this budget to fit their own operations by using the [Missouri Forage Budget Tool](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/ForageBudgets.xlsx) (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.