

Alfalfa Baleage Planning Budget

Using this planning budget, farmers growing alfalfa for baleage can estimate their costs and returns for 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 baleage production in Missouri. 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 this budget are common in Missouri. Use the “Your estimate” column to plan your operation’s costs and returns for 2024.

Table 1. Missouri alfalfa baleage planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income		
Baleage sales	1,015.20	
Other income	0.00	
Total income	1,015.20	
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	162.54	
Machinery fuel	25.42	
Machinery repairs and maintenance	53.03	
Operator and hired labor	28.74	
Operating interest	21.27	
Total operating costs	493.89	
Ownership costs		
Farm business overhead	21.66	
Machinery ownership	100.51	
Real estate charge	120.72	
Total ownership costs	242.89	
Total costs	736.78	
Income over operating costs		
	521.31	
Income over total costs		
	278.42	
	Operating costs per ton, as fed	54.88
	Ownership costs per ton, as fed	26.99
	Total costs per ton, as fed	81.86

¹ Totals may not sum due to rounding.

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Table 2 shows input assumptions for the alfalfa baleage 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 baleage planning budget for 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, tons, as fed	9	Market price, per ton	112.80
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	1.66	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 baleage 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 rake (30 feet), 75 HP TWD	0.04	0.16	1.64	1.68	13.27	4
Round baler with net wrap, 130 HP MFWD	0.09	0.53	13.10	7.31	81.65	4
Pickup truck			7.00	7.00	14.00	
Dry fertilizer application, custom charge					14.04	2
Move round bales on farm, custom charge					58.50	
Tube wrap round bales (with wrap), custom charge					90.00	
Total³	1.16	6.35	98.53	100.51	361.59	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: 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.