

Alfalfa Establishment Planning Budget

Using this planning budget, farmers establishing alfalfa can estimate their costs and returns for 2025. Table 1 presents estimates for the establishment of Roundup Ready alfalfa in Missouri. Assumptions were based on price conditions as of October 2024. 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. Use the “Your estimate” column to plan your operation’s costs and returns for 2025.

Table 1. Missouri alfalfa establishment planning budget for 2025.

	Dollars per acre ¹	Your estimate
Income		
Hay sales (60 pound bales)	594.00	
Other income	0.00	
Total income	594.00	
Operating costs		
Seed	135.00	
Fertilizer and soil amendments	136.50	
Crop protection chemicals	41.48	
Crop supplies, storage, and marketing	49.50	
Crop consulting and insurance	23.00	
Custom hire and rental	73.44	
Machinery fuel	18.87	
Machinery repairs and maintenance	19.15	
Operator and hired labor	46.67	
Operating interest	21.06	
Total operating costs	564.67	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	98.54	
Real estate charge	130.00	
Total ownership costs	251.49	
Total costs	816.16	
Income over operating costs	29.33	
Income over total costs	-222.16	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for alfalfa establishment and small bale production. Price estimates reflect prices out-of-the-field. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

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.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the [Missouri Crop and Livestock Enterprise Budgets webpage](http://extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets) (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in alfalfa establishment planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	66	Alfalfa market price, per bale	9.00
Seeding rate, pounds	15	Alfalfa seed, per pound	9.00
Phosphorus rate, pounds P ₂ O ₅	50	Phosphorus, per pound P ₂ O ₅	0.55
Potassium rate, pounds K ₂ O	50	Potassium, per pound K ₂ O	0.38
Lime rate, tons	3	Lime, per ton	30.00
Labor, hours	2.52	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in alfalfa establishment planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)
Tandem disk (21 feet), 160 HP MFWD	1	0.08	0.58	5.87	13.19	19.07
Cultimulcher (21 feet), 160 HP MFWD	1	0.08	0.58	5.31	11.42	16.73
Presswheel drill (16 feet), 105 HP MFWD	1	0.15	0.68	7.13	12.12	19.25
Boom sprayer, pull-type (90 feet), 160 HP MFWD	2	0.04	0.31	2.78	13.69	16.47
Disk mower/conditioner (12 feet), 105 HP MFWD	2	0.26	1.22	13.57	18.98	32.55
Hay rake (20 feet), 75 HP TWD	2	0.13	0.43	4.29	3.39	7.69
Small square baler, 105 HP MFWD	2	0.28	1.27	12.91	21.50	34.41
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge						14.04
Accumulate/stack/haul small square bales (mechanical collection), custom charge						59.40
Total³		1.27	5.81	61.56	98.54	233.54

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: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower