

Cool-Season Grass Pasture Establishment Planning Budget

Using this budget, farmers establishing cool-season grass pasture can estimate their costs and returns for 2026. Table 1 presents estimates for cool-season grass establishment in Missouri. Assumptions were based on price forecasts as of October 2025. 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. Use the “Your estimate” column to plan your operation’s costs and returns for 2026.

Table 1. Missouri cool-season grass pasture establishment planning budget for 2026.

	Dollars per acre	Your estimate
Income		
Grazing	49.00	
Other income	0.00	
Total income	49.00	
Operating costs		
Seed	50.00	
Fertilizer and soil amendments	100.45	
Crop protection chemicals	19.17	
Crop supplies, storage, and marketing	5.00	
Crop consulting and insurance	0.00	
Custom hire and rental	15.47	
Operator labor	11.65	
Machinery fuel	6.81	
Machinery repairs and maintenance	16.95	
Management	10.00	
Operating interest	8.54	
Total operating costs	244.02	
Ownership costs		
Farm business overhead	9.00	
Machinery ownership	31.18	
Real estate charge	45.00	
Total ownership costs	85.18	
Total costs	329.21	
Income over operating costs	-195.02	
Income over total costs	-280.21	
Return to land and management	-225.21	

Note: Totals may not sum due to rounding.

Developed by

Ryan Milhollin, Assistant Extension Professor, Agricultural Business and Policy; **C. Tim Schnakenberg**, Field Specialist in Agronomy; **Carson Roberts**, Assistant Research Professor, Forage Agronomy; **Katie Neuner**, Field Specialist in Agricultural Business; and **Drew Kientzy**, Research Analyst, Agricultural Business and Policy

Table 2 shows input assumptions for the cool-season pasture establishment budget. 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.

Table 2. Input assumptions used in cool-season grass pasture establishment planning budget for 2026.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Pasture yield, cow-day	70	Pasture price, per cow-day	0.70
Orchardgrass seeding rate, pounds	10	Orchardgrass seed, per pound	3.00
Clover seeding rate, pounds	8	Clover seed, per pound	2.50
Nitrogen rate, pounds N	30	Nitrogen, per pound N	0.70
Phosphorus rate, pounds P ₂ O ₅	35	Phosphorus, per pound P ₂ O ₅	0.73
Potassium rate, pounds K ₂ O	45	Potassium, per pound K ₂ O	0.42
Lime rate, tons	1	Lime, per ton	35.00
Operator labor, hours	0.53	Operator labor wage, per hour	22.00
Operating interest, annual percentage	7.25	Farm diesel, per gallon	2.90

Table 3. Machinery assumptions used in cool-season grass pasture establishment planning budget for 2026, on a per acre basis.

Machine activity (including custom fieldwork)	Passes per acre	Fuel (gallons)	Labor (hours)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)
No-till drill (15 feet), 130 HP MFWD	1	0.90	0.16	14.39	18.98	33.37
Rotary mower (15 feet); 130 HP MFWD	1	0.70	0.12	8.87	7.13	16.00
Pickup (1 ton), 4WD		0.75	0.25	12.14	5.07	17.21
Dry fertilizer application, custom charge	1					7.37
Crop chemical application, custom charge	1					8.10
Total		2.35	0.53	35.40	31.18	82.05

Note: Totals may not sum due to rounding.

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

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.

Farmers can customize this budget using the [Missouri Forage Budgets workbook \(XLSX\)](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/forage-budgets.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/forage-budgets.xlsx).



Check out the complete collection of Missouri crop and livestock enterprise budgets at muext.us/MissouriAgBudgets