

Cool Season Pasture Establishment Planning Budget

Using this budget, farmers establishing cool season pasture can estimate their costs and returns for 2024. Table 1 presents estimates for cool season pasture establishment 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 these cost estimates are common on Missouri farms. Use the “Your estimate” column to plan your operation’s costs and returns for 2024.

Table 1. Missouri cool season pasture establishment planning budget for 2024.

| | Dollars per acre ¹ | Your estimate |
|---------------------------------------|-------------------------------|---------------|
| Income | | |
| Grazing | 36.00 | |
| Other income | 0.00 | |
| Total income | 36.00 | |
| Operating costs | | |
| Seed, tall fescue and red clover | 44.00 | |
| Fertilizer and soil amendments | 85.65 | |
| Crop protection chemicals | 20.48 | |
| Crop supplies, storage, and marketing | 5.00 | |
| Custom hire and rental | 21.25 | |
| Machinery fuel | 7.21 | |
| Machinery repairs and maintenance | 14.47 | |
| Operator and hired labor | 22.66 | |
| Operating interest | 9.93 | |
| Total operating costs | 230.66 | |
| Ownership costs | | |
| Farm business overhead | 8.84 | |
| Machinery ownership | 35.19 | |
| Real estate charge | 39.04 | |
| Total ownership costs | 83.08 | |
| Total costs | 313.73 | |
| Income over operating costs | -194.66 | |
| Income over total costs | -277.73 | |

¹ Totals may not sum due to rounding.

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Table 2 shows input assumptions for the cool season pasture establishment budget. 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 cool season pasture establishment planning budget for 2024.

| Selected input quantities | Per acre | Selected input prices | Dollars per unit |
|---|----------|---|------------------|
| Pasture yield, animal unit month | 2 | Pasture price, per animal unit month | 18.00 |
| Seeding rate, pounds tall fescue | 10 | Tall fescue seed, per pound | 2.00 |
| Seeding rate, pounds clover | 8 | Clover seed, per pound | 3.00 |
| Nitrogen rate, pounds N | 30 | Nitrogen, per pound N | 0.60 |
| Phosphorus rate, pounds P ₂ O ₅ | 35 | Phosphorus, per pound P ₂ O ₅ | 0.62 |
| Potassium rate, pounds K ₂ O | 45 | Potassium, per pound K ₂ O | 0.41 |
| Lime rate, tons | 1 | Lime, per ton | 27.50 |
| Sum of allocated labor, hours | 1.31 | 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 cool season pasture establishment 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 |
|--|------------------|-------------------|--|--|--------------------------|--------------------------|
| No-till drill (15 feet), 130 HP MFWD | 0.17 | 0.99 | 11.73 | 20.36 | 32.09 | 1 |
| Rotary mower (15 feet); 130 HP MFWD | 0.13 | 0.81 | 8.31 | 7.83 | 16.14 | 1 |
| Pickup truck | | | 7.00 | 7.00 | 14.00 | |
| Dry fertilizer application, custom charge | | | | | 14.50 | 2 |
| Crop chemical application, custom charge | | | | | 6.75 | 1 |
| Total³ | 0.31 | 1.80 | 27.04 | 35.19 | 83.48 | 5 |

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: 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 forages in Missouri.