

Corn Silage Planning Budget

Using this planning budget, farmers growing corn silage can estimate their costs and returns for 2024. Table 1 presents estimates for corn silage 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 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 corn silage planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income		
Silage sales	864.00	
Other income	0.00	
Total income	864.00	
Operating costs		
Seed	95.63	
Fertilizer and soil amendments	191.96	
Crop protection chemicals	72.63	
Crop supplies, storage, and marketing	10.00	
Custom hire and rental	187.02	
Machinery fuel	8.39	
Machinery repairs and maintenance	16.80	
Operator and hired labor	14.55	
Operating interest	26.86	
Total operating costs	623.84	
Ownership costs		
Farm business overhead	29.68	
Machinery ownership	49.96	
Real estate charge	155.21	
Total ownership costs	234.85	
Total costs	858.69	
Income over operating costs	240.16	
Income over total costs	5.31	
Operating costs per ton, as-fed basis	34.66	
Ownership costs per ton, as-fed basis	13.05	
Total costs per ton, as-fed basis	47.70	

¹ Totals may not sum due to rounding.

Written by
Ryan Milhollin, Assistant Extension Professor, Agricultural Business and Policy
Drew Kientzy, Research Analyst, Agricultural Business and Policy
C. Tim Schnakenberg, Field Specialist in Agronomy

Table 2 shows input assumptions for the corn silage 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 corn silage planning budget for 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, tons, as-fed basis	18	Corn silage market price, per ton	48.00
Seeding rate, corn	26,000	Seed, per 80,000 seed bag	255.00
Nitrogen rate, pounds	184	Nitrogen, per pound N	0.46
Phosphorus rate, pounds P ₂ O ₅	59	Phosphorus, per pound P ₂ O ₅	0.62
Potassium rate, pounds K ₂ O	139	Potassium, per pound K ₂ O	0.41
Lime rate, tons	0.5	Lime, per ton	27.50
Sum of allocated labor, hours	0.84	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 corn silage 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	20.05	3
Anhydrous applicator (21 feet), 160 HP MFWD	0.12	0.79	9.07	7.61	16.68	1
Field cultivator (24 feet), 160 HP MFWD	0.06	0.45	4.15	5.07	9.22	2
Row crop planter (30 feet), 130 HP MFWD	0.08	0.45	6.39	14.71	21.10	1
Pickup truck			7.00	7.00	14.00	
Dry fertilizer application, custom charge					7.02	1
Silage chopping, custom charge					180.00	
Total³	0.34	2.10	31.08	49.96	268.07	7

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 corn silage and other forages in Missouri. For corn grown for grain, customized budgets can be created using the [Missouri Crop Budget Tool](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/CropBudgets.xlsx) (https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/CropBudgets.xlsx).