

Corn (Dryland) Planning Budget

Using this planning budget, corn farmers may estimate their costs and returns for 2024. Table 1 presents estimates for dryland corn grain production in northern, central and southwest 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 for Missouri farms. Use the “Your estimate” column to plan your operation’s costs and returns for 2024.

Table 1. Missouri corn (dryland) planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income		
Grain sales	779.52	
Other income	0.00	
Total income	779.52	
Operating costs		
Seed	99.38	
Fertilizer and soil amendments	162.53	
Crop protection chemicals	95.30	
Crop supplies, storage, and marketing	3.00	
Crop consulting and insurance	33.00	
Custom hire and rental	7.25	
Machinery fuel, drying, and irrigation energy	55.09	
Machinery repairs and maintenance	33.04	
Management	23.39	
Operating interest	23.04	
Total operating costs	535.01	
Ownership costs		
Farm business overhead	7.80	
Machinery ownership	102.49	
Real estate charge	185.00	
Total ownership costs	295.29	
Total costs	830.30	
Income over operating costs		
	244.51	
Income over total costs		
	-50.78	
Return to land and management		
	157.61	
Operating costs per bushel	3.18	
Ownership costs per bushel	1.76	
Total costs per bushel	4.94	

¹ Totals may not sum due to rounding.

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Table 2 shows input assumptions for the dryland corn 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 (dryland) planning budget for 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	168	Corn market price, per bushel	4.64
Seeding rate, count	30,000	Seed, per 80,000 seed bag	265.00
Nitrogen rate, pounds	170	Nitrogen, per pound N	0.46
Phosphorus rate, pounds P ₂ O ₅	77	Phosphorus, per pound P ₂ O ₅	0.62
Potassium rate, pounds K ₂ O	49	Potassium, per pound K ₂ O	0.41
Lime rate, tons	0.60	Lime, per ton	27.50
Sum of allocated labor, hours	0.69	Skilled labor, per hour	25.00
		Farm diesel, per gallon	4.00

Table 3 details the field activities assumed in 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 (dryland) planning budget for 2024, on a per acre basis.

Machine activity (not custom fieldwork)	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)	Trips across field
Field cultivator (35 ft); 360 HP 4WD	0.06	1.01	6.34	9.00	15.34	1
Tandem disk (30 feet); 360 HP 4WD	0.06	1.00	7.66	12.89	20.55	1
Row crop planter (16 row); 225 HP MFWD	0.08	0.78	7.82	17.10	24.92	1
Boom sprayer (90 feet); 130 HP MFWD	0.03	0.14	1.48	5.19	6.67	2
Anhydrous applicator (21 feet); 225 HP MFWD	0.12	1.11	10.39	10.86	21.25	1
Combine, corn head (8 row); 275 HP	0.15	1.78	28.22	24.89	53.11	1
Grain cart (500 bushel); 225 HP MFWD	0.16	0.56	4.93	7.09	12.02	
Grain auger (5,000 bushels per hour); 130 MFWD	0.03	0.19	1.81	1.36	3.17	
10-wheeler		1.50	7.56	1.98	9.54	
Semi, tractor and trailer		1.07	8.09	4.52	12.61	
Pickup truck		0.33	2.35	2.42	4.77	
Total³	0.69	9.47	88.13	102.49	190.62	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: 4WD = 4-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 Crop Budget Tool](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/CropBudgets.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/CropBudgets.xlsx). Download the spreadsheet tool to create an electronic copy of your cost and return estimates for corn and other crops in Missouri.



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