

Winter Wheat Planning Budget

Using this planning budget, wheat farmers may estimate their costs and returns for 2024. Table 1 presents estimates for winter wheat (for 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 winter wheat planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income per acre		
Grain sales	503.75	
Other income	0.00	
Total income	503.75	
Operating costs		
Seed	80.00	
Fertilizer and soil amendments	105.40	
Crop protection chemicals	19.50	
Crop supplies, storage, and marketing	4.00	
Crop consulting and insurance	17.00	
Custom hire and rental	14.50	
Machinery fuel, drying, and irrigation energy	36.42	
Machinery repairs and maintenance	26.76	
Management	15.11	
Operating interest	14.34	
Total operating costs	333.03	
Ownership costs		
Farm business overhead	5.04	
Machinery ownership	60.51	
Real estate charge	145.00	
Total ownership costs	210.55	
Total costs	543.58	
Income over operating costs		
	170.72	
Income over total costs		
	-39.83	
Return to land and management		
	120.28	
	Operating costs per bushel	5.12
	Ownership costs per bushel	3.24
	Total costs per bushel	8.36

¹ Totals may not sum due to rounding.

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Table 2 shows input assumptions for the winter wheat 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 winter wheat planning budget for 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	65	Wheat market price, per bushel	7.75
Seeding rate, 50 pound bag	100	Seed, per bag	40.00
Nitrogen rate, pounds N	95	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P ₂ O ₅	42	Phosphorus, per pound P ₂ O ₅	0.62
Potassium rate, pounds K ₂ O	21	Potassium, per pound K ₂ O	0.41
Lime rate, tons	0.5	Lime, per ton	27.50
Sum of allocated labor, hours	0.38	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 winter wheat 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
No-till drill (15 feet); 225 HP MFWD	0.17	1.71	14.88	25.63	40.51	1
Boom sprayer (90 feet); 130 HP MFWD	0.03	0.14	1.48	5.19	6.67	1
Combine, flexible grain head (25 feet); 275 HP	0.15	1.79	27.01	19.41	46.42	1
Grain auger (5,000 bushels per hour); 130 HP 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	0.38	6.73	63.18	60.51	123.69	3

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 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 winter wheat and other crops in Missouri.