

Southeast Missouri Grain Sorghum (Double-Crop) Planning Budget

Using this planning budget, grain sorghum producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO center-pivot-irrigated double-crop grain sorghum production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the “Your estimate” column to plan your operation’s costs and returns for 2025.

Table 1. Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025.

	Dollars per acre ¹	Your estimate
Income		
Grain sales	414.75	
Government payments	0.00	
Total income	414.75	
Operating costs		
Seed	10.80	
Fertilizer and soil amendments	79.70	
Crop protection chemicals	112.00	
Irrigation ²	140.70	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	27.00	
Custom hire and rental	15.02	
Operator labor and management	23.52	
Machinery fuel	15.10	
Machinery repairs and maintenance	34.37	
Operating interest	18.07	
Total operating costs	484.28	
Ownership costs		
Farm business overhead	4.15	
Machinery ownership	61.99	
Real estate charge	112.50	
Total ownership costs	178.63	
Total costs	662.91	
Income over operating costs	-69.53	
Income over total costs	-248.16	
Return to land and management	-123.22	
Operating costs per bushel	4.61	
Ownership costs per bushel	1.70	
Total costs per bushel	6.31	

1. Totals may not sum due to rounding.

2. Irrigation costs are explained in detail on page 2.

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Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the grain sorghum budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land and assumes double-crop grain sorghum is preceded by winter wheat.

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.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the [Missouri Crop and Livestock Enterprise Budgets webpage](https://extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets) (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Grain sorghum yield, bushels	105	Grain sorghum market price, per bushel	3.95
Seeding rate, count	90,000	Seed, per 750,000 seed bag	90.00
Nitrogen rate (urea), pounds	90	Nitrogen (urea), per pound N	0.60
Phosphorus rate, pounds P ₂ O ₅	36	Phosphorus, per pound P ₂ O ₅	0.45
Potassium rate, pounds K ₂ O	25	Potassium, per pound K ₂ O	0.38
Sum of allocated labor, hours	0.55	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	12.0	Irrigation water applied, cost per acre-inch	11.72
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ² (dollars)	Total costs (dollars)
Self-propelled boom sprayer (120 feet), 275 HP	2	0.02	0.22	11.16	2.89	14.05
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.80	9.32	17.35	26.67
Draper platform (45 feet), 440 HP combine	1	0.06	0.97	14.80	14.40	29.20
Grain cart (1,000 bushel), 280 HP MFWD		0.04	0.49	4.57	6.47	11.04
Grain trailer (1,000 bushel), 475 HP road tractor		0.10	0.64	5.99	2.93	8.92
Grain auger (13 inch), 130 HP MFWD		0.02	0.11	1.31	1.32	2.63
Pickup (1 ton), 4WD		0.20	0.60	6.48	3.44	9.92
Tandem disk (32 feet), 340 HP MFWD	1	0.05	0.80	6.92	13.19	20.11
Dry fertilizer application, custom charge	1					7.02
Aerially apply chemicals, custom charge	1					8.00
Total³		0.55	4.65	60.55	61.99	137.56

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 or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor



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