

# Southeast Missouri Double-Crop Grain Sorghum Planning Budget

Using this planning budget, grain sorghum producers may estimate their costs and returns for 2026. 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 2025. 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 2026.

**Table 1. Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2026.**

	Dollars per acre	Your estimate
<b>Income</b>		
Grain sales	413.70	
Government payments	9.00	
<b>Total income</b>	<b>422.70</b>	
<b>Operating costs</b>		
Seed	13.50	
Fertilizer and soil amendments	132.28	
Crop protection chemicals	112.00	
Irrigation <sup>1</sup>	45.12	
Crop supplies, storage and marketing	8.50	
Crop consulting and insurance	13.00	
Custom hire and rental	19.97	
Operator labor and management	26.00	
Machinery fuel	15.65	
Machinery repairs and maintenance	30.44	
Operating interest	13.46	
<b>Total operating costs<sup>2</sup></b>	<b>429.91</b>	
<b>Ownership costs</b>		
Farm business overhead	8.45	
Machinery ownership	148.04	
Real estate charge	112.50	
<b>Total ownership costs<sup>3</sup></b>	<b>268.99</b>	
<b>Total costs<sup>4</sup></b>	<b>698.90</b>	
<b>Income over operating costs</b>	<b>-7.21</b>	
<b>Income over total costs</b>	<b>-276.20</b>	
<b>Return to land and management</b>	<b>-151.02</b>	

Note: Totals may not sum due to rounding.

1. Irrigation costs are explained in detail on Page 2.

2. Operating costs per bushel = \$4.09

3. Ownership costs per bushel = \$2.56

4. Total costs per bushel = \$6.66

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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.

**Table 2. Input assumptions used in southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2026.**

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Grain sorghum yield, bushels	105	Grain sorghum market price, per bushel	3.94
Seeding rate, count	90,000	Seed, per 600,000 seed bag	90.00
Nitrogen rate (urea), pounds	90	Nitrogen (urea), per pound N	0.70
Phosphorus rate, pounds P <sub>2</sub> O <sub>5</sub>	36	Phosphorus, per pound P <sub>2</sub> O <sub>5</sub>	0.73
Potassium rate, pounds K <sub>2</sub> O	25	Potassium, per pound K <sub>2</sub> O	0.42
Skilled operator labor, hours	0.59	Skilled operator labor, per hour	22.50
Irrigation water, acre-inches applied	12.0	Irrigation water applied, cost per acre-inch	3.76
Operating interest, annual percentage	7.25	Farm diesel, per gallon	2.90

**Table 3. Machinery assumptions used in southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2026, on a per acre basis.**

Machine activity (not custom fieldwork)	Passes per acre	Fuel (gallons)	Labor (hours)	Operating costs <sup>1</sup> (dollars)	Ownership costs <sup>2</sup> (dollars)	Total costs (dollars)
Row crop planter (30 feet), 340 HP MFWD	1	1.00	0.07	11.91	16.87	28.78
Self-propelled boom sprayer (120 feet), 275 HP	2	0.25	0.02	5.62	3.20	8.82
Draper platform (45 feet), 450 HP combine	1	1.29	0.06	10.96	16.91	27.87
Grain trailer (1,000 bushel), 475 HP semi truck		0.71	0.11	7.29	3.78	11.07
Grain cart (1,000 bushel), 280 HP MFWD		0.62	0.06	5.38	6.64	12.02
Grain auger (13 inch), 130 HP MFWD		0.17	0.03	1.71	1.32	3.03
Pickup (1 ton), 4WD		0.60	0.20	9.64	3.97	13.61
Tandem disk (32 feet), 340 HP MFWD	1	0.76	0.05	6.88	10.59	17.47
Dry fertilizer application, custom charge	1					7.37
Aerially apply chemicals, custom charge	1					12.60
<b>Total</b>		<b>5.39</b>	<b>0.59</b>	<b>59.40</b>	<b>63.27</b>	<b>142.64</b>

Note: Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; HP = horsepower; MFWD = mechanical front-wheel drive tractor.

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.

Producers can customize this budget using the [Southeast Missouri Crop Budgets workbook \(XLSX\)](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/crop-budgets-semo.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/crop-budgets-semo.xlsx). Each crop budget has an accompanying sensitivity analysis so producers can see how their financial return to land and management varies with different crop yields and crop prices.



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