

2021 Grain Sorghum, No-Till, Non-Irrigated Budget

	Unit	Quantity	Price	Total	Your Farm
Revenue					
Grain Sorghum ¹	Bu	90	\$5.05	\$454.50	_____
			Total Revenue \$454.50		_____
Variable Expenses					
Seed ²	Thous.	85	\$0.25	\$21.25	_____
Fertilizer & Lime (Table 1) ³	Acre	1	\$69.82	\$69.82	_____
Chemical (Table 2) ⁴	Acre	1	\$89.16	\$89.16	_____
Crop Scout	Acre	1	\$10.00	\$10.00	_____
Repair & Maintenance (Table 3) ⁵	Acre	1	\$33.92	\$33.92	_____
Fuel, Oil & Filter (Table 3) ⁵	Acre	1	\$12.55	\$12.55	_____
Operator Labor (Table 3) ⁵	Acre	1	\$9.79	\$9.79	_____
Machinery Rental	Acre	0	\$0.00	\$0.00	_____
Custom Work	Acre	0	\$0.00	\$0.00	_____
Drying (Fuel/Electric)	Bu	90	\$0.00	\$0.00	_____
Cash Rent ⁶	Acre	1	\$97.00	\$97.00	_____
Crop Insurance ⁷	Acre	1	\$5.66	\$5.66	_____
Operating Interest ⁸	%	\$349.15	6.00%	\$10.47	_____
Other Variable Costs	Acre	1	\$0.00	\$0.00	_____
			Total Variable Expenses \$359.62		_____
			Return Above Variable Expenses \$94.88		_____
Fixed Expenses					
Machinery ⁵					
Capital Recovery (Table 3)	Acre	1	\$94.99	\$94.99	_____
Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	_____
Property Taxes	Acre	1	\$0.00	\$0.00	_____
Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	_____
Management Labor	Acre	1	\$18.00	\$18.00	_____
Other Fixed Costs	Acre	1	\$0.00	\$0.00	_____
			Total Fixed Expenses \$112.99		_____
			Return Above All Specified Expenses -\$18.12		_____

Breakeven Price for Selected Yield

Yield (bu)	Variable Cost (\$/bu)	Total Specified Cost (\$/bu)
70	\$5.14	\$6.75
75	\$4.79	\$6.30
80	\$4.50	\$5.91
85	\$4.23	\$5.56
90	\$4.00	\$5.25
95	\$3.79	\$4.97
100	\$3.60	\$4.73
105	\$3.42	\$4.50
110	\$3.27	\$4.30

Breakeven Yield for Selected Price

Price (\$/bu)	Variable Cost (bu)	Total Specified Cost (bu)
\$4.85	74	97
\$4.90	73	96
\$4.95	73	95
\$5.00	72	95
\$5.05	71	94
\$5.10	71	93
\$5.15	70	92
\$5.20	69	91
\$5.25	68	90

FOOTNOTES

- 1) Sorghum price is estimated 65 cents above the price of corn, based on prevailing market conditions. Due to low acres and limited market access prices may swing dramatically. Typically sorghum is 10-15 cents below the price of corn.
- 2) Seed cost includes fungicide treatment. Check with farm suppliers for rebates, discounts and incentives for seed and chemicals. Substantial cost savings may be available.
- 3) Lime is assumed to be applied once every four years at a rate of 2 tons per acre. Includes the cost of application.
- 4) An insecticide application for sugarcane aphids, in addition to an insecticide application for other pests, is assumed. Alternative weed control options are available in the University of Tennessee Weed Control Manual for Tennessee.
- 5) Machinery expenses will vary dramatically by operation, financial resources and land base. The machinery cost estimates provided in Table 3 are provided as an estimate of cost of ownership and operation for specified pieces of machinery that would be available to a "representative" row-crop farm in Tennessee. To estimate machinery costs for a specific set of equipment, interested parties can utilize the Excel version of the budgets and modify the Machinery Assumptions Table.
- 6) Cash rental rates are the 2020 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 7) Crop insurance is an estimate and will vary by policy, county and coverage election. The estimate provided is the average premium paid per insured acre of grain sorghum in Tennessee for the previous production year, as reported by USDA RMA's Summary of Business Report.
- 8) Operating interest is assumed to be charged on half of all variable expenses.

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	45	\$0.39	\$17.56	_____
Nitrogen	32% UAN	45	\$0.39	\$17.58	_____
Phosphorous	P ₂ O ₅	30	\$0.37	\$11.13	_____
Potassium	K ₂ O	30	\$0.29	\$8.55	_____
Lime ³	Limestone	1,000	\$30.00	\$15.00	_____
Total				\$69.82	_____

Table 2. Chemicals⁴

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides	Burndown	Gramoxone SL	oz.	1	40	\$0.28	\$11.20	_____
		Surfactant	\$/acre	1	1	\$1.50	\$1.50	_____
Pre-Emerge		Bicep II Magnum	qt.	1	2.1	\$12.62	\$26.50	_____
		Surfactant	pt.	3	1	\$1.50	\$4.50	_____
Post-Emerge		Atrazine	qt.	1	2	\$3.98	\$7.96	_____
		Crop Oil	pt.	1	2	\$3.50	\$7.00	_____
Insecticides		Seed Treatment	acre	1	1	\$8.50	\$8.50	_____
		Foliar	acre	1	1	\$11.00	\$11.00	_____
		Foliar (Aphids)	acre	1	1	\$11.00	\$11.00	_____
Total							\$89.16	_____

Table 3. Machinery⁵

Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Burndown	SP Boom Sprayer	90'	\$7.45	\$1.81	\$0.26	\$0.25	\$9.77	_____
Plant	Tractor, 215 hp Planter	16-row	\$13.54	\$2.82	\$1.60	\$1.27	\$19.22	_____
Fertilize	Tractor, 215 hp Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Weed Control	SP Boom Sprayer	90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Fertilize	Tractor, 215 hp Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Weed Control	SP Boom Sprayer	90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Insecticide	SP Boom Sprayer	90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Insecticide	SP Boom Sprayer	90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Harvest	Combine	30'	\$22.48	\$23.14	\$4.45	\$1.96	\$36.77	_____
Haul	Tractor, 215 hp Grain Cart		\$5.63	\$0.76	\$1.04	\$0.83	\$8.26	_____
Haul	Semi Tractor/Trailer		\$7.68	\$1.25	\$0.79	\$1.76	\$9.93	_____
Total			\$94.99	\$33.92	\$12.55	\$9.79	\$134.44	_____