

**Grain Sorghum, Irrigated, Strip Tillage
South Georgia, 2011**

Estimated Costs and Returns

Expected Yield: **100** Bushel

Yield on your farm: _____

Variable Costs	Unit	Amount	\$/Unit	Cost/Acre	\$/Bushel	Your Farm
Seed	thousand	100	\$ 0.145	\$ 14.50	\$ 0.15	_____
Cover Crop Seed	bushel	1.5	\$ 16.50	\$ 24.75	\$ 0.25	_____
Lime	ton	0.25	\$ 32.00	\$ 8.00	\$ 0.08	_____
Fertilizer						
<i>Nitrogen</i>	pound	100	\$ 0.60	\$ 60.00	\$ 0.60	_____
<i>Phosphate</i>	pound	60	\$ 0.45	\$ 27.00	\$ 0.27	_____
<i>Potash</i>	pound	60	\$ 0.50	\$ 30.00	\$ 0.30	_____
Weed Control ^a	acre	1	\$ 15.10	\$ 15.10	\$ 0.15	_____
Insect Control	acre	1	\$ -	\$ -	\$ -	_____
Disease Control	acre	1	\$ -	\$ -	\$ -	_____
Preharvest Machinery ^b						
<i>Fuel</i>	gallon	3.4	\$ 2.85	\$ 9.73	\$ 0.10	_____
<i>Repairs and Maintenance</i>	acre	1	\$ 6.73	\$ 6.73	\$ 0.07	_____
Harvest Machinery						
<i>Fuel</i>	gallon	2.4	\$ 2.85	\$ 6.79	\$ 0.07	_____
<i>Repairs and Maintenance</i>	acre	1	\$ 4.99	\$ 4.99	\$ 0.05	_____
Labor	hour	0.8	\$ 11.25	\$ 9.14	\$ 0.09	_____
Irrigation ^c	acre	2.5	\$ 10.00	\$ 25.00	\$ 0.25	_____
Crop Insurance ^d	acre	1	\$ 19.00	\$ 19.00	\$ 0.19	_____
Land Rent	acre	1	\$ -	\$ -	\$ -	_____
Interest on Operating Capital	percent	\$ 130.37	6.5%	\$ 8.47	\$ 0.08	_____
Drying - 8 points		110	\$ 0.28	\$ 30.82	\$ 0.31	_____
Total Variable Costs:				\$ 300.02	\$ 3.00	
Fixed Costs						
Machinery Depreciation, Taxes, Insurance and Housing						
<i>Preharvest Machinery</i> ^b	acre	1	\$ 18.04	\$ 18.04	\$ 0.18	_____
<i>Harvest Machinery</i>	acre	1	\$ 24.20	\$ 24.20	\$ 0.24	_____
<i>Irrigation</i> ^c	acre	1	\$ 110.00	\$ 110.00	\$ 1.10	_____
General Overhead	% of VC	\$ 300.02	5%	\$ 15.00	\$ 0.15	_____
Management	% of VC	\$ 300.02	5%	\$ 15.00	\$ 0.15	_____
Owned Land Cost, Taxes, Cash Payment, etc.	acre	1	\$ -	\$ -	\$ -	_____
Other _____	acre	1	\$ -	\$ -	\$ -	_____
Total Fixed Costs				\$ 182.25	\$ 1.82	
Total Costs Excluding Land				\$ 482.27	\$ 4.82	
Your Profit Goal				\$ _____	/Bushel	
Price Needed for Profit				\$ _____	/Bushel	

^a Substituting mechanical cultivation for pre-emerge herbicide application would lower variable cost by \$9/ac and increase fixed costs by \$1/ac.

^b Planting may also be done with a grain drill. Substitution of a planter and rip & bed operation with field cultivation and 20' grain drill would lower variable cost by \$2.50/ac and fixed cost by 0.25/ac.

^c Average of diesel and electric irrigation application costs. Electric is estimated at \$7/appl and diesel is estimated at \$13/appl when diesel costs \$2.85/gal.

^d Assumes Yield Protection at 70% coverage. Revenue Protection at 70% coverage adds \$4-9/ac.

Sensitivity Analysis of Grain Sorghum, Irrigated, Strip Tillage

Net Returns Above Variable Costs Per Acre					
Varying Prices and Yields (Bushel)					
Price \ Bushel/Acre	-25%	-10%	Expected	+10%	+25%
	75	90	100	110	125
\$2.50	-\$112.52	-\$75.02	-\$50.02	-\$25.02	\$12.48
\$3.00	-\$75.02	-\$30.02	-\$0.02	\$29.98	\$74.98
\$3.50	-\$37.52	\$14.98	\$49.98	\$84.98	\$137.48
\$4.00	-\$0.02	\$59.98	\$99.98	\$139.98	\$199.98
\$4.50	\$37.48	\$104.98	\$149.98	\$194.98	\$262.48

Estimated Labor and Machinery Costs per Acre

Preharvest Operations

Operation	Acres/ Hour	Number of Times Over	Labor Use ^e (hrs/ac)	Fuel Use (gal/ac)	Repairs (\$/ac)	Fixed Costs (\$/ac)
Spin Spreader 5 ton with Tractor (120-139 hp) 2WD 130	23.8	1	0.05	0.28	\$ 0.51	\$ 1.44
Disk Harrow 32' with Tractor (180-199 hp) MFWD 190	16.3	1	0.08	0.60	\$ 1.32	\$ 3.84
Spray (Broadcast) 60' with Tractor (120-139 hp) 2WD 130	35.5	1	0.04	0.19	\$ 0.30	\$ 0.71
ST Plant Rigid 6R-36 with Tractor (180-199 hp) MFWD 190	6.9	1	0.18	1.42	\$ 2.60	\$ 7.77
Fert Appl (Liquid) 6R-36 with Tractor (120-139 hp) 2WD 130	9.2	1	0.14	0.73	\$ 1.71	\$ 3.56
Spray (Broadcast) 60' with Tractor (120-139 hp) 2WD 130	35.5	1	0.04	0.19	\$ 0.30	\$ 0.71
Total Preharvest Values			0.52	3.41	\$ 6.73	\$ 18.04

Harvest Operations

Operation	Acres/ Hour	Number of Times Over	Labor Use ^e (hrs/ac)	Fuel Use (gal/ac)	Repairs (\$/ac)	Fixed Costs (\$/ac)
Header Wheat/Sorghum 18' Rigid with Combine (200-249 hp) 240 hp	7.0	1	0.18	1.75	\$ 3.88	\$ 21.20
Grain Cart Wht/Sor 500 bu with Tractor (120- 139 hp) 2WD 130	10.6	1	0.12	0.63	\$ 1.12	\$ 3.01
Total Harvest Values			0.29	2.38	\$ 4.99	\$ 24.20

^e Includes unallocated labor factor of 0.25. Unallocated labor factor is percentage allowance for additional labor required to move equipment and hook/unhook implements, etc.

Developed by Amanda Smith and Nathan Smith. The authors would like to acknowledge the contributions of Dewey Lee, Glen Harris, Bob Kemerait and the Georgia County Extension Agents.