

**Grain Sorghum, Irrigated
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	_____
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	4.8	\$ 2.85	\$ 13.56	\$ 0.14	_____
<i>Repairs and Maintenance</i>	acre	1	\$ 9.27	\$ 9.27	\$ 0.09	_____
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	1.0	\$ 11.25	\$ 11.23	\$ 0.11	_____
Irrigation ^c	acre	3.5	\$ 10.00	\$ 35.00	\$ 0.35	_____
Crop Insurance ^d	acre	1	\$ 19.00	\$ 19.00	\$ 0.19	_____
Land Rent	acre	1	\$ -	\$ -	\$ -	_____
Interest on Operating Capital	percent	\$ 127.23	6.5%	\$ 8.27	\$ 0.08	_____
Drying - 8 points		110	\$ 0.28	\$ 30.82	\$ 0.31	_____
Total Variable Costs:				\$ 293.54	\$ 2.94	
Fixed Costs						
Machinery Depreciation, Taxes, Insurance and Housing						
<i>Preharvest Machinery</i> ^b	acre	1	\$ 24.96	\$ 24.96	\$ 0.25	_____
<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	\$ 293.54	5%	\$ 14.68	\$ 0.15	_____
Management	% of VC	\$ 293.54	5%	\$ 14.68	\$ 0.15	_____
Owned Land Cost, Taxes, Cash Payment, etc.	acre	1	\$ -	\$ -	\$ -	_____
Other _____	acre	1	\$ -	\$ -	\$ -	_____
Total Fixed Costs				\$ 188.51	\$ 1.89	
Total Costs Excluding Land				\$ 482.06	\$ 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

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	-\$106.04	-\$68.54	-\$43.54	-\$18.54	\$18.96
\$3.00	-\$68.54	-\$23.54	\$6.46	\$36.46	\$81.46
\$3.50	-\$31.04	\$21.46	\$56.46	\$91.46	\$143.96
\$4.00	\$6.46	\$66.46	\$106.46	\$146.46	\$206.46
\$4.50	\$43.96	\$111.46	\$156.46	\$201.46	\$268.96

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)
Heavy Disk 27' with Tractor (180-199 hp) MFWD 190	13.2	2	0.19	1.48	\$ 2.89	\$ 8.40
Disk & Incorporate 32' with Tractor (180-199 hp) MFWD 190	15.3	1	0.08	0.64	\$ 1.57	\$ 4.10
Disk Bed (Hipper) 6R-36 with Tractor (180-199 hp) MFWD 190	9.6	1	0.13	1.02	\$ 1.24	\$ 3.83
Plant - Rigid 6R-36 with Tractor (120-139 hp) 2WD 130	9.5	1	0.13	0.70	\$ 1.56	\$ 4.36
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			0.70	4.76	\$ 9.27	\$ 24.96

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

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

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