

**Irrigated Grain Sorghum
South Georgia, 2012**

Estimated Costs and Returns

Expected Yield: **100 bushel**

Yield Your Farm: _____

Variable Costs	Unit	Amount	\$/Unit	Cost/Acre	\$/bushel	Your Farm
Seed	thousand	90	\$ 0.15	\$ 13.50	\$ 0.14	_____
Lime	ton	0.5	\$ 35.00	\$ 17.50	\$ 0.18	_____
Fertilizer						
<i>Nitrogen</i>	pounds	125	\$ 0.68	\$ 85.00	\$ 0.85	_____
<i>Phosphate</i>	pounds	60	\$ 0.50	\$ 30.00	\$ 0.30	_____
<i>Potash</i>	pounds	90	\$ 0.58	\$ 52.20	\$ 0.52	_____
Weed Control *	acre	1	\$ 17.95	\$ 17.95	\$ 0.18	_____
Insect Control	acre	1	-	-	-	_____
Disease Control	acre	1	-	-	-	_____
Preharvest Machinery **						
<i>Fuel</i>	gallons	4.8	\$ 3.55	\$ 16.90	\$ 0.17	_____
<i>Repairs and Maintenance</i>	acre	1	\$ 10.09	\$ 10.09	\$ 0.10	_____
Harvest Machinery						
<i>Fuel</i>	gallons	2.5	\$ 3.55	\$ 8.99	\$ 0.09	_____
<i>Repairs and Maintenance</i>	acre	1	\$ 5.63	\$ 5.63	\$ 0.06	_____
Labor	hours	1.0	\$ 11.25	\$ 11.41	\$ 0.11	_____
Irrigation***	applications	4	\$ 11.60	\$ 46.40	\$ 0.46	_____
Crop Insurance	acre	1	\$ 19.00	\$ 19.00	\$ 0.19	_____
Land Rent	acre	1	-	-	-	_____
Interest on Operating Capital	percent	\$ 167.28	6.5%	\$ 10.87	\$ 0.11	_____
Drying - 8 points	bushel	110.0	\$ 0.28	\$ 30.80	\$ 0.31	_____
Total Variable Costs:				\$ 376.24	\$ 3.76	
Fixed Costs						
Machinery Depreciation, Taxes, Insurance and Housing						
<i>Preharvest Machinery</i>	acre	1	\$ 27.28	\$ 27.28	\$ 0.27	_____
<i>Harvest Machinery</i>	acre	1	\$ 28.18	\$ 28.18	\$ 0.28	_____
<i>Irrigation</i>	acre	1	\$ 110.00	\$ 110.00	\$ 1.10	_____
General Overhead	% of VC	\$ 376.24	5%	\$ 18.81	\$ 0.19	_____
Management	% of VC	\$ 376.24	5%	\$ 18.81	\$ 0.19	_____
Owned Land Cost, Taxes, Cash Payment, etc.	acre	1	-	-	-	_____
Other _____	acre	1	-	-	-	_____
Total Fixed Costs				\$ 203.09	\$ 2.03	
Total Costs Excluding Land				\$ 579.33	\$ 5.79	
Your Profit Goal				\$ _____	/bushel	
Price Needed for Profit				\$ _____	/bushel	

* Substituting mechanical cultivation for pre-emerge herbicide application would lower variable costs by \$9.50/ac and increase fixed cost by \$1/ac.

** Planting may also be done with a grain drill. Substitution of a planter and bed operation with field cultivation and 20' grain drill would lower variable costs by \$3.84/ ac and fixed cost by \$1.07/ac.

*** Average of diesel and electric irrigation application costs. Electric is estimated at \$7/appl and diesel is estimated at \$16.20/appl when diesel costs \$3.55/gal.

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

Sensitivity Analysis of Irrigated Grain Sorghum

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
\$3.50	-\$113.74	-\$61.24	-\$26.24	\$8.76	\$61.26
\$4.00	-\$76.24	-\$16.24	\$23.76	\$63.76	\$123.76
\$4.50	-\$38.74	\$28.76	\$73.76	\$118.76	\$186.26
\$5.00	-\$1.24	\$73.76	\$123.76	\$173.76	\$248.76
\$5.50	\$36.26	\$118.76	\$173.76	\$228.76	\$311.26

Estimated Labor and Machinery Costs per Acre Preharvest Operations

Operation	Acres/Hour	Number of Times Over	Labor Use**** (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	\$ 3.19	\$ 9.27
Disk & Incorporate 32' with Tractor (180-199 hp) MFWD 190	15.3	1	0.08	0.64	\$ 1.67	\$ 4.36
Bed-Disk (Hipper) 6R-36 with Tractor (180-199 hp) MFWD 190	9.6	1	0.13	1.02	\$ 1.39	\$ 4.30
Plant - Rigid 6R-36 with Tractor (120-139 hp) 2WD 130	9.5	1	0.13	0.70	\$ 1.67	\$ 4.66
Fert Appl (Liquid) 6R-36 with Tractor (120-139 hp) 2WD 130	9.2	1	0.14	0.73	\$ 1.83	\$ 3.88
Spray (Broadcast) 60' with Tractor (120-139 hp) 2WD 130	35.5	1	0.04	0.19	\$ 0.34	\$ 0.82
Total Preharvest Values			0.70	4.76	\$ 10.09	\$ 27.28

Harvest Operations

Operation	Acres/Hour	Number of Times Over	Labor Use**** (hrs/ac)	Fuel Use (gal/ac)	Repairs (\$/ac)	Fixed Costs (\$/ac)
Header Wheat/Sorghum 18' Rigid with Combine (200-249 hp) 240 hp	6.5	1	0.19	1.90	\$ 4.42	\$ 24.89
Grain Cart Corn 500 bu with Tractor (120-139 hp) 2WD 130	10.6	1	0.12	0.63	\$ 1.22	\$ 3.29
Total Harvest Values			0.31	2.53	\$ 5.63	\$ 28.18

**** 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.

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