



UNIVERSITY OF ARKANSAS  
DIVISION OF AGRICULTURE  
Cooperative Extension Service

## Estimating 2009 Costs of Production Grain Sorghum, Furrow Irrigated, Loamy Soils

AG-1206-11-08

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ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
<b>DIRECT EXPENSES</b>					
<b>FERTILIZERS</b>					
45-60-70	acre	159.66	1.0000	159.66	_____
Urea, Solid (46% N)	lb.	0.30	200.0000	60.00	_____
Agrotain	lburea	0.02	200.0000	4.80	_____
<b>HERBICIDES</b>					
Atrazine 4L	pt	1.69	4.0000	6.76	_____
Dual II Magnum	pt	13.15	1.5000	19.73	_____
<b>INSECTICIDES</b>					
Insecticide - Midge	acre	2.97	1.0000	2.97	_____
<b>IRRIGATION SUPPLIES</b>					
Irrppip+lay+pickup	acre	13.50	1.0000	13.50	_____
<b>CROP SEED</b>					
Sorghum Concept Trt	lbseed	2.40	6.5000	15.60	_____
Insecticide Seed Trt	lbseed	0.96	6.5000	6.24	_____
<b>CUSTOM HIRE</b>					
Cstm Ap Grd Fert	acre	6.00	1.0000	6.00	_____
Cstm Ap Grd. Herb	acre	6.00	2.0000	12.00	_____
Cstm Ap Air Insect	acre	7.50	1.0000	7.50	_____
Haul Sorghum	bu	0.22	110.0000	24.20	_____
<b>GIN/DRY</b>					
Sorghum Checkoff	bu	0.01	110.0000	1.10	_____
<b>OPERATOR LABOR</b>					
Tractors	hour	9.92	0.5833	5.79	_____
Harvesters	hour	9.92	0.1021	1.01	_____
<b>IRRIGATION LABOR</b>					
Furrow Irr.	hour	8.60	0.1508	1.30	_____
<b>HAND LABOR</b>					
Implements	hour	8.60	0.1015	0.87	_____
<b>DIESEL FUEL</b>					
Tractors	gal	2.60	5.8108	15.09	_____
Harvesters	gal	2.60	1.2617	3.28	_____
Furrow Irr.	gal	2.60	6.0000	15.60	_____
<b>REPAIR &amp; MAINTENANCE</b>					
Implements	acre	4.51	1.0000	4.51	_____
Tractors	acre	2.25	1.0000	2.25	_____
Furrow Irr.	ac-in	0.18	6.0000	1.12	_____
INTEREST ON OP. CAP.	acre	9.36	1.0000	9.36	_____
<b>TOTAL DIRECT EXPENSES</b>				400.24	_____
<b>FIXED EXPENSES</b>					
Implements	acre	11.92	1.0000	11.92	_____
Tractors	acre	16.50	1.0000	16.50	_____
Furrow Irr.	each	3058.64	0.0083	25.49	_____
<b>TOTAL FIXED EXPENSES</b>				53.91	_____
<b>TOTAL SPECIFIED EXPENSES</b>				454.15	_____

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**Table 2. Estimated resource use and costs for field operations, per acre, Grain Sorghum, Furrow Irrigated, Loamy Soils, 2009**

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT COST		ALLOC	LABOR	OPERATING/DURABLE INPUT			TOTAL COST	
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	COST		
						-----dollars-----				dollars		-----dollars-----				
Disk Harrow	28'	MFWD 225	0.070	1.00	Nov	2.43	2.35	0.65	1.62	0.07	0.70					7.75
Chisel Plow(Folding)	24'	MFWD 190	0.076	1.00	Nov	2.22	2.07	0.69	1.44	0.07	0.76					7.18
Cstm Ap Grd Fert	acre			1.00	Mar							1.0000	6.00	6.00		6.00
45-60-70	acre											1.0000	159.66	159.66		159.66
Field Cultivate Fld	32'	MFWD 225	0.046	1.00	Mar	1.61	1.56	0.32	1.61	0.04	0.46					5.56
Disk Bed (Hipper)	8R-30	MFWD 190	0.093	1.00	Mar	2.73	2.54	0.31	0.95	0.09	0.93					7.46
Row Cond Rdg	26'	MFWD 190	0.059	1.00	Mar	1.74	1.62	0.15	0.76	0.05	0.59					4.86
Plant & Pre-Rigid	8R-30	MFWD 170	0.101	1.00	Apr	2.68	2.71	1.23	2.79	0.20	1.88					11.29
Sorghum Concept Trt	lbseed											6.5000	2.40	15.60		15.60
Atrazine 4L	pt											2.0000	1.69	3.38		3.38
Dual II Magnum	pt											1.5000	13.15	19.73		19.73
Insecticide Seed Trt	lbseed											6.5000	0.96	6.24		6.24
Cstm Ap Grd. Herb	acre			1.00	May							1.0000	6.00	6.00		6.00
Atrazine 4L	pt											2.0000	1.69	3.38		3.38
Cstm Ap Grd. Herb	acre			1.00	May							1.0000	6.00	6.00		6.00
Urea, Solid (46% N)	lb.											200.0000	0.30	60.00		60.00
Agrotain	lburea											200.0000	0.02	4.80		4.80
Cultivate	8R-30	MFWD 190	0.103	1.00	May	3.00	2.79	0.47	1.48	0.10	1.02					8.76
Irrppip+lay+pickup	acre			1.00	May							1.0000	13.50	13.50		13.50
Cstm Ap Air Insect	acre			1.00	Jun							1.0000	7.50	7.50		7.50
Insecticide - Midge	acre											1.0000	2.97	2.97		2.97
Header Sorghum	25' Rigid	240hp	0.102	1.00	Sep	3.28		0.54	0.96	0.10	1.01					5.79
Haul Sorghum	bu											110.0000	0.22	24.20		24.20
Sorghum Checkoff	bu											110.0000	0.01	1.10		1.10
Grain Cart	bu	MFWD 190	0.031	1.00	Sep	0.93	0.86	0.15	0.31	0.03	0.32					2.57
Furrow Irr.	each			1.00	Jun-Aug											25.49
Apply Water	ac-in															18.02
						-----		-----		-----		-----				
TOTALS						20.62	16.50	21.23	37.41	0.93	8.97			340.06		444.79
INTEREST ON OPERATING CAPITAL																9.36
TOTAL SPECIFIED COST																454.15

Information presented in this document is prepared solely as a general guide and is not intended to recognize or predict the costs and returns from any one particular farm operation. The mention of any commercial product in this analysis does not imply its endorsement by the University of Arkansas Cooperative Extension Service over other products not named, nor does the omission imply that they are not satisfactory. This budget does not include costs for land, overhead, or management. **AG-1206-11-08**

**Table 3. Break-even Yields (BEY) Required to cover Direct Expenses and Net Returns above Direct Expenses at Price/Yield Combinations for Select Land Tenure Arrangements, per acre.**

**Grain Sorghum, Furrow Irrigated, Loamy Soils, 2009**

Farm Owner							
BEY (bu/acre)	Crop Price (\$/bu)						
	3.75	3.95	4.15	4.35	4.54	4.74	4.94
	Net Returns above Variable Costs (\$/acre)						
80	-95	-79	-63	-47	-32	-16	0
83	-82	-66	-49	-33	-16	0	16
87	-69	-52	-34	-17	0	17	34
91	-54	-36	-18	0	18	36	54
96	-38	-19	0	19	38	57	76
101	-20	0	20	40	60	80	100
107	0	21	42	63	84	105	127

Farm Owner is assumed to have 100% Equity in Land

Tenant 75-25 Crop-Share							
BEY (bu/acre)	Crop Price (\$/bu)						
	3.75	3.95	4.15	4.35	4.54	4.74	4.94
	Net Returns above Variable Costs (\$/acre)						
108	-96	-80	-64	-48	-32	-16	0
113	-84	-67	-50	-33	-17	0	17
118	-70	-53	-35	-18	0	18	35
124	-55	-37	-18	0	18	37	55
130	-39	-19	0	19	39	58	77
137	-20	0	20	41	61	81	102
145	0	22	43	65	86	108	129

Landowner Receives 25% of the Crop.

Tenant pays 100% of Hauling Crop to Grain Elevator

**Tenant 50-50 Cost-Share**

Tenant 50-50 Cost-Share							
BEY (bu/acre)	Crop Price (\$/bu)						
	3.75	3.95	4.15	4.35	4.54	4.74	4.94
	Net Returns above Variable Costs (\$/acre)						
93	-55	-46	-37	-28	-18	-9	0
97	-48	-38	-29	-19	-10	0	10
102	-40	-30	-20	-10	0	10	20
107	-32	-21	-11	0	11	21	32
113	-22	-11	0	11	22	33	45
119	-12	0	12	24	35	47	59
126	0	12	25	37	50	62	75

Landowner Receives 50% of the Crop

Tenant Pays 100% of Hauling Crop to Grain Elevator.

Landowner Pays 100% of Irrigation Expenses (Except Labor).

Landowner Pays 50% of:

Seed, Fertilizer, Herbicides, Fungicides, Insecticides, and Aerial Application Costs.

**Tenant 80-20 Crop-Share**

Tenant 80-20 Crop-Share							
BEY (bu/acre)	Crop Price (\$/bu)						
	3.75	3.95	4.15	4.35	4.54	4.74	4.94
	Net Returns above Variable Costs (\$/acre)						
101	-96	-80	-64	-48	-32	-16	0
106	-83	-67	-50	-33	-17	0	17
110	-70	-52	-35	-17	0	17	35
116	-55	-37	-18	0	18	37	55
122	-38	-19	0	19	38	58	77
128	-20	0	20	41	61	81	101
136	0	21	43	64	86	107	129

Landowner Receives 20% of the Crop

Tenant Pays 100% of Hauling Crop to Grain Elevator.