

The following pages represent a single crop budget but at 3 levels of detail and for 3 planning yield levels

Abstract level budget - The most summarized version of a budget. (e.g., a single line represents all fertilizer costs)

Summary level budget - A more detailed crop budget. (e.g., Fertilizer is broken out into N, P, K)

Detailed level budget - All the detail for producing a crop. (e.g., The specific fertilizers are listed).

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Middle yield - The basic crop budget for a region and crop.

A detailed, summary, and abstract level budget are included for the middle yield.

Low and High yield - Budgets based on the middle yield but with a lower/higher yield goal (and irrigation level).

These high and low yield level budgets only include the abstract level budgets.

The 2 tables below are sensitivity tables that show the returns over direct costs and the returns over total costs

The tables have the basic budget price in the middle column

On either side of the base price are potential prices 5% and 10% above and below this base price

For irrigated budgets the 3 yield levels are also associated with different irrigation levels

10.5 inches of water for LOW yields

12.0 inches of water for MIDDLE yields

13.5 inches of water for HIGH yields

TABLE 1. RETURNS OVER DIRECT COSTS

		Prices					
		\$4.60	\$4.86	\$5.11	\$5.37	\$5.63	
Yields	144.0 ll	\$350	\$387	\$424	\$461	\$498	Low yield
	160.0 ll	\$369	\$410	\$451	\$492	\$533	Middle yield
	172.0 ll	\$443	\$487	\$531	\$575	\$619	High yield

TABLE 2. RETURNS OVER TOTAL COSTS

		Prices					
		\$4.60	\$4.86	\$5.11	\$5.37	\$5.63	
Yields	144.0 ll	-\$164	-\$127	-\$90	-\$53	-\$16	Low yield
	160.0 ll	-\$145	-\$104	-\$63	-\$22	\$19	Middle yield
	172.0 ll	-\$71	-\$27	\$17	\$61	\$105	High yield

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
<b>INCOME</b>						
Product						
Grain Sorghum - Northwest KS	bu	\$5.11	160.00	\$818.36	\$818.36	_____
--TOTAL INCOME--					\$818.36	_____
<b>DIRECT EXPENSES</b>						
Additional labor					\$0.60	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$33.78	_____
Diesel					\$12.57	_____
Fertilizers					\$116.15	_____
Herbicides					\$62.61	_____
Irrigation energy (NG)					\$32.35	_____
Irrigation labor					\$8.16	_____
Miscellaneous					\$12.10	_____
Operator labor					\$5.98	_____
Repair & Maintenance					\$16.44	_____
Seeds					\$18.12	_____
Interest on operating capital		8% percent on direct expenses			\$14.14	_____
--TOTAL DIRECT EXPENSES--					\$367.53	_____
-----Total direct expenses per bu \$2.3						
<b>FIXED EXPENSES</b>						
Cash rent					\$230.00	_____
Capital recovery (depreciation + interest)					\$283.85	_____
--TOTAL FIXED EXPENSES--					\$513.85	_____
-----Total expenses per bu \$5.51						
<b>RETURNS ABOVE DIRECT EXPENSES</b>					\$450.83	=====
<b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>					-\$63.02	

12 acre-inches of water applied  
300 foot well depth  
\$ 2.7 fuel cost per acre-inch of water applied  
.71 Mcf of natural gas per acre-inch of water applied  
\$ 3.78 per Mcf for cost of natural gas  
8.56 Mcf of fuel used in total

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Summary page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
<b>INCOME</b>						
Product						
Grain Sorghum - Northwest KS	bu	\$5.11	160.00	\$818.36	\$818.36	_____
--TOTAL INCOME--					\$818.36	_____
<b>DIRECT EXPENSES</b>						
Irrigation	-----					_____
Additional labor						
Planting	-----			\$0.47		
Spraying	-----			\$0.13	\$0.60	_____
Crop consulting	-----			\$7.28	\$7.28	_____
Crop insurance	-----			\$27.25	\$27.25	_____
Custom Operations						
Hauling	-----			\$33.78	\$33.78	_____
Diesel						
Harvesting	-----			\$5.63		
Hauling	-----			\$3.29		
Planting	-----			\$1.21		
Spraying	-----			\$1.08		
Tillage	-----			\$1.37	\$12.57	_____
Fertilizers						
Nitrogen	lbs	\$0.63	121.00	\$76.47		
Phosphorus	lbs	\$0.64	62.00	\$39.68		
Potassium	lbs	\$0.00	0.00	\$0.00		
Lime	lbs	\$0.00	0.00	\$0.00	\$116.15	_____
Herbicides	-----			\$62.61	\$62.61	_____
Irrigation energy (NG)						
Irrigation	-----			\$32.35	\$32.35	_____
Irrigation labor						
Irrigation	-----			\$8.16	\$8.16	_____
Miscellaneous	-----			\$12.10	\$12.10	_____
Operator labor						
Harvesting	-----			\$2.04		
Hauling	-----			\$2.04		
Planting	-----			\$0.75		
Spraying	-----			\$0.42		
Tillage	-----			\$0.72	\$5.98	_____
Repair & Maintenance						
Harvesting	-----			\$6.15		
Hauling	-----			\$2.16		
Irrigation	-----			\$4.32		
Planting	-----			\$2.42		
Spraying	-----			\$0.46		

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Summary page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Tillage				\$0.93	\$16.44	_____
Seeds				\$18.12	\$18.12	_____
Interest on operating capital	8% percent on direct expenses			\$14.14	\$14.14	_____
--TOTAL DIRECT EXPENSES--					\$367.53	
-----Total direct expenses per bu \$2.3						
<b>FIXED EXPENSES</b>						
Cash rent				\$230.00	\$230.00	_____
Capital recovery (depreciation + interest)						
Harvesting				\$25.37		
Hauling				\$8.35		
Irrigation				\$234.04		
Planting				\$6.99		
Spraying				\$3.59		
Tillage				\$5.50	\$283.85	_____
--TOTAL FIXED EXPENSES--					\$513.85	
-----Total expenses per bu \$5.51						
<b>RETURNS ABOVE DIRECT EXPENSES</b>					\$450.83	
<b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>					-\$63.02	

12 acre-inches of water applied  
 300 foot well depth  
 \$ 2.7 fuel cost per acre-inch of water applied  
 .71 Mcf of natural gas per acre-inch of water applied  
 \$ 3.78 per Mcf for cost of natural gas  
 8.56 Mcf of fuel used in total

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

Detailed budget page(s)

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
<b>INCOME</b>						
Product						
Grain Sorghum - Northwest KS	bu	\$5.11	160.00	\$818.36	\$818.36	_____
Other						
Govt payments, indemnity payments, etc.						_____
--TOTAL INCOME--					\$818.36	_____
<b>DIRECT EXPENSES</b>						
Irrigation	hour		?			_____
Additional labor						
Planting						
Plant - Folding_24R-30 with Tractor(180-199hp)CB	hour	\$15.00	0.03	\$0.47		
Spraying						
Sprayer 1200+gal_120' 300hp with Sprayer 1200+gal	hour	\$15.00	0.01	\$0.13	\$0.60	_____
Crop consulting						
-----						
Grain Sorghum_West_Irr	acre	\$7.28	1.00	\$7.28	\$7.28	_____
Crop insurance						
-----						
Grain Sorghum_West_Irr	acre	\$27.25	1.00	\$27.25	\$27.25	_____
Custom Operations						
Hauling						
Hauling sorghum	bu	\$0.21	160.00	\$33.78	\$33.78	_____
Diesel						
Harvesting						
Header Wheat/Sorghum_30' Rigid with Combine (300-349	gal	\$3.95	1.42	\$5.63		
Hauling						
Grain Cart Wht/Sor_1000 bu with Tractor(180-199hp)CB	gal	\$3.95	0.83	\$3.29		
Planting						
Plant - Folding_24R-30 with Tractor(180-199hp)CB	gal	\$3.95	0.31	\$1.21		
Spraying						
Sprayer 1200+gal_120' 300hp with Sprayer 1200+gal	gal	\$3.95	0.27	\$1.08		
Tillage						
Field Cultivate Fld_50' with Tractor(200-249hp)CB	gal	\$3.95	0.35	\$1.37	\$12.57	_____
Fertilizers						
-----						
MAP (11-52-0)	lb	\$0.40	120.00	\$48.00		
Urea	lb	\$0.29	235.00	\$68.15	\$116.15	_____
- - - ACTUAL POUNDS - 121 lb - N, 62 lb - P, 0 lb - K						
Herbicides						
-----						
2,4-D LV Ester	oz	\$0.18	8.00	\$1.44		
Atrazine 4L	pt	\$2.73	1.80	\$4.91		
Bicep II Magnum	pt	\$5.73	2.10	\$12.04		
Dicamba	oz	\$0.69	12.00	\$8.33		
Glyphosate	oz	\$0.43	32.00	\$13.81		
Lumax EZ	pt	\$8.18	2.70	\$22.08	\$62.61	_____
Irrigation energy (NG)						
Irrigation						

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

Detailed budget page(s)

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Well, pump, and gearhead	ac-in	\$2.70	12.00	\$32.35	\$32.35	_____
Irrigation labor						
Irrigation						
Well, pump, and gearhead	hour	\$17.00	0.48	\$8.16	\$8.16	_____
Miscellaneous						
-----						
Grain Sorghum_West_Irr	acre	\$12.10	1.00	\$12.10	\$12.10	_____
Operator labor						
Harvesting						
Header Wheat/Sorghum_30' Rigid with Combine (300-349	hour	\$20.00	0.10	\$2.04		
Hauling						
Grain Cart Wht/Sor_1000 bu with Tractor(180-199hp)CB	hour	\$20.00	0.10	\$2.04		
Planting						
Plant - Folding_24R-30 with Tractor(180-199hp)CB	hour	\$20.00	0.04	\$0.75		
Spraying						
Sprayer 1200+gal_120' 300hp with Sprayer 1200+gal	hour	\$20.00	0.02	\$0.42		
Tillage						
Field Cultivate Fld_50' with Tractor(200-249hp)CB	hour	\$20.00	0.04	\$0.72	\$5.98	_____
Repair & Maintenance						
Harvesting						
Header Wheat/Sorghum_30' Rigid with Combine (300-349	Hour	\$72.27	0.09	\$6.15		
Hauling						
Grain Cart Wht/Sor_1000 bu with Tractor(180-199hp)CB	Hour	\$25.32	0.09	\$2.16		
Irrigation						
Well, pump, and gearhead	ac-in	?	12.00			
Well, pump, and gearhead	ac-in	\$0.36	12.00	\$4.32		
Planting						
Plant - Folding_24R-30 with Tractor(180-199hp)CB	Hour	\$77.10	0.03	\$2.42		
Spraying						
Sprayer 1200+gal_120' 300hp with Sprayer 1200+gal	Hour	\$52.39	0.01	\$0.46		
Tillage						
Field Cultivate Fld_50' with Tractor(200-249hp)CB	Hour	\$31.08	0.03	\$0.93	\$16.44	_____
Seeds						
-----						
Milo - concep treated	lb	\$3.40	5.33	\$18.12	\$18.12	_____
Interest on operating capital						
				8% percent on direct expenses \$14.14	\$14.14	_____
--TOTAL DIRECT EXPENSES--					\$367.53	
-----Total direct expenses per bu \$2.3						
FIXED EXPENSES						
Cash rent						
-----						
All crops_NW_Irr	acre	\$230.00	1.00	\$230.00	\$230.00	_____
Capital recovery (depreciation + interest)						
Harvesting						
Header Wheat/Sorghum_30' Rigid with Combine (300-349	Hour	\$298.01	0.09	\$25.37		
Hauling						
Grain Cart Wht/Sor_1000 bu with Tractor(180-199hp)CB	Hour	\$98.13	0.09	\$8.35		
Irrigation						
Irrigation - Center Pivot	acre	\$89.25	1.00	\$89.25		
Power unit	acre	\$31.29	1.00	\$31.29		
Well, pump, and gearhead	acre	\$113.49	1.00	\$113.49		
Planting						

# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - MIDDLE YIELDS

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Detailed budget page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Plant - Folding_24R-30 with Tractor(180-199hp)CB	Hour	\$222.52	0.03	\$6.99		
Spraying						
Sprayer 1200+gal_120' 300hp with Sprayer 1200+gal	Hour	\$407.44	0.01	\$3.59		
Tillage						
Field Cultivate Fld_50' with Tractor(200-249hp)CB	Hour	\$184.27	0.03	\$5.50	\$283.85	_____
--TOTAL FIXED EXPENSES--					\$513.85	
-----Total expenses per bu \$5.51						
RETURNS ABOVE DIRECT EXPENSES					\$450.83	
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					-\$63.02	

12 acre-inches of water applied  
 300 foot well depth  
 \$ 2.7 fuel cost per acre-inch of water applied  
 .71 Mcf of natural gas per acre-inch of water applied  
 \$ 3.78 per Mcf for cost of natural gas  
 8.56 Mcf of fuel used in total



# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - LOW YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
<b>INCOME</b>						
Product						
Grain Sorghum - Northwest KS	bu	\$5.11	144.00	\$736.52	\$736.52	_____
--TOTAL INCOME--					\$736.52	_____
<b>DIRECT EXPENSES</b>						
Additional labor					\$0.60	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$0.00	_____
Diesel					\$12.57	_____
Fertilizers					\$104.54	_____
Herbicides					\$62.61	_____
Irrigation energy (NG)					\$28.31	_____
Irrigation labor					\$7.14	_____
Miscellaneous					\$12.10	_____
Operator labor					\$5.98	_____
Repair & Maintenance					\$15.90	_____
Seeds					\$16.31	_____
Interest on operating capital		8% percent on direct expenses			\$12.02	_____
--TOTAL DIRECT EXPENSES--					\$312.61	_____
-----Total direct expenses per bu \$2.17						
<b>FIXED EXPENSES</b>						
Cash rent					\$230.00	_____
Capital recovery (depreciation + interest)					\$283.85	_____
--TOTAL FIXED EXPENSES--					\$513.85	_____
-----Total expenses per bu \$5.74						
<b>RETURNS ABOVE DIRECT EXPENSES</b>					\$423.92	=====
<b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>					-\$89.93	

10.5 acre-inches of water applied  
300 foot well depth  
\$ 2.7 fuel cost per acre-inch of water applied  
.71 Mcf of natural gas per acre-inch of water applied  
\$ 3.78 per Mcf for cost of natural gas  
7.49 Mcf of fuel used in total



# 2024 Irrigated Grain Sorghum (center-pivot) Cost-Return Budget

-----Northwest KS - HIGH YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, Lucas Haag, John Holman

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
<b>INCOME</b>						
Product						
Grain Sorghum - Northwest KS	bu	\$5.11	172.00	\$879.74	\$879.74	_____
--TOTAL INCOME--					\$879.74	_____
<b>DIRECT EXPENSES</b>						
Additional labor					\$0.60	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$0.00	_____
Diesel					\$12.57	_____
Fertilizers					\$124.86	_____
Herbicides					\$62.61	_____
Irrigation energy (NG)					\$36.40	_____
Irrigation labor					\$9.18	_____
Miscellaneous					\$12.10	_____
Operator labor					\$5.98	_____
Repair & Maintenance					\$16.98	_____
Seeds					\$19.48	_____
Interest on operating capital		8% percent on direct expenses			\$13.41	_____
--TOTAL DIRECT EXPENSES--					\$348.70	_____
-----Total direct expenses per bu \$2.03						
<b>FIXED EXPENSES</b>						
Cash rent					\$230.00	_____
Capital recovery (depreciation + interest)					\$283.85	_____
--TOTAL FIXED EXPENSES--					\$513.85	_____
-----Total expenses per bu \$5.01						
<b>RETURNS ABOVE DIRECT EXPENSES</b>					\$531.04	=====
<b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>					\$17.19	

13.5 acre-inches of water applied  
 300 foot well depth  
 \$ 2.7 fuel cost per acre-inch of water applied  
 .71 Mcf of natural gas per acre-inch of water applied  
 \$ 3.78 per Mcf for cost of natural gas  
 9.63 Mcf of fuel used in total