

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).

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

8.5 inches of water for LOW yields

10.0 inches of water for MIDDLE yields

11.5 inches of water for HIGH yields

TABLE 1. RETURNS OVER DIRECT COSTS

		Prices					
		\$4.57	\$4.83	\$5.08	\$5.34	\$5.59	
	144.0 ll	\$377	\$414	\$451	\$487	\$524	Low yield
Yields	160.0 ll	\$414	\$455	\$495	\$536	\$577	Middle yield
	172.0 ll	\$474	\$517	\$561	\$605	\$648	High yield

TABLE 2. RETURNS OVER TOTAL COSTS

		Prices					
		\$4.57	\$4.83	\$5.08	\$5.34	\$5.59	
	144.0 ll	-\$76	-\$39	-\$3	\$34	\$70	Low yield
Yields	160.0 ll	-\$39	\$1	\$42	\$83	\$123	Middle yield
	172.0 ll	\$20	\$64	\$107	\$151	\$195	High yield

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

-----North Central KS - MIDDLE YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, and Stewart Duncan

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
INCOME						
Product						
Grain Sorghum - North Central KS	bu	\$5.08	160.00	\$812.99	\$812.99	_____

--TOTAL INCOME--					\$812.99	_____
DIRECT EXPENSES						
Additional labor					\$0.93	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$18.18	_____
Diesel					\$14.82	_____
Fertilizers					\$113.34	_____
Herbicides					\$46.55	_____
Irrigation energy (NG)					\$15.28	_____
Irrigation labor					\$6.80	_____
Miscellaneous					\$12.10	_____
Operator labor					\$7.08	_____
Repair & Maintenance					\$17.77	_____
Seeds					\$18.12	_____
Interest on operating capital		8% percent on direct expenses			\$12.22	_____

--TOTAL DIRECT EXPENSES--					\$317.70	_____
-----Total direct expenses per bu \$1.99						
FIXED EXPENSES						
Cash rent					\$215.00	_____
Capital recovery (depreciation + interest)					\$238.43	_____

--TOTAL FIXED EXPENSES--					\$453.43	_____
-----Total expenses per bu \$4.82						
					=====	
RETURNS ABOVE DIRECT EXPENSES					\$495.28	_____
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					\$41.85	_____

10 acre-inches of water applied
 150 foot well depth
 \$ 1.53 fuel cost per acre-inch of water applied
 .4 Mcf of natural gas per acre-inch of water applied
 \$ 3.78 per Mcf for cost of natural gas
 4.04 Mcf of fuel used in total

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

-----North Central KS - MIDDLE YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, and Stewart Duncan

Summary page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
INCOME						
Product						
Grain Sorghum - North Central KS	bu	\$5.08	160.00	\$812.99	\$812.99	_____
--TOTAL INCOME--					\$812.99	_____
DIRECT EXPENSES						
Irrigation	-----					_____
Additional labor						
Fertilizer application	-----			\$0.14		
Planting	-----			\$0.49		
Spraying	-----			\$0.30	\$0.93	_____
Crop consulting	-----			\$7.28	\$7.28	_____
Crop insurance	-----			\$27.25	\$27.25	_____
Custom Operations						
Fertilizer application	-----			\$18.18	\$18.18	_____
Diesel						
Fertilizer application	-----			\$0.84		
Harvesting	-----			\$6.75		
Hauling	-----			\$3.95		
Planting	-----			\$1.26		
Spraying	-----			\$2.02	\$14.82	_____
Fertilizers						
Nitrogen	lbs	\$0.52	143.00	\$73.66		
Phosphorus	lbs	\$0.64	62.00	\$39.68		
Potassium	lbs	\$0.00	0.00	\$0.00		
Lime	lbs	\$0.00	0.00	\$0.00	\$113.34	_____
Herbicides	-----			\$46.55	\$46.55	_____
Irrigation energy (NG)						
Irrigation	-----			\$15.28	\$15.28	_____
Irrigation labor						
Irrigation	-----			\$6.80	\$6.80	_____
Miscellaneous	-----			\$12.10	\$12.10	_____
Operator labor						
Fertilizer application	-----			\$0.44		
Harvesting	-----			\$2.45		
Hauling	-----			\$2.45		
Planting	-----			\$0.79		
Spraying	-----			\$0.95	\$7.08	_____
Repair & Maintenance						
Fertilizer application	-----			\$1.43		
Harvesting	-----			\$7.04		
Hauling	-----			\$2.25		
Irrigation	-----			\$3.60		

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

-----North Central KS - MIDDLE YIELDS

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Summary page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Planting	-----			\$2.82		
Spraying	-----			\$0.62	\$17.77	_____
Seeds	-----			\$18.12	\$18.12	_____
Interest on operating capital	8% percent on direct expenses			\$12.22	\$12.22	_____
--TOTAL DIRECT EXPENSES--					\$317.70	
-----Total direct expenses per bu \$1.99						
FIXED EXPENSES						
Cash rent	-----			\$215.00	\$215.00	_____
Capital recovery (depreciation + interest)						
Fertilizer application	-----			\$3.68		
Harvesting	-----			\$29.83		
Hauling	-----			\$9.31		
Irrigation	-----			\$182.82		
Planting	-----			\$7.97		
Spraying	-----			\$4.82	\$238.43	_____
--TOTAL FIXED EXPENSES--					\$453.43	
-----Total expenses per bu \$4.82						
RETURNS ABOVE DIRECT EXPENSES					\$495.28	
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					\$41.85	

10 acre-inches of water applied
 150 foot well depth
 \$ 1.53 fuel cost per acre-inch of water applied
 .4 Mcf of natural gas per acre-inch of water applied
 \$ 3.78 per Mcf for cost of natural gas
 4.04 Mcf of fuel used in total

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

-----North Central KS - MIDDLE YIELDS

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Detailed budget page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
INCOME						
Product						
Grain Sorghum - North Central KS	bu	\$5.08	160.00	\$812.99	\$812.99	_____
Other						
Govt payments, indemnity payments, etc.						_____
--TOTAL INCOME--					\$812.99	_____
DIRECT EXPENSES						
Irrigation	hour		?			_____
Additional labor						
Fertilizer application						
Nutrient applicator_60 ft with Tractor(200-249hp)CB	hour	\$15.00	0.01	\$0.14		
Planting						
NT Plant-Folding_24R-30 with Tractor(180-199hp)CB	hour	\$15.00	0.03	\$0.49		
Spraying						
Sprayer 800gal_80' 250hp with Sprayer 800gal	hour	\$15.00	0.02	\$0.30	\$0.93	_____
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						
Fertilizer application						
Application of Anhydrous Ammonia	acre	\$18.18	1.00	\$18.18	\$18.18	_____
Diesel						
Fertilizer application						
Nutrient applicator_60 ft with Tractor(200-249hp)CB	gal	\$3.95	0.21	\$0.84		
Harvesting						
Header Wheat/Sorghum_25' Rigid with Combine (300-349	gal	\$3.95	1.71	\$6.75		
Hauling						
Grain Cart Wht/Sor_700 bu with Tractor(180-199hp)CB	gal	\$3.95	1.00	\$3.95		
Planting						
NT Plant-Folding_24R-30 with Tractor(180-199hp)CB	gal	\$3.95	0.32	\$1.26		
Spraying						
Sprayer 800gal_80' 250hp with Sprayer 800gal	gal	\$3.95	0.51	\$2.02	\$14.82	_____
Fertilizers						

Anhydrous	lb	\$0.41	147.00	\$59.54		
MAP (11-52-0)	lb	\$0.40	120.00	\$48.00		
Urea	lb	\$0.29	20.00	\$5.80	\$113.34	_____
- - - ACTUAL POUNDS - 143 lb - N, 62 lb - P, 0 lb - K						
Herbicides						

Bicep II Magnum	qt	\$11.47	1.60	\$18.34		
Dicamba	oz	\$0.69	16.00	\$11.11		
Glyphosate	oz	\$0.43	32.00	\$13.81		
Huskie	oz	\$0.82	4.00	\$3.29	\$46.55	_____
Irrigation energy (NG)						

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

-----North Central KS - MIDDLE YIELDS

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Detailed budget page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Irrigation						
Well, pump, and gearhead	ac-in	\$1.53	10.00	\$15.28	\$15.28	_____
Irrigation labor						
Irrigation						
Well, pump, and gearhead	hour	\$17.00	0.40	\$6.80	\$6.80	_____
Miscellaneous						

Grain Sorghum_West_Irr	acre	\$12.10	1.00	\$12.10	\$12.10	_____
Operator labor						
Fertilizer application						
Nutrient applicator_60 ft with Tractor(200-249hp)CB	hour	\$20.00	0.02	\$0.44		
Harvesting						
Header Wheat/Sorghum_25' Rigid with Combine (300-349	hour	\$20.00	0.12	\$2.45		
Hauling						
Grain Cart Wht/Sor_700 bu with Tractor(180-199hp)CB	hour	\$20.00	0.12	\$2.45		
Planting						
NT Plant-Folding_24R-30 with Tractor(180-199hp)CB	hour	\$20.00	0.04	\$0.79		
Spraying						
Sprayer 800gal_80' 250hp with Sprayer 800gal	hour	\$20.00	0.05	\$0.95	\$7.08	_____
Repair & Maintenance						
Fertilizer application						
Nutrient applicator_60 ft with Tractor(200-249hp)CB	Hour	\$77.85	0.02	\$1.43		
Harvesting						
Header Wheat/Sorghum_25' Rigid with Combine (300-349	Hour	\$68.95	0.10	\$7.04		
Hauling						
Grain Cart Wht/Sor_700 bu with Tractor(180-199hp)CB	Hour	\$22.08	0.10	\$2.25		
Irrigation						
Well, pump, and gearhead	ac-in	?	10.00			
Well, pump, and gearhead	ac-in	\$0.36	10.00	\$3.60		
Planting						
NT Plant-Folding_24R-30 with Tractor(180-199hp)CB	Hour	\$86.10	0.03	\$2.82		
Spraying						
Sprayer 800gal_80' 250hp with Sprayer 800gal	Hour	\$46.93	0.01	\$0.62	\$17.77	_____
Seeds						

Milo - concep treated	lb	\$3.40	5.33	\$18.12	\$18.12	_____
Interest on operating capital						
				8% percent on direct expenses	\$12.22	\$12.22

--TOTAL DIRECT EXPENSES--						\$317.70
-----Total direct expenses per bu						\$1.99
FIXED EXPENSES						
Cash rent						

All crops_NC_Irr	acre	\$215.00	1.00	\$215.00	\$215.00	_____
Capital recovery (depreciation + interest)						
Fertilizer application						
Nutrient applicator_60 ft with Tractor(200-249hp)CB	Hour	\$200.66	0.02	\$3.68		
Harvesting						
Header Wheat/Sorghum_25' Rigid with Combine (300-349	Hour	\$291.96	0.10	\$29.83		
Hauling						
Grain Cart Wht/Sor_700 bu with Tractor(180-199hp)CB	Hour	\$91.12	0.10	\$9.31		
Irrigation						
Irrigation - Center Pivot	acre	\$89.25	1.00	\$89.25		

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

-----North Central KS - MIDDLE YIELDS

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Detailed budget page(s)

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
Power unit	acre	\$17.67	1.00	\$17.67		
Well, pump, and gearhead	acre	\$75.90	1.00	\$75.90		
Planting						
NT Plant-Folding_24R-30 with Tractor(180-199hp)CB	Hour	\$243.59	0.03	\$7.97		
Spraying						
Sprayer 800gal_80' 250hp with Sprayer 800gal	Hour	\$364.94	0.01	\$4.82	\$238.43	_____
--TOTAL FIXED EXPENSES--					\$453.43	
-----Total expenses per bu \$4.82						
RETURNS ABOVE DIRECT EXPENSES					\$495.28	
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					\$41.85	

10 acre-inches of water applied
 150 foot well depth
 \$ 1.53 fuel cost per acre-inch of water applied
 .4 Mcf of natural gas per acre-inch of water applied
 \$ 3.78 per Mcf for cost of natural gas
 4.04 Mcf of fuel used in total

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

-----North Central KS - LOW YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, and Stewart Duncan

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
INCOME						
Product						
Grain Sorghum - North Central KS	bu	\$5.08	144.00	\$731.69	\$731.69	_____
--TOTAL INCOME--					\$731.69	_____
DIRECT EXPENSES						
Additional labor					\$0.93	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$0.00	_____
Diesel					\$14.82	_____
Fertilizers					\$102.00	_____
Herbicides					\$46.55	_____
Irrigation energy (NG)					\$12.99	_____
Irrigation labor					\$5.78	_____
Miscellaneous					\$12.10	_____
Operator labor					\$7.08	_____
Repair & Maintenance					\$17.23	_____
Seeds					\$16.31	_____
Interest on operating capital		8% percent on direct expenses			\$10.81	_____
--TOTAL DIRECT EXPENSES--					\$281.12	_____
-----Total direct expenses per bu \$1.95						
FIXED EXPENSES						
Cash rent					\$215.00	_____
Capital recovery (depreciation + interest)					\$238.43	_____
--TOTAL FIXED EXPENSES--					\$453.43	_____
-----Total expenses per bu \$5.1						
RETURNS ABOVE DIRECT EXPENSES					\$450.57	=====
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					-\$2.87	

8.5 acre-inches of water applied
 150 foot well depth
 \$ 1.53 fuel cost per acre-inch of water applied
 .4 Mcf of natural gas per acre-inch of water applied
 \$ 3.78 per Mcf for cost of natural gas
 3.44 Mcf of fuel used in total

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

-----North Central KS - HIGH YIELDS

Gregg Ibendahl, Daniel O'Brien, Sarah Lancaster, and Stewart Duncan

Budget abstract

Date: Nov-01-2023

item	unit	price	quantity	amount	Sub-total	your farm
INCOME						
Product						
Grain Sorghum - North Central KS	bu	\$5.08	172.00	\$873.96	\$873.96	_____

--TOTAL INCOME--					\$873.96	_____
DIRECT EXPENSES						

Additional labor					\$0.93	_____
Crop consulting					\$7.28	_____
Crop insurance					\$27.25	_____
Custom Operations					\$0.00	_____
Diesel					\$14.82	_____
Fertilizers					\$121.84	_____
Herbicides					\$46.55	_____
Irrigation energy (NG)					\$17.57	_____
Irrigation labor					\$7.82	_____
Miscellaneous					\$12.10	_____
Operator labor					\$7.08	_____
Repair & Maintenance					\$18.31	_____
Seeds					\$19.48	_____
Interest on operating capital		8% percent on direct expenses			\$12.04	_____

--TOTAL DIRECT EXPENSES--					\$313.06	_____
-----Total direct expenses per bu \$1.82						
FIXED EXPENSES						
Cash rent					\$215.00	_____
Capital recovery (depreciation + interest)					\$238.43	_____

--TOTAL FIXED EXPENSES--					\$453.43	_____
-----Total expenses per bu \$4.46						
					=====	
RETURNS ABOVE DIRECT EXPENSES					\$560.90	_____
RETURNS ABOVE TOTAL SPECIFIED EXPENSES					\$107.47	_____

11.5 acre-inches of water applied
 150 foot well depth
 \$ 1.53 fuel cost per acre-inch of water applied
 .4 Mcf of natural gas per acre-inch of water applied
 \$ 3.78 per Mcf for cost of natural gas
 4.65 Mcf of fuel used in total