

# CROP ENTERPRISE

B U D G E T



## CONVENTIONAL IRRIGATED CORN FOR GRAIN, GOSHEN COUNTY, WYOMING

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This crop budget models a representative irrigated corn operation in southeast Wyoming. The operations described in this budget are typical for a southeast Wyoming operation. Irrigated corn harvested for grain is a typical crop in southeast Wyoming. The budget contains one year of corn production and its representative operations. Operations and values in the budget represent the best estimates from multiple sources in southeast Wyoming and the Nebraska Panhandle, including University of Nebraska state crop budgets (Klein et al., 2017a; Klein et al. 2017b). University of Minnesota machinery cost estimates were used to establish use-related and total costs (Lazarus, 2015).

Many different corn varieties are planted to mostly irrigated acres in Wyoming. Almost all of the corn planted in the state, and in the nation, are considered biotech varieties. Biotech varieties would include any type of glyphosate resistant (GR) or *Bacillus thuringiensis* enabled (Bt) corn. Combining modified biotech seed with compatible herbicide and pesticide regimes is common in commercial U.S. corn production.

### Land

This budget assumes the land base is owned by the producer. Real estate opportunity cost is assumed at 4 percent per acre. Real estate taxes are assumed to be 1 percent per acre. The per-acre land value is estimated as the average value of irrigated cropland in the state of Wyoming, according to the most current Wyoming Agricultural Statistics Service survey (USDA-NASS, 2017).

### Labor

This budget assumes labor is provided by the landowner at a rate of \$25 per hour for all field operations except the custom application of fertilizer, assumed at \$6.50 per acre by a chemical supply company or \$3.96 per acre if done by the landowner.

### Capital

Interest on operating capital is included at 5.5 percent. This percentage represents interest paid to a lending institution on loaned capital. Interest is charged on operating capital for cash expenses for a 6-month window. This percentage should be adjusted based on the individual producer's situation.

### Field Operations

The enterprise budget is based on an assumed yield of 150 bushels per acre. No crop insurance is assumed for this budget, but there are various options available. Three fertilizer applications are included in the budget, a pre-plant 32-0-0 application, a 10-34-0 pop-up fertilizer, and post-plant application with a coulter rig. (Fertilizer application through chemigation—delivered via an irrigation system—is also possible). Center pivot irrigation is assumed, and we consider the use of an electric motor and 50-foot well depth (Klein et al., 2017b). Pivot costs



EXTENSION

# Conventional Irrigated Corn for Grain, Southeast Wyoming, 2017

Conventional Corn, 150 bushel/acre goal  
Pivot irrigated, 50 foot well, 13 acre inches

## Conventional Corn

Field Operations	Use Related Cost/Acre	Total Cost/Acre
Deep Rip	\$11.16	\$14.07
Disc	\$8.92	\$11.33
Field Cultivation	\$4.87	\$6.24
Pre Plant Spray	\$3.03	\$3.96
Plant	\$11.97	\$16.10
Row Crop Cultivation	\$6.15	\$7.73
Post Plant Spray	\$3.03	\$3.96
Pivot Irrigation, 50'	\$58.50	\$145.55
Harvest Corn	\$32.03	\$37.78
Grain Cart	\$13.11	\$15.99
Truck	Custom	
Stalk Chop	\$10.80	\$13.39
<b>Total Conventional Corn Field Operations</b>	<b>\$163.57</b>	<b>\$276.10</b>

Materials and Services	Type	Rate	Unit	Per Unit Price	Total Cost
Pre-Plant	32-0-0 Fertilizer	125	lbs N	\$0.47	\$58.75
	Balance Flexx Herbicide	4	ounce	\$6.00	\$24.00
	Bicep II Magnum Herbicide	2.1	quart	\$12.50	\$26.25
At Plant	10-34-0 Fertilizer	8	gallon	\$2.80	\$22.40
	Corn SmartStax RIB Complete Seed	36.8	k seed	\$3.81	\$140.30
Liquid Fertilizer	32-0-0 Fertilizer (Applied by R2)	40	lbs N	\$0.47	\$18.80
	Spray	1	acre	\$7.00	\$7.00
Custom Herbicide	Glyphosate with Surf	32	ounce	\$0.13	\$4.00
	Dicamba	12	ounce	\$0.59	\$7.03
	Haul Grain Bushels	150	bushel	\$0.36	\$54.00
Harvest	Dry 2 Points Removed	150	bushel	\$0.09	\$13.50
	Total Field Operations				\$376.03
Listed Operations, Materials, and Services					\$652.13
Annual Interest on Operation Capital	Cash Related/Non Ownership	5.50%		\$539.60	\$29.68
<b>Total Operations, Materials, and Services</b>					<b>\$681.81</b>
Overhead	Insurance, vehicles, office				\$20.00
Real Estate Opportunity Cost	Wyoming Irrigated	\$2,200.00	acre	4.00%	\$88.00
Real Estate Taxes		\$2,200.00	acre	1.00%	\$22.00
<b>Total Cost Including Overhead</b>					<b>\$811.81</b>
Cost per Bushel					\$5.41
Cash Cost per Bushel					\$3.94

are separated into use-related and ownership related. Cost-per acre of ownership is assumed to be \$87.05/acre, while use related differs by acre-inch of water (USDA-NRCS, 2017). Corn is planted in the spring and the budget assumes planting in 30-inch rows with a conventional planter. Corn for grain is harvested in the fall, typically with a row crop head. Per-acre use-related and total cost for implements, with associated power units, are averaged over all sizes by implement type in the operation portion of the budget. Using this approach encapsulates all possible tractor types and horsepower sizes.

## Sources:

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Lazarus, William F. 2015. "Machinery Cost Estimates." University of Minnesota Extension, St. Paul, MN. <http://www3.extension.umn.edu/sites/default/files/download/Machinery%20Cost%20Estimates%20June%202015.pdf>

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