

CROP ENTERPRISE

B U D G E T



CONVENTIONAL IRRIGATED DRY EDIBLE BEANS, GOSHEN COUNTY, WYOMING

Brian Lee, *Assistant Research Scientist, SAREC*

John Ritten, *Associate Professor,
Department of Agricultural and Applied Economics*

Tom Foulke, *Senior Research Scientist,
Department of Agricultural and Applied Economics*

This crop budget is for a representative dry bean operation in southeast Wyoming. Dry edible beans include all bean varieties grown in the area, excluding soybeans. Irrigated dry beans are a typical crop in southeast Wyoming. The operations described in this budget are typical for a southeast Wyoming operation. The budget represents one year of dry bean 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 power use costs (Lazarus, 2015).

Many different dry bean varieties are planted on mostly irrigated acres in Wyoming. There are many common dry bean varieties produced and considered in this en-

terprise budget, including Great Northern, Pinto, Black, Light Red Kidney, Navy, Pink, Small Red, Small White, Dark Red Kidney, Garbanzo, and Yellow beans. In Wyoming, 40,000 acres of all varieties of dry edible bean were reported in the March planting forecast for 2017 (USDA/NASS, 2017b).

Land

This budget assumes the land base is owned by the producer. Real estate opportunity cost is assumed at a rate of 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, according to the most current Wyoming Agricultural Statistics Service survey (USDA-NASS, 2017a).

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 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.



EXTENSION

Conventional Irrigated Dry Edibles Bean, Southeast Wyoming, 2017

Conventional Edible Dry Bean, 25 CWT/acre goal

Pivot Irrigated, 50 foot well, 13 acre inches

Edible Dry Bean					
Field Operations				Use-Related Cost/Acre	Total Cost/Acre
Disk 2x				\$17.84	\$22.66
Chisel				\$8.05	\$10.35
Spray				\$3.03	\$3.96
Cultivate				\$4.87	\$6.24
Plant				\$11.97	\$16.10
Row Crop Cultivate				\$6.15	\$7.73
Pivot Irrigation, 50'				\$58.50	\$145.55
Windrow				\$14.57	\$20.59
Combine Beans				\$26.37	\$31.35
Total Conventional Edible Dry Bean Field Operations				\$151.35	\$264.53
Materials and Services				Per Unit Price	Total Cost
	Type	Rate	Unit		
Pre-Plant Hertzicide	Outlook	14	ounce	1.17	16.38
	Prowl H20	2	pint	\$6.50	\$13.00
	Edible Bean Seed	0.65	cwt	\$92.00	\$59.80
Planting and Fertilizer	10-34-0-1Z	7	gallon	\$2.45	\$17.15
	32-0-0	7	lbs N	\$0.42	\$2.94
	Raptor	4	ounce	\$4.77	\$19.08
	Basagran	1	pint	\$10.00	\$10.00
Post Plant Herbicide	NIS	5	ounce	\$0.13	\$0.65
	UAN	4	pint	\$0.19	\$0.76
	Custom Aerial Spray	1	acre	\$10.00	\$10.00
Custom Herbicide Aerial	Copper	2	pint	\$3.50	\$7.00
	Priaxor	4	ounce	\$5.47	\$21.88
Haul Grain	Custom	25	cwt	\$0.28	\$7.00
Total Field Operations					\$185.64
Listed Operations, Materials and Services					\$450.17
Annual Interest on Operation Capital	Cash Related/Non Ownership	5.50%		\$336.99	\$18.53
Total Operations, Materials, and Services					\$468.70
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
Total Cost Including Overhead					\$598.70
Cost per CWT					\$23.95
Cash Cost per CWT					\$15.10

Field Operations

The enterprise budget is based on an assumed yield of 25 hundred weight (cwt) per acre. Two fertilizer applications are included in this budget, a pre-plant 32-0-0 application and a 10-34-0-1Z pop-up fertilizer application. 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 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). Beans are planted in the spring with a conventional planter on 30-inch rows. Beans are cut and dried in the field, usually in late August or September. The windrows are then combined with a pick-up head on a conventional combine. Direct harvest heads are also an option but not considered in this budget. 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>

United States Department of Agriculture, National Agricultural Statistics Service USDA-NASS. 2017a. Ag Land, Cropland, Irrigated-Asset Value, Wyoming. Quick Stats Online Tool. <https://quickstats.nass.usda.gov/>

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United States Department of Agriculture, Natural Resource Conservation Service USDA-NRCS. 2017.160 Acre Center Pivot Example Estimating Annual Irrigation Operation Costs. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_024179.pdf

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