

BASIS OF DRY BEAN COST STUDY

1. This study is based on a 1,100 acre field crop operation with 250 acres of dry beans. Other crops grown on the ranch may include one or more of the following: grain, alfalfa hay, grain sorghum, sugar beets, corn, safflower, etc. Much of the equipment is used on the entire acreage sometime during the year.

For reasons of simplicity, we used a landlord-tenant operation with a 75-25 division of the crop. In this study the tenant delivers the crop to the warehouse, but the landlord pays his own warehouse costs.

2. In allocating the equipment cost per acre the following calculations were made: (a) "Original Cost" of equipment is the estimated new cost and includes 6% sales tax. (b) "Cost Per Acre" is the new cost divided by the number of acres the equipment will be used on. (c) "Depreciation" is based on the "Per Acre Cost" divided by the expected life of the equipment. (d) "Interest" on investment is figured on one-half of the new cost per acre multiplied by 9%.
3. Miscellaneous expenses are estimated to be about 6% of the total cultural and harvest costs. They include such costs as preparing roadways, general weed control, office, bookkeeping, interest on operating money, etc.
4. Labor costs are based on a \$6.00 hourly rate for skilled labor and \$3.75 hourly rate for unskilled (irrigator). Included are cash wages, compensation insurance, social security and other benefits that the employer might pay.
5. Equipment operating costs are listed under fuel and repair. Included is the cost of fuel, maintenance, replacement parts, tires, etc. Tractor charges per hour are: 130-150 HP track diesel \$12.00, 120 HP wheel diesel \$5.25 and 100 HP wheel diesel \$4.35. This and other information was partially taken from "Machinery Costs and Performance, 1978" (adjusted) by A. D. Reed, University Extension Economist, U.C. Davis.
6. Management (what the grower's decision making is worth) is figured at 5% of the market value of the crop.
7. Production operations will vary from year to year and some costs will not be the same for all growers. Insecticide, herbicide and fertilizer rates and costs will also be different some years and with some growers.
8. These sample costs may not represent the cost of any one individual grower but should serve as a useful guide in reviewing the typical costs in dry bean production. Growers are encouraged to make use of the column "Grower Costs Per Acre" to permit a comparison of the costs in this study with their own.
9. Growers from Butte and Glenn Counties participated in furnishing information for compiling the basic information in this study. Some information was obtained from agricultural supply houses. Appreciation is expressed to them for their time and help.

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SAMPLE COSTS TO PRODUCE COMMON DRY BEANS
Butte and Glenn Counties, October 1979

Cultural Operation	Hours Per Acre	Cash and Labor Cost Per Acre			Total	Grower Cost/A
		Labor	Fuel & Repairs	Materials Kind and Quantity Cost		
Cultural Costs						
Plow (or chisel) 1x	.33	\$ 1.98	\$ 5.71		\$ 7.69	
Disc 1x	.14	.84	2.26		3.10	
Triplane 2x	.28	1.68	4.00		5.58	
Landplane 3x (4th yr.)	.19	1.14	2.89		4.03	
Fertilize	.14	.84	1.82	100# N/A @ .16 Rent applicator	16.00 1.65	20.31
Incorporate Herbicide Disc 2x	.32	1.92	2.23	Herbicide @ 6.30	6.30	10.45
List Beds	.13	.78	.87			1.65
Ditch prep. 3x	.24	1.44	4.59			6.03
Irrigate (pre + 6x)	9.80	36.75		3 1/2 ac. ft./A @ 5.65	19.78	56.53
Incorporate layby herb rolling cultivator 2x	.33	1.98	1.98	Herbicide @ 8.00	8.00	11.96
Plant & starter fert.	.50	3.00	4.44	Seed 70# @ .34/lb. Starter 8-24-0	23.80 16.00	47.24
Pest control, air 2x				Insecticide-Miticide Airplane @ 3.50/A	31.00 7.00	38.00
Misc., downtime, etc.	1.50	9.00	1.25			10.25
TOTAL CULTURAL COSTS		\$61.35	\$32.04		\$129.53	\$222.92
Harvest Costs						
Cut beans	.20	\$ 1.20	\$.35			\$ 1.55
Windrow	.20	1.20	1.45			2.65
Hand turn row ends	.10	.38				.38
Thresh, custom				1.00/cwt + \$10.00/A	\$32.22	32.22
Hauling, custom				.20/cwt	4.44	4.44
Warehousing						
Tenant's share - 75%						
Cleaning				16.7 cwt @ 1.20	20.04	20.04
Sacks (clean beans)				15.0 cwt @ .40	6.00	6.00
Storage				15.0 cwt @ .35	5.25	5.25
TOTAL HARVEST COSTS		\$ 2.78	\$ 1.80		\$67.95	\$72.53
Cash overhead						
Misc., office, etc.			6% of cultural & harvest costs			17.73
Taxes			2.5% of investment/acre			8.27
Rent			25% of uncleaned crop, delivered, \$5.00 cwt @ \$25.00			125.00
TOTAL CASH OVERHEAD						\$151.00
TOTAL CASH COST						\$446.45
Management 5% of 20 cwt @ \$25.00						\$ 25.00
INVESTMENT		Per Acre	Annual Cost			
Irrigation system		\$ 1.50	Depreciation	Interest @ 9%		
Buildings		27.95	\$.22	\$.07		
Equipment		301.50	.93	1.26		
TOTAL		\$330.95	25.84	13.57		
TOTAL COST PER ACRE						\$513.34
Cost per cwt @ 20 cwt yield (cleaned)						\$ 25.67

EQUIPMENT AND BUILDING LIST

Item	Original Cost	Annual Use (Acres)	Cost Per Acre	Life (Years)	Depreciation	Interest at 9%
Tractor, 130-150 HP Tr. Diesel	\$ 77,500	1100	\$ 70.45	20	\$ 3.52	\$ 3.17
Tractor, 120 HP Wh Diesel	33,000	1100	30.00	15	2.00	1.35
Tractor, 100 HP Wh Diesel	27,000	1100	24.55	15	1.63	1.10
Plow 4-18 hydraulic 2-way	8,000	880	9.09	15	.61	.41
*(Sp. tooth or field cult., 32')	6,000	(1100)	5.45	(15)	.36	.25
*(Chisel, heavy duty, 16')	6,200	(880)	7.05	(15)	.47	.32
*(Disc, stubble, 12')	9,300	(880)	10.57	(15)	.70	.48
Disc, offset, 21'	13,000	1100	11.82	15	.79	.53
Triplane, 16'	9,300	880	10.57	15	.70	.48
Disc, tandem, 21'	9,300	1100	8.45	10	.85	.38
Bedding tools, 6-row	3,700	880	4.20	15	.28	.19
Ditcher, 5'	3,000	1100	2.73	20	.14	.12
Ditch plow, 3 bottom, used	1,200	1100	1.09	10	.11	.05
Rolling cultivator, 6-row	5,500	1100	5.00	10	.50	.90
Center, 6-row	4,000	880	4.55	10	.46	.20
Subletanks (2 sets)	3,000	880	3.41	10	.34	.29
Cultivator sled and equipment	5,500	880	6.25	10	.63	.28
Cutter, 6-row	5,000	250	20.00	20	1.00	.90
Windrower, 6-row	5,000	250	20.00	10	2.00	.90
Tool carrier, used	5,000	1100	4.55	20	.23	.20
Truck, used, 2 ton	7,400	1100	6.73	10	.67	.30
Pickup	9,300	1100	8.45	5	1.69	.38
Pickups, two (2), used	7,400	1100	6.73	3	2.24	.30
Siphons, 400-2"	1,400	880	1.59	7	.23	.07
Shop tools	12,300	1100	11.18	15	.75	.50
Buildings	30,000	1100	27.27	30	.91	1.23
Tank, nurse, w/pump, 1500 gal.	2,500	880	2.84	20	.14	.13
TOTAL	\$ 322,300		\$ 324.57		\$ 23.95	\$ 15.89

*Listed on inventory and may be used by some operators but not included in totals.

NET INCOME @ 20 CWT(CLEAN)/A AND VARYING PRICES

Price/cwt	\$21.00	\$23.00	\$25.00	\$27.00	\$29.00
Income/A	-\$69.34	-\$41.34	-\$13.34	\$14.66	\$42.66

NET INCOME @ \$25.00/CWT AND VARYING YIELD IN CWT/A

cwt/A	16	18	20	22	24
Income/A	-\$68.27	-\$37.39	-\$13.34	\$20.75	\$50.51

RELATIONSHIP BETWEEN YIELD CWT/A, TOTAL COSTS, AND COSTS/CWT AT \$25.00/CWT SELLING PRICE

cwt/A	16	18	20	22	24
Total Costs	\$468.27	\$487.39	\$513.34	\$529.25	\$549.49
Cost cwt	\$29.27	\$27.08	\$25.67	\$24.06	\$22.90

MANAGEMENT INCOME FROM VARYING YIELDS @ \$25.00/CWT SELLING PRICE (rounded off)

Yield cwt/A	16	18	20	22	24
Cash Costs, Dep., Ints	\$448	\$465	\$488	\$502	\$520
Gross Income	\$400	\$450	\$500	\$550	\$600
Mgt. Income/A	-\$ 48	-\$ 15	+\$ 12	+\$ 48	+\$ 80

Consult your farm advisor if you have questions regarding this production cost study or dry bean production.

Farm Advisors Office
Butte County

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