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# 1948 BEAN COST AND MANAGEMENT STUDY

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COUNTY

Compiled by  
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UC Cooperative Extension

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## I N T R O D U C T I O N

The production of Red Kidney seed beans is the most important seed crop grown in the county. Seed beans continued to hold an advantage over commercial grades as prices received were about one cent per pound above support levels.

The Agricultural Extension Service started this Cost and Management Study in 1946 to develop information which would help growers in analyzing production problems. It also provides valuable economic data for the bean industry.

The growing of Red Kidney seed beans started in this county in 1940, with L. A. Rozzoni making the first planting. This planting was made by using the kidney variety 7811, which was developed and tested by the University of California College of Agriculture at Davis and here in the county. The acreage has increased from 190 acres in 1940 until in 1948, 6,010 acres of light red kidney and 1,097 acres of dark red kidney beans were planted for seed purposes.

This report is the third compiled in the Study. The report includes six production records of producer owned fields and eight records of rented acreages. A total of 655 acres are included in the Study. The records show a management return to growers of approximately 40% of the returns which growers received for their 1946 and 1947 crops. The owned fields showed an average return of \$55.57 per acre in 1948 compared with \$140 in 1947. Rented fields showed a return of \$61.93 compared with the 1947 return of \$129 per acre.

The management returns on the grower owned fields ranged from a minus \$21 per acre to a high of \$110 per acre. This compared with a return of from \$4 per acre to a high of \$101 per acre on the rented acreage. Comparative yields favored higher management returns for grower owned fields. The owned acreage averaged more than 600 pounds per acre lower in yield. This accounted for the lower average management income per acre.

The cost of production remained at 1946 and 1947 levels with returns per acre much lower. The high yielding fields showed a greater management return per acre.

The 1948 records indicate that efficient management and cultural operations are necessary to maintain management incomes with further price declines in prospect. Each grower should carefully analyze his costs as compared to the costs of other growers in order to eliminate corners and reduce production costs. The records represent a fair cross section of the bean acreage in the Stockton-Linden area of the county. The production is, however, above the county average which would indicate slightly lower management returns for the average grower.

The past two seasons kidney bean seed production has exceeded the demand for eastern shipment. Continued expansion of the industry would probably not be in the best interest of growers. Other variety seed outlets, or alternate crops, will aid in balancing production to the demand for kidney bean seed.

We wish to thank all growers who cooperated in supplying the field records which made the study possible.

## EXPLANATION OF TERMS USED

Yields are given in pounds of recleaned beans per acre.

Gross returns is the total income from all beans produced before recleaning, fumigation, warehousing, and other marketing costs have been deducted.

Net returns is the remainder after deduction for above costs.

Labor cost is composed of the cost of hired labor, the value of the operator's own labor and the value or cost of field power equipment. Field power equipment where owned by the operator is charged at hourly rates calculated to cover operating cost as well as interest and depreciation overhead. Such rates were considerably below the going rates charged for contract work.

Cultural labor includes costs of all operations up to harvesting.

Harvesting labor covers all harvesting operations, including hauling to the warehouse.

Material costs include cash expenditures for irrigation power or taxes, fertilizer, seed, dust, and sacks and twine.

Cash overhead cost includes all cash expenditures not reported under labor or material costs. The general expense item is computed at 5% of total cultural labor and material cost and is included to cover miscellaneous unreported costs, such as interest on operating capital, office, telephone, and use of family car in conjunction with the enterprise.

Depreciation is that part of the original cost of improvements, equipment, and other facilities which should be charged to each year of operation in order to absorb the cost during their period of usefulness.

Interest on investment is computed at 5% on one-half of the original cost of improvements, equipment, and other facilities, which is their average value during their useful life. Land values used in this study for the purpose of calculating 5% interest on investment overhead were based mainly on normal values and not on the higher current prices being paid for such land.

Total cost of production includes all of the above cost items.

Management income is the amount by which total net returns exceeds total cost of production, as indicated above. It represents the operator's income for management after he has paid himself wages for the manual labor which he performed and a normal return on his invested capital.

TABLE 1 -- GENERAL SUMMARY OF COSTS, INCOME AND EARNINGS PER ACRE -- 1948

Serial number	Number of acres	Yield total lbs. per A.	Per cent No. 1 beans	Net returns per cwt.	Total net returns per A.	Cultural labor cost per A.	Harvesting labor per A.	Material cost per A.	Cash overhead per A.	Depreciation per A.	Interest & rent per A.	Total all costs per A.	Management income per A.
<u>Owned fields</u>													
2	40	2095	-	9.69	203.12	20.49	12.76	22.12	7.13	10.21	20.56	93.27	109.85
6	77	2091	94	9.23	192.99	25.42	21.94	21.91	9.49	3.42	16.53	98.71	94.28
5	72	1876	98	9.66	181.22	26.57	18.97	20.54	6.91	3.35	16.59	92.93	88.29
3*	90	1452	97	10.34	150.10	29.93	16.00	27.89	7.83	3.04	18.72	103.41	46.69
7	15	1273	97	9.05	115.21	25.72	20.36	17.50	8.87	8.06	17.83	98.34	16.87
9	80	668	94	8.87	59.25	27.74	7.51	12.20	7.70	5.85	19.26	80.26	-21.01
Av.1948	374	1559	96	9.60	149.76	26.71	15.81	20.85	7.93	4.75	18.14	94.19	55.57
Av.1947	402	1669	95	14.38	239.94	30.68	15.88	22.74	7.86	4.41	18.11	99.68	140.26
Av.1946	566	1644	96	14.56	239.37	30.73	16.78	21.31	7.38	3.74	17.47	97.41	141.96
<u>Rented fields</u>													
14R	32	2564	95	9.46	242.52	24.68	23.22	40.81	6.09	1.72	44.68	141.20	101.32
12R	38	2165	97	9.53	206.42	32.35	8.24	23.43	8.66	3.49	49.69	125.86	80.56
15R*	15	1580	93	14.14	223.35	58.96	19.54	30.84	6.88	1.42	30.36	148.00	75.35
11R	50	1902	97	9.53	181.37	31.59	7.54	19.31	8.31	3.49	50.93	121.17	60.20
16R	75	2379	94	9.59	228.21	19.19	26.36	22.48	4.17	1.42	95.12	169.54	58.67
13R	43	2497	94	8.75	218.36	23.88	30.87	27.47	5.11	.66	77.00	164.99	53.37
17R*	8	1938	96	10.55	204.36	59.78	11.38	32.56	11.81	3.49	62.24	181.26	23.10
18R	20	1392	97	9.52	132.50	37.77	6.16	21.28	8.87	3.49	50.93	128.50	4.00
Av.1948	281	2179	95	9.60	209.30	29.34	18.66	25.54	6.58	2.19	65.06	147.37	61.93
Av.1947	135	1776	97	14.72	261.40	28.78	13.95	21.72	7.47	2.49	58.10	132.51	128.89

\*Dark Reds

In the above table, individual fields in the study are compared. In table 1 as well as in all other tables, the records have been divided into two groups - the owner-operated fields and the rented fields. In each group the records are arranged downward in decreasing management income per acre, as shown in the extreme right column. Averages are shown for records in each of the two groups for 1948 as well as the two previous years of the study. There were no rented fields in the 1946 study.

The 1948 crop year was considerably less profitable than the two previous years, mainly because of the lower price received for beans. Cost of production remained about the same as the two previous years but total returns per acre for the owner-operator group were about \$90 lower. The renter group in 1948 was a little more profitable than the owner group because of the higher average yield for these fields.

TABLE 2 - COSTS, INCOME AND EARNINGS PER HUNDREDWEIGHT - 1948

Serial number	Yield total lbs. per A.	Average price No. 1 beans	Gross returns all beans	Reclean fumigate ware-house etc.	Net returns per cwt.	Harvesting costs per hundredweight						Cultural labor & material	Total cost per cwt.	Management income per cwt.
						Cut and rake	Shock pile & turn	Threshing	Hauling	Sacks and twine	Total harvesting			
<b>Owned fields</b>														
2	2095	-	10.00	.31	9.69	.03	.17	.31	.10	.25	.86	2.03	4.45	5.24
6	2091	10.75	10.27	1.04	9.23	.07	.25	.62	.11	.30	1.35	1.27	4.72	4.51
5	1876	10.75	10.59	.93	9.66	.19	.10	.66	.06	.30	1.31	2.51	4.95	4.71
3*	1452	11.75	11.50	1.16	10.34	.15	.17	.67	.11	.31	1.41	3.98	7.12	3.22
7	1273	10.00	9.74	.69	9.05	.76	-	.72	.12	.31	1.91	3.39	7.72	1.33
9	668	10.75	10.37	1.50	8.87	.27	.27	.37	.21	.30	1.42	5.98	12.01	-3.14
Av. 1948	1559	10.99	10.57	.97	9.60	.15	.18	.57	.11	.30	1.31	3.05	6.04	3.56
Av. 1947	1669	15.97	15.32	.94	14.38	.10	.20	.54	.11	.27	1.22	3.20	5.98	8.40
Av. 1946	1644	16.11	15.55	.99	14.56	.10	.27	.54	.11	.19	1.21	3.17	5.93	8.63
<b>Rented fields</b>														
14R	2564	10.75	10.34	.88	9.46	.08	.12	.61	.10	.31	1.22	2.55	5.51	3.95
12R	2165	10.75	10.50	.97	9.53	.08	.05	.16	.09	.31	.69	2.58	5.81	3.72
15R*	1580	16.00	15.17	1.03	14.14	.07	.55	.52	.10	.26	1.50	5.68	9.37	4.77
11R	1902	10.75	10.50	.97	9.53	.10	.05	.16	.09	.31	.71	2.67	6.37	3.16
16R	2379	10.75	10.51	.92	9.59	.03	.26	.71	.11	.29	1.40	1.78	7.13	2.47
13R	2497	10.75	10.26	1.51	8.75	.04	.30	.73	.17	.29	1.53	2.05	6.61	2.14
17R*	1938	11.75	11.54	.99	10.55	.06	.26	.17	.09	.31	.89	4.77	9.36	1.19
18R	1392	10.75	10.48	.96	9.52	.12	.07	.16	.09	.31	.75	4.24	9.23	.29
Av. 1948	2179	10.97	10.64	1.04	9.60	.06	.19	.49	.11	.30	1.15	2.22	6.76	2.84
Av. 1947	1776	15.99	15.62	.90	14.72	.13	.23	.29	.14	.28	1.07	2.84	7.46	7.26

\*Dark Reds

Individual records are compared in the above table as to prices received, marketing costs, and the principal costs of production on a per-cwt. basis. Since yield per acre was the most important factor affecting costs per cwt., it will be noted in the table that in general those with the higher yields had lower costs of production. Total cost per cwt. for the owner group averaged approximately 6 cents per pound in 1948 and for the renter group, about 6-3/4 cents. Renters' costs were higher because of rental costs.

Harvesting costs as shown above are not entirely comparable for all fields since the overhead cost of interest and depreciation on harvesting equipment is not included for those records where the operator owned his equipment. The cost for those who contracted their harvesting was usually more than ample to pay for the overhead cost for the use of the equipment. Overhead costs of interest and depreciation for those owning their equipment may be calculated from the figures provided in tables 4 and 5.

TABLE 3 -- CULTURAL LABOR AND MATERIAL COSTS PER ACRE -- 1948

Serial number	Land preparation	Seeding		Fertilizing		Hoeing cost	Cultivation & ditch work	Irrigation		Dusting		Other cultural	Total cultural labor & material	
		Lbs. per acre	Seed cost	Planting cost	Labor			Material	Labor	Power or water	Labor			Material
<u>Owned fields</u>														
2	9.91	60	10.20	1.05	--	--	--	2.53	7.00	4.68	--	2.00	--	37.37
6	13.49	55	8.97	1.61	--	--	--	3.72	6.60	3.65	--	--	3.00	41.04
5	12.18	52	8.55	1.45	--	--	--	5.10	7.64	3.92	.20	.53	1.93	41.50
3	16.84	49	10.27	.98	--	6.50	--	4.44	7.22	5.50	.45	1.11	--	53.31
7	6.80	73	9.53	1.63	--	--	--	4.94	11.90	3.50	.45	.50	--	39.25
9	10.65	44	7.19	1.14	--	--	2.65	4.13	9.13	2.73	.04	.27	--	37.93
Av.1948	12.79	52	8.97	1.27	--	6.50	2.65	4.17	7.74	4.06	.25	.83	2.48	42.95
Av.1947	13.24	55	9.02	1.15	.92	6.59	1.31	4.78	10.27	5.07	.15	2.10	2.05	48.90
Av.1946	11.77	57	7.46	1.36	.49	8.72	2.88	4.94	10.93	4.78	--	2.37	.65	48.98
<u>Rented fields</u>														
14R	6.01	44	7.19	1.00	--	13.28	--	5.25	12.00	10.94	.42	1.56	--	57.65
12R	14.42	60	9.56	1.54	--	--	.52	6.24	9.63	7.15	--	--	--	49.06
15R	14.21	80	17.03	3.25	--	--	10.20	5.47	23.33	6.67	2.50	3.02	--	85.68
11R	16.72	60	9.56	1.62	--	--	--	4.69	8.56	3.85	--	--	--	45.00
16R	7.58	69	11.26	1.95	--	--	--	2.55	7.91	4.44	--	--	--	35.69
13R	7.21	80	13.60	.87	--	--	1.56	3.31	10.93	6.65	--	--	--	44.13
17R	15.40	60	12.00	1.69	--	--	2.50	10.69	29.50	14.59	--	--	--	86.37
18R	13.85	60	9.56	1.57	--	--	--	8.05	14.30	7.40	--	--	--	54.73
Av.1948	10.92	65	10.83	1.60	--	13.28	2.50	4.63	11.08	6.40	1.51	2.03	--	48.42
Av.1947	11.06	61	9.85	1.35	--	--	1.25	5.70	8.99	6.87	--	--	1.12	45.50

The above table is designed for use mainly by cooperators in the study in comparing their cultural costs and practices with others. Considerable variation will be noted for most of the operational costs. Seeding rates ranged from 44 pounds per acre up to 80 pounds per acre. Only two fields in the study were fertilized in 1948 - one owner and one renter. Two records in the study (Nos. 15R and 17R) this past year had especially high irrigation labor costs. Average total cultural labor, and material costs in 1948 were not much different than the two previous years of the study. Group averages for the various operations are based upon the acreage on which such operations were performed. Since all operations were not performed on all fields, a sum of the average totals for the various items is greater than the average total labor and material costs.

With bean prices apparently heading lower in the next year, it appears that some operators might need to make adjustments in their management practices if they are going to continue to show a profit from their bean enterprise.

TABLE 4 - CASH OVERHEAD AND DEPRECIATION COSTS PER ACRE - 1948

Serial number	Cash overhead costs per acre					Depreciation costs per acre								
	General expense	Taxes	Repairs	Comp. insur. Misc.	Total	Buildings & fences	Irrigation facil.	Tillage equip-ment	Seed-ing equip.	Cutter	Rake	Thresher	Other equip-ment	Total
<b>Owned fields</b>														
2	2.77	3.86	-	.50	7.13	-	1.25	2.39	.17	.11	.07	5.71	.51	10.21
6	3.46	5.07	.69	.27	9.49	.08	1.77	.48	.19	.40	.23	-	.27	3.42
5	3.30	2.59	.67	.35	6.91	.19	1.84	1.09	-	-	-	-	.23	3.35
3	3.69	3.60	-	.54	7.83	-	1.32	.81	.12	-	-	-	.79	3.04
7	3.18	4.67	.67	.35	8.87	-	2.53	4.74	-	.33	-	-	.46	8.06
9	2.37	4.60	.25	.48	7.70	-	1.86	.75	.17	.10	.27	2.68	.02	5.85
Av.1948	3.17	3.99	.54	.42	7.93	.14	1.67	1.11	.16	.23	.21	3.69	.37	4.75
Av.1947	3.47	3.73	.58	.55	7.86	.14	1.55	.89	.18	.21	.22	3.49	.22	4.41
Av.1946	3.44	2.97	.79	.78	7.38	.11	1.22	.92	.18	.22	.21	2.45	.19	3.74
<b>Rented fields</b>														
14R	4.44	.19	.31	1.15	6.09	-	-	.81	.12	-	-	-	.79	1.72
12R	3.20	.20	4.29	.97	8.66	.10	-	1.83	.12	.15	.23	1.02	.04	3.49
15R	5.46	.10	.30	1.02	6.88	-	-	1.27	-	-	-	-	.15	1.42
11R	2.92	.20	4.29	.90	8.31	.10	-	1.83	.12	.15	.23	1.02	.04	3.49
16R	3.44	.10	.30	.33	4.17	-	-	1.27	-	-	-	-	.15	1.42
13R	4.11	.10	-	.90	5.11	-	-	.43	.11	.07	-	-	.05	.66
17R	5.18	.20	4.29	2.14	11.81	.10	-	1.83	.12	.15	.23	1.02	.04	3.49
18R	3.26	.20	4.29	1.12	8.87	.10	-	1.83	.12	.15	.23	1.02	.04	3.49
Av.1948	3.68	.15	2.25	.84	6.58	.10	-	1.32	.12	.13	.23	1.02	.16	2.19
Av.1947	3.22	.15	3.30	.80	7.47	.10	-	.98	.12	.14	.23	1.02	.04	2.49

A breakdown of cash overhead and depreciation costs is shown in the above table for individual cooperators in this year's study. Averages for the various items are based upon the acreage reporting such cost, as explained in table 3. The two principal items of cash overhead for the owner-operated fields are general expense and taxes. General expense is explained under "Explanation of Terms Used" in the fore part of the report. Depreciation costs varied considerably between the various cooperators depending upon the facilities owned and the acreage on which such facilities were used. Depreciation costs for the owner-operators have shown a continual increase since the beginning of the study.



TABLE 5 - AVERAGE INVESTMENT PER ACRE - 1948

Serial number	Buildings & fences	Irrigation facilities	Tillage equipment	Seeding equipment	Cutter	Rake	Thresher	Other equipment	Land	Sub-total investment	Tractors trucks & horses	Grand total investment
<b>Owned fields</b>												
2	-	16.06	11.94	.86	.54	.37	28.57	2.86	350.00	411.20	21.13	432.33
6	1.59	20.63	2.43	1.46	2.01	1.16	-	1.34	300.00	330.62	13.03	343.65
5	2.92	22.60	5.32	-	-	-	-	.89	300.00	331.73	27.58	359.31
3	-	15.22	4.06	.61	-	-	-	4.56	350.00	374.45	11.91	386.36
7	-	29.06	23.70	-	1.63	-	-	2.30	300.00	356.69	40.87	397.56
9	-	15.31	3.77	.84	.50	1.36	13.41	.09	350.00	385.28	26.25	411.53
Av.1948	2.23	18.42	5.54	.94	1.14	1.08	18.46	1.96	328.08	362.74	20.37	383.11
Av.1947	2.23	17.77	4.45	1.00	1.06	1.12	17.45	1.08	329.60	362.28	15.88	378.16
Av.1946	1.95	18.19	4.69	.97	1.08	1.05	11.14	.90	318.29	349.36	13.25	362.61
<b>Rented fields</b>												
14R	-	-	4.06	.61	-	-	-	4.56	-	9.23	11.91	21.14
12R	1.91	-	11.21	.31	.76	1.15	3.05	.19	-	18.58	27.42	46.00
15R	-	-	6.37	-	-	-	-	.74	-	7.11	20.95	28.06
11R	1.91	-	11.21	.31	.76	1.15	3.05	.19	-	18.58	27.42	46.00
16R	-	-	6.37	-	-	-	-	.74	-	7.11	20.95	28.06
13R	-	-	2.18	.67	.42	-	-	.25	-	3.52	8.17	11.69
17R	1.91	-	11.21	.31	.76	1.15	3.05	.19	-	18.58	27.42	46.00
18R	1.91	-	11.21	.31	.76	1.15	3.05	.19	-	18.58	27.42	46.00
Av.1948	1.91	-	7.46	.44	.67	1.15	3.05	.87	-	11.54	20.64	32.18
Av.1947	1.91	-	4.93	.35	.72	1.15	3.05	.20	-	11.68	12.23	23.91

Investments in improvements, facilities, and equipment are compared in the above table for fields in this year's study. These figures for all items except land are based upon one-half of the original cost as indicated under "Explanation of Terms Used" in the first part of this report. They are not intended to represent the amount of capital required to go into the business of raising beans but are used only for the purpose of calculating a nominal interest on investment charge against the bean enterprise. Investment in tractors, trucks and horses is shown only for the purpose of indicating the amount of investment involved in this type of equipment. Interest and depreciation costs for such are included in the hourly rate charged for the use of this equipment in the labor record. The wide variation between individual figures was due mainly to differences in acreage on which such facilities were used. Averages at the bottom of the table are based upon the acreage reporting investment in the various items. Since all records did not show investment in all items, the average total investment is less than a sum of the individual averages.