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RI-SV-62

**Sample**

# **RICE COSTS**



For growers in Placer, Sacramento, Sutter & Yuba Counties

**University of California  
Agricultural Extension Service**

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# RICE, SAMPLE COSTS OF PRODUCTION

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## SAMPLE RICE COSTS CAN HELP YOU IN:

- \* Analyzing the various enterprises which may best fit your farm.
- \* Budgeting for cash expenses.

Practices involved in crop production are variable within the area due to differences in size of operations, soil types, and grower's preference.

The costs in the table are based on typical operations for good farming practices. The production costs and yields listed in this leaflet are not intended to represent the average rice grower's costs.

The greatest single factor in determining your cost of production per unit is YIELD. You may increase your efficiency by:

- \* Planting the adapted variety on soils suitable for high production.
- \* Avoid unnecessary operations in seed bed preparation.
- \* Avoid overfertilizing as well as underfertilizing the crop.
- \* Plan your operations to meet the most favorable time in planting and harvesting. This will help insure maximum yields.

## SIZE OF OPERATIONS

Experience has shown that because of the amount of machinery needed for rice production, one man, with a minimum of hired help, can handle 300 acres. This same machinery will handle up to 450 acres with a few more men. It is to your advantage to farm as large an acreage as possible to reduce the overhead per acre. Here we are speaking of 300 acres in rice. The farmer will need other land, too, for a proper rotation plan.

Experience has shown that the minimum size of operations to return a satisfactory living is 150 acres. This will vary depending on the soil's productivity - the price level - and the management ability of the farmer.

## INVESTMENT IN EQUIPMENT & LAND

What equipment would you need to farm 300 acres of rice? Well, here's how it figures.

TABLE 1

Equipment and land investment for 300 acres of rice

Equipment	Approximate new cost
Crawler tractor 60-70	18,000
Drawbar H.P.	\$ 18,000
Crawler tractor 30-40	
Drawbar H.P.	11,500
Truck, 2-ton	4,000
Pick-up	2,500
Flow, 5-14"	2,000
Disk, 18'	2,700
Harrow, spike tooth 20'	500
Float, 12' x 30'	500
Dozer, 8' blade	1,300
Bankout wagon 800-1,000 sacks	2,600
2 Self-propelled harvesters, 14'	28,000
Tools and small equipment	4,300
Total Equipment	\$ 77,900
Land 300 acres @ \$4.00	120,000
Total Investment Land & Equipment	\$ 197,900

Using smaller equipment or fewer machines is not a good idea because jobs cannot be performed when needed, resulting in lower yields.

You may reduce investment by purchasing second-hand equipment. Good second-hand equipment is often a better buy than new equipment.

## SAMPLE COSTS

Now, what about the costs of production? Table 2 shows sample costs of what you can expect. You may vary from these sample costs, but remember we have included all of the "hidden" costs, and you should too. "Hidden costs" would include equipment depreciation, interest on investment in equipment and land, taxes, and are listed as overhead. The owner's own labor is also charged for in our sample costs. To make sample costs we had to assume several important facts:

1. That we are farming 300 acres to rice.
2. That our yield is 5,000 pounds per acre.

An effort is made here to separate the rice production from the other ranch enterprises. Because there is no typical rotation or farming system in the rice area it is not possible to present the sample costs for all of the possible ranch enterprises in a single cost study. In general, it has been found that a 300 acre planting of rice will represent a farm with at least 450 acres of crop land with ten per cent additional land devoted to roads, canals, buildings, or non-developed acreage.

### AN EXPLANATION OF SOME TERMS

Labor includes wages, Social Security Tax, and Compensation Insurance. Some growers include health and retirement plans. Preharvest labor \$1.80 per hour. Harvest labor at \$3.00 per hour.

Fuel and Repairs include operation costs and repairs, but not interest on investment or depreciation.

Materials include rental of equipment, custom operations, seed, pesticides and purchased items. Fertilizer costs reflect current retail prices. Because of differing conditions the amount included in this study is not to be considered as a recommendation. The irrigation water cost is the average charge of several old-established water districts. Many growers will find their costs considerably higher in areas where they use well water or higher cost water districts. Water use per acre varies considerably due to delivery efficiency (ditch losses), management (spill of water), and soil type.

Harvest Costs reflect operation under average harvest conditions - they do not reflect the much higher costs encountered in 1962 due to extremely wet weather.

Investment reflects the interest and depreciation of the equipment, buildings and various irrigation and other structures. Interest on these items is charged at 6% per annum. Land values are one of the biggest variables.

Miscellaneous Overhead include taxes, office, accounting, transportation and other expenses necessary to the business. Management is at five per cent of the expected sales value. For this study we have used 5% of 5,000 pounds sold for \$4.50/cwt.

SAMPLE COSTS TO PRODUCE RICE

Yield - 5,000 Pounds Dry Rough Rice

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Operation	Hours per acre	Cash and Labor Per Acre			Total
		Labor	Fuel and repairs	Materials	
<b>Cultural</b>					
Disk - man, 60 HP tractor, 18' disk	.2	\$ .35	\$ .85		\$ 1.20
Plow - man, 60 HP tractor, 5-14" plow	.4	.70	1.65		2.35
Disk - man, 60 HP tractor, 18' disk	.2	.35	.85		1.20
Landplane - man, 60 HP tractor, 12' to float	.3	.55	1.05	Landplane rent \$ .75	2.35
Survey & mark & plow contours	.1	.20	.40	Custom survey	1.20
Check - 3 men, 2 tractors	.05	.35	.35	Checker rent	1.10
Disk & harrow - men, 60 HP tractor, 18' disk	.3	.55	1.30		1.85
Fertilize by plane				Nitrogen 70 lbs. at 12¢	8.40
				Application	3.15
				Materials	.15
Close checks - place boxes - maintain checks	.2	.30	.15		.60
Flood	.5	.65			.65
Seed by plane				Seed 150 lbs.	
				Soak, treat & haul	10.25
				Plane	1.50
Irrigate	2.0	3.60	1.40	Water	14.00
Weed spray by plane				MCPA - 1 qt. applied	2.50
Insect control				Pesticide applied	2.50
Drain and open check	.1	.15		Materials	.10
Bird control		.60		Plane	.40
Remove checks		.35	.80		1.15
<b>Total Cultural</b>		<b>\$ 8.70</b>	<b>\$ 8.80</b>		<b>\$44.70</b>
					<b>\$62.20</b>
<b>Harvest</b>					
Combine - 2 men, 2 combines	.6	3.30	6.60		9.90
Bankout - man, tractor, bankout wagon	.6	1.80	2.00		3.80
Haul to drier - man and truck	.6	1.80	1.00		2.80
Dry				55 cwt. at 27¢	14.90
<b>Total Harvest</b>		<b>\$ 6.90</b>	<b>\$ 9.60</b>		<b>\$14.90</b>
<b>Total Cash and Labor Cost</b>		<b>\$15.60</b>	<b>\$ 18.40</b>		<b>\$59.60</b>
					<b>\$93.60</b>

(Over)

SAMPLE COSTS TO PRODUCE RICE (CONT'D.)

(Continued)

Operation	Labor	Fuel and repairs	Materials	Total
Total Cash and Labor Cost	\$15.60	\$18.40	\$59.60	\$ 93.60

Annual Cost

<u>Investment</u>	<u>Per Acre</u>	<u>Depreciation</u>	<u>Interest</u>	
Land	\$4.00		\$24.00	
Tractors & trucks	115	\$11.50	3.45	
Equipment	145	14.50	4.35	
Buildings & structures	50	2.50	1.50	
Total		\$28.50	\$33.30	\$ 61.80

Miscellaneous Overhead

Taxes	\$7.00			
Office, accounting, miscellaneous	5.00			
Management at 5% of gross income (5,000 lbs. at \$4.50 cwt.)	<u>11.25</u>			
Total	\$23.25			\$ 23.25

Total Cost Per Acre \$178.65  
Cost Per Cwt. 3.573

Handwritten calculation:  

$$\begin{array}{r} 2 \\ 4.50 \\ 5 \\ \hline 22.50 \\ 175 \\ \hline 50 \end{array}$$

Handwritten calculation:  

$$\begin{array}{r} 178 \\ 11.25 \\ \hline 189.25 \\ 14 \\ \hline 175.25 \end{array}$$

TABLE 3

## NET INCOME AT VARIOUS YIELDS AND PRICES

Yields Cwt. Dry Rice Per Acre	Price Per Hundredweight				
	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
35	\$-29.40	\$-21.09	\$-12.78	\$-4.46	\$ 3.85
40	-12.15	- 2.65	6.85	16.35	25.85
45	4.10	14.79	25.48	36.16	46.85
50	22.60	34.48	46.35	58.22	70.10
55	40.10	53.10	66.22	79.29	92.35
60	57.10	71.35	85.60	99.85	114.10
65	74.10	89.54	104.98	120.41	135.85
70	91.10	107.72	124.32	140.98	157.60

Production and management costs are adjustable to price and yield.

TABLE 4

## CALIFORNIA ACREAGE YIELDS AND PRICE

Year	Harvested Acres 1,000 Acres	Production 1,000 Cwt.	Yields lb./Ac.	Price/Cwt. (Paddy)
1945	235	6,262	2665	\$ 3.64
1946	261	7,913	3032	4.80
1947	256	8,035	3139	6.13
1948	256	6,832	2669	4.40
1949	305	10,218	3350	3.42
1950	238	8,270	3475	4.54
1951	324	10,692	3300	4.95
1952	337	11,711	3475	6.25
1953	425	12,325	2900	5.38
1954	477	12,164	2550	4.61
1955	329	11,350	3450	4.31
1956	286	12,012	4200	4.44
1957	226	9,718	4300	4.48
1958	249	11,080	4450	3.81
1959	285	13,252	4650	4.19
1960	288	13,752	4775	4.43
1961	290	13,630	4700	4.50
1962/a	319	15,152	4750	

## Source:

USDA Statistical Bulletin 238, Rice - 1958

California Field Crops Statistics 1958 & 1962 issued California State  
Department of Agriculture

/a Estimate as of 1 November 1962



## LEASING RICE LAND

Because of the high investment required for equipment, many producers find it profitable to rent rather than to own rice land. Common rentals vary from one-fifth to 40 per cent of the crop. On a forty per cent rent the landlord would furnish the water plus his share of the fertilizer and spray materials. The landlord also pays the drying on his share of the crop. There are lots of variations from this depending on what the landlord furnishes. Rice land is not usually rented on a cash basis.

TABLE 5

### AN EXAMPLE OF SAMPLE LANDLORD-TENANT COSTS ON THE BASIS OF ONE-THIRD RENT

	<u>Tenant</u>	<u>Landlord</u>	<u>Total</u>
Labor	\$ 15.60	\$	\$ 15.60
Fuel & Repairs	18.40		18.40
Contract Charges			
Cultural	9.30		9.30
Drying	9.97	4.93	14.90
Materials			
Seed	10.25		10.25
Fertilizer	5.60	2.80	8.40
Spray	1.70	.80	1.50
Water	9.33	4.67	14.00
Other	.25		.25
Investment			
Land		24.00	24.00
Tractors, Truck	14.95		14.95
Equipment	18.85		18.85
Building & Structures		4.00	
Miscellaneous Overhead			
Taxes		7.00	7.00
Miscellaneous-Office	4.00	1.00	5.00
Management	<u>11.25</u>		<u>11.25</u>
Total Expenses	\$129.45	\$49.20	\$178.65

TABLE 6

### NET INCOME- BASED ON 5,000 LBS. AT \$4.50 CWT. ON A ONE-THIRD RENTAL

	<u>Tenant</u>	<u>Landlord</u>	<u>Total</u>
Income	\$150.00	\$75.00	\$225.00
Expense	129.45	49.20	<u>          </u>
Net Income	\$ 20.55	\$25.80	\$ 46.35

You may use the above outline in estimating your returns from various leases. This example of landlord-tenant shares is presented to demonstrate one possible division of expenses. There is no area-wide pattern to the

division of production costs. The division of these costs offers the opportunity for dickering between the parties prior to signing the lease. Likewise, the division of the net income presented does not constitute a recommendation. The ratio of net profit will change with differing yields.

## RICE PRODUCTION COSTS

Rice production costs have risen steadily since World War II. The greatest increases have been in the overhead costs - up five hundred per cent since a 1954 study. Much of these increased costs are due to the rising equipment costs, land values and taxes. Cultural costs have gradually risen, but not greatly.

### SOME SOURCES OF THE DATA IN THIS PUBLICATION

Sacramento Valley Rice Farms, Gordon Sitton

University of California - Giannini Foundation of Agricultural  
Economics - Mimeograph Report 207 - July 1958

Rice Market Review - Federal State Market News Service  
San Francisco

Sample Rice Costs - Various Counties 1954 to 1960

The Rice Situation - published annually by  
Economic Research Service - USDA

Rice, Popcorn & Buckwheat - Statistical Bulletin 238  
Crop Reporting Board ARS - USDA 1958

California Field Crop Statistics 1958 & 1962  
California State Department of Agriculture

Interviews with growers, lending agencies and others in the  
rice industry.

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