

**RICE
PRODUCTION
COSTS**

COLUSA

GLENN

AND

September 1983

YOLO

COUNTIES



**COOPERATIVE EXTENSION
UNIVERSITY OF CALIFORNIA**

UC Cooperative Extension

INTRODUCTION:

RICE ACREAGE AND YIELDS

Approximately 90% of the rice produced in California is grown in the Sacramento Valley. A number of factors have contributed to this acreage concentration: 1) need for level land with relatively impermeable soil; 2) need for a suitable climate with warm nights during pollen development; 3) need for an inexpensive, abundant water supply.

In 1982, rice production in Colusa, Glenn and Yolo Counties accounted for approximately 43% of the California rice acreage. According to California Crop and Livestock Report Service estimates, Colusa, Glenn and Yolo Counties rank first, fourth and fifth, respectively, in California (Table 1).

California rice yields have steadily increased over the last 4 years primarily because of the new short statured rice varieties. Over the last 4 years the acreage of these varieties has increased from less than 1% in 1978 to 99% in 1982, while yields have increased by about 18% over this period (Table 2).

Improvements in pest management and cultural practices, particularly the use of land and laser leveling to improve water management, have also had a beneficial effect on yield. Leveled fields have become very desirable, if not a necessity, with the advent of the short statured varieties. Increases in California rice yields in the near future will probably be smaller than the increases we have experienced over the last four year.

TABLE 1

CALIFORNIA RICE ACREAGE BY COUNTY - 1982¹

<u>County</u>	<u>Acreage Harvested</u>	<u>Percentage Of State Total</u>
Colusa	119,500	22.3
Butte	105,500	19.7
Sutter	90,500	16.9
Glenn	80,500	15.0
Yolo	36,000	6.7
Yuba	32,000	6.0
Sacramento	22,000	4.1
Merced	11,200	2.1
Placer	9,700	1.8
Fresno	8,300	1.6
San Joaquin	6,300	1.2
Tulare	3,400	0.6
Other (Stanislaus, Kern, Kings Madera and Tehama)	10,000	1.9
California Total	535,000	100.0

¹Estimates from "California Crop and Livestock Reporting Service".

TABLE 2

RELATIONSHIP BETWEEN
SHORT STATURE RICE VARIETIES
AND
STATEWIDE AVERAGE RICE YIELDS

<u>YEAR</u>	<u>SHORT-STATURE ACREAGE</u> <u>% OF TOTAL</u>	<u>GRAIN YIELD</u> <u>(LBS/A)</u>	<u>% YIELD</u> <u>CHANGE¹</u>
1975	0	5730	- 2.4
1976	0	5520	- 5.0
1977	0	5810	0
1978	1	5220	- 10.2
1979	50	6520	+ 12.2
1980	75	6440	+ 10.8
1981	90	6900	+ 18.7
1982	99	6850	+ 17.9

¹Percent change determined using 1977 as the base year.

Tadpole shrimp/algae control, Aerial applied					Copper sulfate, 15 lbs./acre @ 0.65/lb.	9.75
Watergrass control, Aerial applied					Aerial application Ordram 10G, 4 lb. a.i./acre @ 5.44/lb.	2.66 21.74
Broadleaf & sedge weed control, aerial applied					Aerial application MCPA, 1 lb. a.i./acre	3.21 3.60
					Aerial application	4.35
<i>CULTURAL COSTS</i>		\$11.85	\$ 7.60	\$ 9.34		\$173.15
<u>HARVEST/POST HARVEST</u>						
Combine	.74	3.52	3.44	12.72		19.68
Combine	.74	3.52	3.44	12.72		19.68
Bankout	.37	2.92	.86	3.10		6.88
Transport to Dryer					Tranport rough rice (7820 lbs./acre @ 23% moisture) to dryer, 10-15 mile haul @ .2475/100 lbs.	19.35
Dryer					Dry rough rice (7820 lbs./ acre @ 23% moisture - 7000 lbs. @ 14% moisture) .60/cwt.	46.80
Mow levees, roads & clean around boxes	.05	.34	.11	.09	Storage rate, 0.45/cwt.	31.50 .54
Burn	.16	.94	.07			1.01
<i>HARVEST/POSTHARVEST COSTS</i>		\$11.24	\$ 7.92	\$28.63		\$145.44
<i>CULTURAL + HARVEST/POSTHARVEST COSTS</i>		\$23.09	\$15.52	\$37.97		\$318.59

<u>OVERHEAD COSTS</u>			
Pickups			3.33
Miscellaneous, insurance and office			20.13
Taxes on buildings and equipment - inventory assessed at 1.05% of value			7.60
Interest on production loan - 6 months loan for cultural, harvest and postharvest costs with 11.5% annual rate			18.45
Rent, 70 cwt. @ 9.00/cwt., 1/3 share (210.00) minus 1/3 fertilizer & pesticides (25.40), 1/3 drying & storage (26.10) and water (25.49)			133.01
<i>OVERHEAD COSTS</i>			\$182.52
<i>CULTURAL, HARVEST/POSTHARVEST, + OVERHEAD COSTS</i>			\$501.11
<u>FIXED COSTS</u>			
	<u>Cost/Acre</u>	<u>Depreciation</u>	<u>Interest @ 11.5%</u>
Equipment @ 60% of 1983 value	671.96	55.36	74.09
Buildings	51.67	1.72	5.84
TOTAL	723.62	57.08	79.93
<i>FIXED COSTS</i>			\$137.01
<i>TOTAL COST TO PRODUCE RICE PER ACRE</i>			\$638.12
<i>COST PER CWT. TO PRODUCE RICE @ 70 CWT. PER ACRE</i>			\$ 9.12

SAMPLE COSTS FOR OPTIONAL OPERATIONS

<i>Operation</i>	<i>Hours/ Acre</i>	<i>Cost/Acre</i>			<i>Sample Total</i>	<i>Your Total</i>
		<i>Labor</i>	<i>Fuel</i>	<i>Repair</i>		
Stubble Disc-Crawler	.17	1.23	1.44	3.39	6.06	
Preplant Ammonium Sulfate					105 lbs. N/acre @ 0.259/lb. Aerial application 2.20/cwt.	27.23 11.00
Preplant Zinc Sulfate					10 lbs. Zn/acre @ 0.844/lb. Aerial application	8.44 2.85
Shrimp Control - Methyl Parathion					1.5 pts./acre Methyl Parathion Aerial application	3.95 2.20
Grassweed Control - Bolero®					4 lbs. a.i./acre @ 8.00/lb. Aerial application	32.00 3.21
Broadleaf Weed Control - Basagran®					1 lb. a.i./acre @ 21.33/lb. & 1 qt. nonphytotoxic oil/acre @ .38/qt. Aerial application	21.71 4.35
Postplant Ammonium Sulfate					42 lbs. N/acre @ .259/lb. Aerial application, 2.34/cwt.	10.88 4.68
Armyworm Control - Sevin®					2 lbs. a.i./acre @ 3.22/lb. Aerial application	6.44 4.05
Equipment Transport					2 hrs./move, 4 moves	0.60

CASH COST/ACRE SUMMARY

	<i>Labor</i>	<i>Fuel</i>	<i>Repairs</i>	<i>Materials</i>	<i>Services</i>	<i>Overhead</i>	<i>Total</i>	<i>% Total</i>
Land Preparation	5.16	6.39	8.60	-	-	-	20.18	4.0
Fertilization	.62	1.21	.74	41.12	4.42	-	48.11	9.6
Weed & Invertebrate Control	-	-	-	38.74	11.20	-	49.94	10.0
Planting	-	-	-	16.58	6.81	-	23.39	4.7
Water Management	6.04	-	-	25.49	-	-	31.53	6.3
Harvest & Irrigation	9.96	7.74	28.54	-	19.35	-	65.69	13.1
Drying & Storage	-	-	-	-	78.30	-	78.30	15.6
Post Harvest Operations	1.28	.18	.09	-	-	-	1.55	0.3
Cash Overhead	-	-	-	-	-	182.52	182.52	36.4
<i>TOTAL</i>	<i>\$23.09</i>	<i>\$15.52</i>	<i>\$37.97</i>	<i>\$121.93</i>	<i>\$120.08</i>	<i>\$182.52</i>	<i>\$501.11</i>	
<i>% TOTAL</i>	<i>4.6</i>	<i>3.1</i>	<i>7.6</i>	<i>24.3</i>	<i>24.0</i>	<i>36.4</i>		<i>100.0</i>

EQUIPMENT INVENTORY

<i>Equipment</i>	<i>1983 Cost Including Tax</i>	<i>Cost/Acre</i>	<i>Life</i>	<i>Depreciation</i>
1. Wheel Tractor, 40 HP	17,200	28.67	10	2.87
2. 4WD Tractor, 210 HP	102,700	171.67	10	17.12
3. Crawler Tractor, 125 HP	132,000	220.00	15	14.67
4. Chisel Plow, 16'	6,280	10.47	10	1.05
5. Chisel Plow, 21'	8,800	14.67	10	1.47
6. Stubble Disc, 14'	18,250	30.42	10	3.04
7. Offset Disc, 21' (2)	(2) 17,700	(2) 59.00	10	(2) 5.90
8. Spiketoothed Harrow, 20'	3,550	5.92	20	.30
9. Triplane, 16' x 35'	13,850	23.08	15	1.54
10. Mower, 7'	2,490	4.15	10	.42
11. Combine, 16'	114,600	191.00	10	19.10
12. Combine, 16'	114,600	191.00	10	19.10
13. Bankout	60,000	100.00	10	10.00
14. Pickup, 4WD	12,475	20.79	8	2.60
15. Pickup, 4WD, Used	4,600	7.67	4	1.92
16. Tools & Small Equipment	10,000	16.67	10	1.67
17. Blade for Crawler	5,000	8.33	15	.56
18. Disc Ridger	15,000	25.00	20	1.25
19. Boxes	2,640	4.40	5	.88
<i>TOTAL</i>	<i>\$679,435</i>	<i>\$1,191.91</i>		<i>\$92.26</i>
<i>Grower Equipment Inventory 60% of 1983 Cost</i>	<i>\$407,661</i>	<i>\$ 671.95</i>		<i>\$55.36</i>

BUILDING INVENTORY

<i>Building</i>	<i>1983 Cost Including Tax</i>	<i>Cost/Acre</i>	<i>Life</i>	<i>Depreciation</i>
Steel Shop with Office (40' x 60' x 18')	24,00	40.00	30	1.33
Pole Building (35' x 80' x 16', open)	7,000	11.67	30	.39
<i>TOTAL</i>	<i>\$31,000</i>	<i>\$51.67</i>		<i>\$1.72</i>

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