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STRAWBERRY PRODUCTION COSTS
FOR
MONTEREY AND SANTA CRUZ COUNTIES

AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA

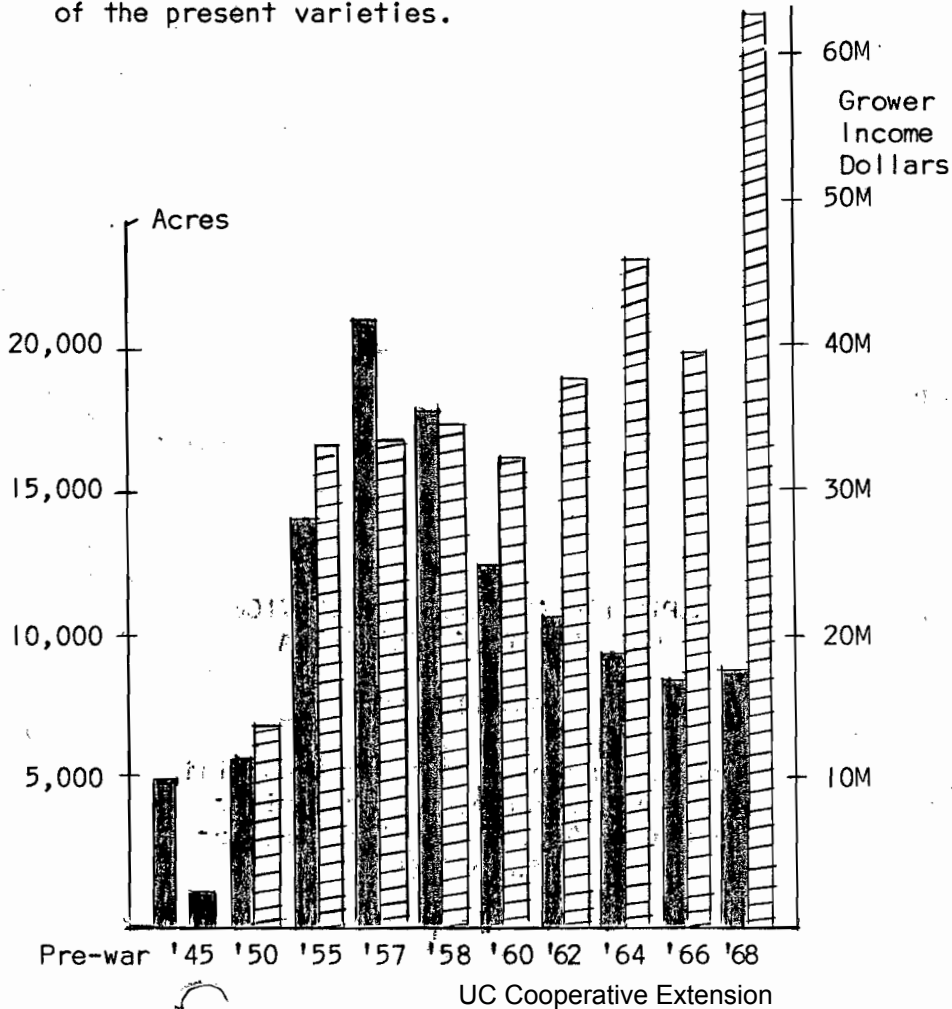
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INTRODUCTION

California strawberry acreage peaked at 20,700 acres in 1957 but dropped to 8,600 acres by 1968. Production per acre increased as new and improved production techniques and varieties were utilized. The dollar value of California strawberry production when compared with the acreage (charted below) clearly shows this trend. Annual planting in southern California and summer planting in central California were prime factors which both increased production and improved market fruit quality. The \$63 million crop produced in 1968 indicates the high potential yield of the present varieties.



DISCUSSION

These data sheets apply to summer planted strawberry varieties in Monterey and Santa Cruz counties.

Equipment and overhead costs were charged to a 20-acre unit with ten acres being established. Establishment costs are depreciated in two years with 60 percent charged to the first year's production. Depreciation includes a solid set sprinkler system for the ten acres being established.

TYPES OF COSTS

Three input categories are included in this study: (1) Cash Costs, (2) Depreciation Costs, and (3) Interest on Investment Cost. Together they make up the total cost of each crate of strawberries.

Cash Costs are annual expenditures sometimes called out-of-pocket costs -- monies paid for the fertilizer, pruning, spraying, etc., where capital flow is obvious.

Depreciation Costs - Plants and equipment get old and must be replaced. These costs (which do not include regular maintenance) too, are a real expense and must be accounted for annually. The depreciation costs in this study were based on the purchase of all new equipment and other capital outlay items.

Interest on Investment is often ignored as a cost except when interest is paid on borrowed capital. All capital, whether invested in bonds, business or in berry growing, commands a return which is an important part of the total production costs. In this study, a fair rate of interest is considered to be 6%. This is figured on one-half the original cost of depreciable items.

Russell H. Griffith

Farm Advisor SAMPLE INPUTS AND COSTS TO ESTABLISH STRAWBERRIES - RENTED LAND
MONTEREY AND SANTA CRUZ COUNTIES - 1968

	Hours per Acre			Cost per Acre
	Man: ex. Contract	20 H.P. Tractor	L.T. Truck	
Plow, disk 2x, subsoil and float: contract - 8 hrs. with 40 h.p. crawler @ \$8				\$ 64.00
Survey for leveling: 3 men, 1½ hrs.	4.5			8.25
Leveling and grading - contract - 6 hrs. @ \$8				48.00
Chisel 2 x - contract - 3 hrs. @ \$8				24.00
Fumigate - contract				350.00
List beds - contract - 1 hr. @ \$8				8.00
Preplant sprinkle irrig. - 2 x (5" water)	3.7			6.60
Shape beds & open plant furrows	2.0	2.0		6.20
Planting	44.0		5.0	89.20
Plants: 22,000 @ \$18.50/1,000				407.00
Close furrows	1.0	1.0		3.10
Total Preparation and Planting				\$1,014.35
Irrigate: sprinkler 15 x	10.7			19.20
Power - \$8.00; booster pump fuel and repairs - \$9.00; includes preplant (16" water)				17.00
Furrow leveling	7.0	7.0		21.70
Cut runners and weed - 3 x	114.0			188.10
Fertilizer: 30 lbs. 16-20 - applied				15.00
Dust: 3 x - contract - applied				42.00
Total Labor, Materials and Field Power				\$1,317.35

General expense: office, car, operating capital, etc.	72.00
County taxes on tenant's equipment	5.50
Repairs to equipment, other than tractor & truck	6.40
Rent on land	150.00
Total Cash Overhead Costs	\$ 233.90
Total Cash Costs	\$1,551.25

	Orig. Costs	Acres Served	Orig. Cost	Per Acre 6% on ½ Cost	Depreciation
Investment overhead - tenant's					
Irrigation system -					
Reservoir	\$1,000	20	\$ 50	\$ 1.50	\$ 6.25
Solid set sprinkler	6,300	10	630	18.90	63.00
Booster pump & motor	3,600	10	360	10.80	24.00
Total Irrigation			\$1,040	\$31.20	\$ 93.25
Tractor and truck	\$6,600	20	330	9.90	27.50
Other equipment	5,000	20	250	7.50	25.00
Total Investment & Depreciation			\$1,620		\$145.75
Total Cash Costs and Depreciation					\$1,697.00
Interest on Investment				\$48.60	\$ 48.60
TOTAL COST TO ESTABLISH STAND					\$1,745.60

Based on a 20-acre unit with 10 acres being established. A solid set sprinkler system used in establishing stand.
Labor rates per hour including compensation, insurance and Social Security as follows: \$2.20, \$1.80 and \$1.65
Tractor cash cost per hour @ 90¢ and truck @ \$2.00

SAMPLE INPUTS AND COSTS FOR STRAWBERRIES - RENTED LAND

FIRST PRODUCTION YEAR--JANUARY - DECEMBER

MONTEREY AND SANTA CRUZ COUNTIES - 1968

Based on a yield of 3,350 - 12 lb. crates (40,200 lbs.) for fresh market

	Hours per Acre			Cost per Acre	Cost per Crate
	Man	20 h.p. Tractor	I. T. Truck		
Prune	50.0			\$ 82.50	
Plastic mulching	50.0	4.0		88.30	
Plastic material - 200 lbs. @ .34¢				68.00	
Pull plants thru plastic 2nd time & weed	20.0			33.00	
Fertilize - 400 lbs. 16-20 @ 5¢ applied				20.00	
140 lbs. N in irrig. water @ 11½¢				16.10	
Irrigate: 40 x	35.0			63.00	
Water: power to pump 80" @ \$6/A. ft.				40.00	
Weeding - 3 x	70.0			115.50	
Pest control: 1/					
Ground applic. 4 x - \$24; materials \$52				76.00	
Air applic. 5 x - \$20; materials \$53				73.00	
Hand-bait 4 x; materials \$29	1.0			30.80	
Miscellaneous work includ. mater. \$5	10.0	1.0	1.0	20.50	
Total Cultural Labor, Mat. & Field Power				\$ 726.70	\$.22
General expense: office, car, operating - capital, etc.				44.00	
County taxes on tenant's equipment				5.50	
Repairs to equipment, except tractor & truck				7.00	
Rent on land				150.00	
Total Cultural Cash Overhead				\$ 206.50	\$.06
Total Cultural Cash Costs				\$ 933.20	\$.28

Investment overhead - tenant's - based on 20-acre unit	Per Acre				Total Invest. & Deprec.	Total Cultural Cash and Depreciation Cost	Total Interest on Investment	Total Cultural Costs
	Orig. Cost	Av. Value	6% on Av. Val.	Depre- ciation				
Establishment of stand ^{2/}	\$1,746	\$1,484	\$ 89.04	\$1,047.60	\$1,121.35	\$ 116.94	\$2,171.49	
Irrigation - reservoir	50	25	1.50	6.25				
Irrigation - gated pipe	300	150	9.00	15.00				
Tractor and truck	330	165	9.90	27.50				
Other equipment	250	125	7.50	25.00				
Total Invest. & Deprec.	\$2,676	\$1,949		\$1,121.35	\$1,121.35	\$ 116.94	\$2,171.49	
Total Cultural Cash and Depreciation Cost					\$2,054.55	\$ 116.94	\$2,171.49	
Total Interest on Investment			\$116.94		\$ 116.94	\$ 116.94	\$2,171.49	
Total Cultural Costs					\$2,171.49	\$ 116.94	\$2,171.49	
Picking: hourly plus so much per crate = 71¢/crate x 3,350/A.					\$2,378.50		\$2,378.50	
Checker: 54 hrs. @ \$1.90; 20 hrs. man & truck					186.60		186.60	
Crates, baskets and wires @ 34¢					1,139.00		1,139.00	
Harvesting cash overhead					180.00		180.00	
Total Harvesting and Crate Costs					\$3,884.10		\$3,884.10	
Total All Costs					\$6,055.59		\$6,055.59	

1/ For Shastas', two additional dusts @ \$16 each = \$32.00

2/ Establishment costs depreciated in two years with 60% charged to first year's production.

Based on 20-acre unit with only portion in first production year. Labor rates per hour including compensation insurance and Social Security as follows: \$2.20, \$1.80 and \$1.65. Tractor cash cost per hour @ 90¢; truck @ \$2.00.

YIELD AFFECTS COSTS

A yield of 3,350 crates per acre was chosen for this study. Higher or lower yields per acre will affect the costs shown in this study. The table below shows the effect of yield on costs of production per crate of strawberries if all inputs and costs remain constant.

Costs Per Crate at Varying Yields

Yield, Crates per Acre	2,500	3,350	4,000
Costs per Crate	2.03	1.81	1.70

PRACTICES CAN AFFECT COSTS

Growers must review production systems and develop ways to reduce labor and other costs. High yielding varieties with short harvest seasons can more effectively compete for scarce labor supplies.