

SAMPLE COSTS TO PRODUCE STRAWBERRIES
IN
SANTA BARBARA COUNTY
1988/89



WRITTEN AND COMPILED BY:

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STRAWBERRY COSTS OF PRODUCTION
SAMPLE COSTS TO PRODUCE STRAWBERRIES, SANTA BARBARA COUNTY--1988-89

A survey of 10 strawberry growers in the Santa Maria area resulted in a sample cost budget to produce strawberries. Growers were queried on labor requirements, cultural practices, equipment inventories, land rents, water usage, yields and production mixes. This budget is a representation of the various responses obtained from the growers and does not reflect the costs of any one grower. This sample cost budget is based on winter planted strawberries.

GENERAL CULTURAL PRACTICES

Cultural practices for strawberries are very exacting and intensive. There are minimum fertilizer requirements, exacting planting periods, and unique cultural techniques. Because of this, there is very little room for error in order to ultimately achieve maximum economic yields.

Planting dates for winter planted strawberries in the Santa Maria area occurs during a 2-3 week period beginning in late October to early November. The starting period is dependent upon chilling temperatures achieved in the plant nurseries located in the high elevation areas of northern California. Once adequate chilling has been accumulated in the nursery fields, the plants are dug, trimmed and packed for shipment. Soon after the trimmed plants or crowns are received by the growers, they are planted in the fumigated soil which also contains a pre-plant slow release fertilizer and drip irrigation tape. After the planting is completed, a clear plastic mulch is installed on each row in order to warm the soil. This enhances the development of the strawberry plant, protects the fruit from contact with the soil, and also acts as a water conserving measure.

HARVESTING PRACTICES

Winter planted strawberries account for the major acreage in the Santa Maria area. Harvest for fresh market generally commences in late February and continues through early July, as long as the market quality remains acceptable. When the strawberries are no longer accepted for fresh market, the remaining production is diverted to processing. Freezer or processing production continues into August or as the processing plants remain in operation. Standard harvest units for fresh market are twelve-one-pint carton trays. Processing production is measured in pounds, but harvest units are eighteen to twenty pound containers.

ESTIMATION OF PRODUCTION COSTS

Total fixed costs include all land preparation, establishment, cultural, rental expenses, insurance, telephone and office expenses, property taxes, trucks and drivers, and capital investment costs of depreciation and investment costs; this total amounts to \$6351 per acre.

The variable costs are identified as harvest costs for labor and materials, and working capital interests costs. Working capital interest cost is calculated by averaging the total cash costs for four months and multiplying by an average interest rate. The average interest rate chosen here is 12 percent.

The following discussion is based upon the Range Analysis Table which calculates the estimated net returns to management per acre. Net returns to management is a profit measurement. It is calculated as follows:

Estimated Net Returns to Management per acre =
Total Gross returns per acre (based on yield and price)

MINUS: Total Fixed Costs/acre
Total Harvest Costs/acre (based on yield)
Total Working Capital Interest Costs/acre.

This analysis shows that profitability is achieved in the following conditions:

- When average market prices are above \$3.50 per tray and at yields of 5500 trays or more per acre.
- When average market prices are above \$4.00 per tray and at yields of 3750 trays or more per acre.
- When average market prices are above \$4.50 per tray and at yields of 3000 trays or more per acre.

This sample cost budget is an estimated representation of costs to produce strawberries in the Santa Maria area. Costs will vary among individual producers depending on scale, wages paid, land values, and yields. However, the largest cost component to produce strawberries is Harvesting Costs (62%). This is followed by Plant and Establishment Costs (14%); Overhead Costs (9%); Land Preparation Costs (7%); Cultural Costs (6%); and Capital Investment Costs (2%). The attached chart provides a visual breakdown of these costs.

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OPR. LABOR COST/HOUR: \$ 9.08	EQUIPMENT COSTS/HOUR:	IRRIGATION PUMP COSTS:
SC. LABOR COST/HOUR: \$ 5.75		
FRESH TRAYS/ACRE: 4000	300 HP TRACTOR \$ 25.00	\$ 45.00 /ACRE FT
PROCESSING TONNAGE/ACRE: 4.8	170 HP TRACTOR 15.50	
	70 HP TRACTOR 9.00	

LAND PREPARATION:	Equipment	Material	Labor	Total
PLOW	25.00		9.08	34.08
CHISEL PLOW	18.75		9.08	27.83
DISC 3X	18.00		13.61	31.61
PRE-FERTILIZE	12.00	54.00	9.08	75.08
ROTOTILL	37.50		9.08	46.58
LAND PLANE	18.00		9.08	27.08
PLACE AND REMOVE SPRINKLERS 1X			22.99	22.99
SPRINKLE IRRIGATE 1X		11.25	2.87	14.12
FUMIGATE	custom work	925.00		925.00
REMOVE PLASTIC AND DUMP	5.00		32.97	37.97
SPRINGTOOTH CULTIVATION	18.00		9.08	27.08
TOTAL	152.25	990.25	126.90	1269.40

PLANT ESTABLISHMENT:				
LIST BEDS	15.50		18.15	33.65
APPLY FERTILIZER	15.50	210.00	18.15	243.65
SHAPE BEDS AND PLACE DRIP HOSE	46.50	160.00	44.47	250.97
OPEN PLANT LINES	46.50		36.30	82.80
FUNGICIDE DIP		10.00	2.87	12.87
PLANTS AND TRANSPLANTING 28000 plants/acre		1153.00	367.84	1520.84
ROLL BEDS	15.50		13.61	29.11
HERBICIDE	custom work	65.00		65.00
INSTALL PLASTIC MULCH AND BURN HOLES	36.00	200.00	70.79	306.79
TOTAL	175.50	1798.00	572.18	2545.68

CULTURAL OPERATIONS:				
PLACE AND REMOVE SPRINKLERS 3X			68.97	68.97
SPRINKLE IRRIGATE		33.75	11.50	45.25
CULTIVATE 1X	15.50		9.08	24.58
HAND WEEDING			126.45	126.45
DRIP IRRIGATE 38X		168.75	86.21	254.96
FERTIGATION 4X		50.00	5.75	55.75
PEST CONTROL 3X - 5X	custom work	425.00		425.00
POST CROP CLEANUP	36.00		91.96	127.96
TOTAL	51.50	677.50	399.91	1128.91

OVERHEAD COSTS:				
MISCELLANEOUS REPAIRS AND LABOR	18.00	10.00	11.50	39.50
SPRINKLER PIPE RENTAL		150.00		150.00
LAND RENT 12 MONTHS				550.00
INSURANCE,PHONE,OFFICE	3x of cult.,estbat.,land prep. costs			148.32
PERSONAL PROPERTY TAXES				4.00
INTEREST ON WORKING CAPITAL	12x of ave.,cult.,estbnt.,& harv.,cost			675.86
TOTAL	18.00	160.00	11.50	1567.67

HARVEST COSTS:				
TRUCKS AND DRIVERS		126.00	57.85	183.85
TRAYS AND BASKETS	.88 per tray	4000 trays/ac	3520.00	3520.00
LABOR:fresh market	1.57 per tray		6292.00	6292.00
processing	2.00 per 18 lbs.		1064.80	1064.80
TOTAL		126.00	3520.00	7414.65

TOTAL CASH COSTS PER ACRE: \$ 17572.31

Sample costs to produce strawberries, continued.

CAPITAL INVESTMENT COSTS:	Per acre Depreciation		Interest 12.00 percent	Total
	(Basis)	(Annual)		
DRIP IRRIGATION SYSTEM:				
filters, mainlines, submains	885.00	177.00	53.10	230.10
EQUIPMENT	600.00	60.00	36.00	96.00
BUILDINGS	50.00	2.50	3.00	5.50
TOTAL	1535.00	239.50	92.10	331.60
TOTAL COSTS PER ACRE:				\$ 17903.91

STRAWBERRY COSTS OF PRODUCTION

RANGE ANALYSIS OF PRICE / TRAY VS YIELD PER ACRE

Ave. Price*/tray: \$	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	
YIELD	-----ESTIMATED GROSS RETURNS PER ACRE-----								
Yield**/	2500	10250	11500	12750	14000	15250	16500	17750	19000
Trays	3000	12300	13800	15300	16800	18300	19800	21300	22800
per	3250	13325	14950	16575	18200	19825	21450	23075	24700
Acres	3500	14350	16100	17850	19600	21350	23100	24850	26600
	3750	15375	17250	19125	21000	22875	24750	26625	28500
	4000	16400	18400	20400	22400	24400	26400	28400	30400
	4250	17425	19550	21675	23800	25925	28050	30175	32300
	4500	18450	20700	22950	25200	27450	29700	31950	34200
	4750	19475	21850	24225	26600	28975	31350	33725	36100
	5000	20500	23000	25500	28000	30500	33000	35500	38000
	5500	22550	25300	28050	30800	33550	36300	39050	41800

Fixed Costs Per Acre: 6351.25 dollars

Ave. Price*/Tray: \$	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	
YIELD	-----ESTIMATED NET RETURNS TO MANAGEMENT PER ACRE-----								
Yield**/	2500	-3412	-2162	-912	338	1588	2838	4088	5338
Trays	3000	-2776	-1276	224	1724	3224	4724	6224	7724
per	3250	-2458	-833	792	2417	4042	5667	7292	8917
Acres	3500	-2140	-390	1360	3110	4860	6610	8360	10110
	3750	-1822	53	1928	3803	5678	7553	9428	11303
	4000	-1504	496	2496	4496	6496	8496	10496	12496
	4250	-1186	939	3064	5189	7314	9439	11564	13689
	4500	-868	1382	3632	5882	8132	10382	12632	15466
	4750	-550	1825	4200	7206	8950	11325	13700	16075
	5000	-232	2268	4768	7268	9768	12268	14768	17268
	5500	404	3154	5904	8654	11404	14154	16904	19654

*freezer price constant @ .25 per lb.
 *freezer yield constant @ 20 percent of fresh yield

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STRAWBERRY COSTS OF PRODUCTION

4000 TRAYS/ACRE, 9600 LBS. FREEZER

Overhead (8.7%)

Land Preparation (7.1%)

Capital Investment (1.9%)

Plant Establishment (14.2%)

Cultural Operations (6.3%)

Harvest (61.8%)

