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DEVELOPMENT COSTS
GREENHOUSE CARNATIONS

Monterey and Santa Cruz Counties
August 1972

AGRICULTURAL EXTENSION

UNIVERSITY OF CALIFORNIA

SANTA CRUZ COUNTY

UC Cooperative Extension

TYPICAL COSTS OF DEVELOPING GREENHOUSE CARNATIONS

Monterey and Santa Cruz Counties

August 1972

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SCOPE OF THE INDUSTRY

Cut flowers, cultivated greens and potted plants yielded an income of more than \$112 million in the State of California during 1971. This income is greater than for all other states. Florida is second with a reported wholesale income of \$26 million for the same year.

In Santa Cruz and Monterey Counties 14.2 million square feet of greenhouses were in production in March 1972. The major crop was carnations, which occupied 7.48 million square feet. The dollar wholesale income to growers for flower crops from the two Counties was \$19.5 million in 1971. Most of the greenhouse crops from Monterey Bay are exported to other parts of the United States by air freight.

CONDITIONS OF THE COST STUDY

The following data are composite figures gathered from a representative group of Monterey and Santa Cruz County carnation growers. We assumed that the carnation planting was to be maintained for a two-year period. Other production methods are feasible for carnations; however, a two-year rotation program is practiced by the majority of growers.

The cost study is divided into three sections. Section 1 lists typical costs of developing greenhouse carnations during the 120 days from planting to harvest of the first crop when 1-1/2 pinches are used. Days to harvest vary with time of year, pinching method, greenhouse temperature, and variety, so 120 days is an average figure.

Section 2 includes the materials and services, plus the cash overhead cost encountered in producing the crop.

Section 3 is a summary of the cost categories on a square foot basis, plus a per plant cost figure where 1.5 plants per square foot are grown.

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TYPICAL COSTS OF DEVELOPING GREENHOUSE CARNATIONS
REACHING MATURITY IN 120 DAYS WITH 1 AND 1/2 PINCHES

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SECTION I

10,000 sq. ft. unit - 15,000 plants - labor at \$2.25 per hour

Production Practices	Man Hours	Costs
<u>Preparing Soil & Planting</u>		
Remove old plants, caging and water system	60	\$135.00
Tractor tillage of soil & amendment incorporation	7	15.75
Tractor and tiller (\$3/hr. x 7 hrs.)		21.00
Spread & work in redwood soil amendment and fertilizers	6	13.50
Sterilize or fumigate	5	11.25
Level beds and mark for planting	10	22.50
Planting	17	38.25
Replace and adjust irrigation system	10	22.50
Watering	12	27.00
<u>Caging, Pinching and Disbudding</u>		
Pinching	35	78.75
Install caging and bamboo	100	225.00
Disbudding	100	225.00
Calyx tape to prevent splits	20	45.00
<u>Pest and Disease Control</u>		
Spider, mite, aphid, thrip and fusarium control	10	22.50
<u>Fertilization and Ventilation</u>		
1. Dry fertilizer	20	45.00
2. Adjust ventilation	12	27.00
Supervision--3% of total man-hours (424 hrs. x 3%) @ \$3.50 per hour	12.72	44.52
TOTAL LABOR AND EQUIPMENT COSTS	436.72 hrs.	\$1,019.52

SECTION II

COST SHEET - CARNATIONS

<u>MATERIAL AND SERVICES</u>	<u>Costs</u> <u>Per 10,000 sq. ft.</u>
Plants 15,000 @ \$0.10	\$ 1,500.00
Power, heat and lights	10.00
Gas for sterilizing	40.00
Sawdust 50 yards @ \$1.80	90.00
Superphosphate 500 lbs.	15.00
Dolomite Ag 65 1,000 lbs.	15.00
Insecticides & fungicides	50.00
Fertilizer	100.00
Wire	5.67
Stakes \$125 divided by 5 yrs.	8.33
Bamboo	6.33
Soil Testing	12.50
Scotch Tape	45.00
Sterilizing cover materials	1.00
TOTAL COST OF MATERIALS AND SERVICES	\$ 1,898.83
 <u>Cash Overhead</u>	
Office, phone, car & interest on operating capital	\$ 175.10
Taxes (4-mo.)	140.00
Insurance (4-mo.)	40.00
Repairs on equipment (4-mo.)	60.00
TOTAL CASH OVERHEAD COSTS	\$ 415.10
TOTAL CASH COSTS	\$ 3,333.45
Depreciation of equipment & greenhouse 4-mo. period	466.67
Interest on average investment of equipment and greenhouse, service buildings, and on full value of land @ 6%*	156.00
TOTAL ALL COSTS	\$ 3,956.12

*Land value assumed to be \$800 for site of 10,000 sq. ft. house @ 6%
Interest = \$48.

If land value was \$1,250 for site of 10,000 sq. ft. house @ 6%
Interest = \$75.

SECTION III

SUMMARY

	<u>Per Sq. Ft.</u>	<u>Per Plant</u>
Cultural costs	\$.1020	
Materials and services	.1899	
Cash overhead	.0415	
Depreciation	.0467	
Interest on investment	<u>.0156</u>	
Total replacement cost	\$.3957	\$.2638

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