Celery Production Expensive

costs higher than for any other field-grown vegetable in southern California

H. W. Schwalm

Total costs for producing, harvesting, and packing the 1948 southern California celery crop averaged $2,072.00 per acre.

This figure is taken from a 1948 cost of production study on winter and spring celery made in Los Angeles, Orange, and San Diego Counties. Records were compiled from eight farms—producing 349 acres of celery—considered to represent the best available cross-section of information on this crop in southern California.

The yield of celery on the eight farms studied varied from 725 to 1,154 packed crates per acre, the average for all being 978 crates. Based on this yield and the total production and packing cost of $2,072.00 per acre, the average cost of production per packed crate was $2.12. Returns to growers in the Venice district averaged only $1.75 per crate, or 37¢ below the cost of production. With yields of a thousand crates per acre, this means a net loss of $370.00 an acre harvested.

The average cost to produce a crate of celery was $2.12 but the actual cost of production up to harvest was only $1.04—the additional $1.08 being charged to harvesting and packing.

The averages resulting from this study do not represent averages for the industry as a whole but they do represent operations of typical growers in the three districts.

Production costs for celery are higher than for any other field-grown vegetable crop in southern California.

The most expensive production operation is the purchase of plants and transplanting in the field.

CELERY YIELD AND FERTILIZER COSTS ON EIGHT SOUTHERN CALIFORNIA FARMS

Farm Number	Yield per acre (crates)	Fertilizer: Kind	Fertilizer: Pounds per acre	Fertilizer: Pounds Nitrogen per acre	Fertilizer: Cost of Fertilizer	Cost of Labor	Total Costs Labor and Material
1	1,154	Chicken 10–5–5 Cal. cyanamid Amm. nitrate	5000) 4615) 700) 100)	532	$199.86	$11.69	$211.55
2	1,106	Chicken 8–8–4	28500) 1176)	807	128.99	3.46	132.45
3	1,097	Chicken Dairy 10–5–5 Amm. nitrate Cal. cyanamid	6000) 20000) 3000) 250) 150)	762	153.75	18.71	172.46
4	1,027	Chicken 8–8–4 16–20	29429) 4000) 1200)	1056	236.57	27.71	264.28
5	1,000	Chicken 8–8–4 NH_3	8000) 5700) 13)	667	414.10	4.28	418.38
6	1,000	Chicken Dairy	36364) 100000)	1609	260.62	included in material	260.62
7	804	Chicken Dairy 8–8–4 NH_3	19637) 29455) 2000) 300)	1100	217.00	25.68	242.68
8	725	8–8–4 Amm. nitrate	500)	498	135.00	10.76	145.76
Avg.	978			879	187.90	12.76	200.66

In the Venice district where celery is harvested in the spring, planting begins in December and continues until March. In order to be sure of good planting stock, plants must be produced in glass houses.

The price in 1948 was $1.00 per flat of 110 plants. Growers plant from 300 to 375 flats per acre, which means $300.00 to $375.00 per acre for plants alone, in addition to which must be paid the cost of transplanting in the field.

In 1948 planting costs varied from $25.00 to $89.00 per acre with an average cost to all growers in the study of $42.00 per acre. It is possible that plant production and field planting methods could be improved so that cost of this item could be materially reduced.

Fertilization

Use of fertilizers varied greatly between farms in the study, with a wide variety of kinds and amounts of material used.

Reducing the fertilizers to a common basis—pounds of nitrogen applied per acre—there was a range from 498 to 1,609 pounds, with an average of 879 pounds of nitrogen per acre.

Fertilizer material, and labor for application, ranged from $132.00 to $418.00 with an average cost of $200.00 per acre.

One grower, using 1,100 pounds of nitrogen, harvested only 804 crates per acre, whereas another grower, using only 532 pounds of nitrogen per acre, produced 1,154 crates per acre.

Fertilizer tests conducted over a five-year period—from 1944 to 1948—in the Venice and Chula Vista districts show that at least 400 pounds of nitrogen per

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Spray truck, pump, hose reel, and eight-row boom sprayer. On each trip into the field 16 rows are sprayed, eight rows out and eight rows coming back.

CELERY

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acre are necessary to produce a good yield of high quality celery.

Six hundred pounds of nitrogen per acre resulted in slightly increased yields, but it is doubtful that applications exceeding this rate would be paid for in higher yields. The addition of large quantities of phosphorus and potash appear to be unnecessary on these soils.

The results of these tests indicate that celery growers in southern California could make a substantial saving in fertilizer costs.

Disease and Insects

Disease and insect control methods and costs also varied widely. Some growers used a combination of sprays and dusts in their pest control operations while others applied only sprays.

The number of applications ranged from five to 25, and costs were from $39.00 to $146.00 with an average for all of $75.00 per acre for labor and materials.

Close watch on disease and pest conditions by careful field examinations at frequent intervals, and the use of the most effective pest control materials should enable growers to keep these at a reasonably low figure.

The use of boom-type sprayers, which cover eight to ten rows at one time, can effectively reduce the labor cost of insect and disease control.

Irrigation

The amount of irrigation water used varied from 19½ to 104 inches and frequency of application ranged from 13 to 31 irrigations.

Soil types make a great difference in the amount of water needed to produce this shallow-rooted crop. Lighter soils could easily require several times as much water as some of the heavier silt and clay loams.

H. W. Schwalm is Associate Agriculturist in Agricultural Extension, Los Angeles County.

WHITE POTATOES

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have shown that excessive amounts of water may lower grade, but such was not true of these experiments.

Irrigation affects the composition of potatoes. An insufficient amount of soil moisture causes an increase in the percentage of dry matter and of nitrogen in the tubers. Analyses of vegetables have shown that if growth is reduced because of a deficiency of some element, there is an increase in the other elements and usually in carbohydrates.

Irrigation treatment produced a noticeable effect on the appearance of the lenticels of the tubers. The nonirrigated potatoes have a normal, small appearing lenticel. The heavily irrigated potatoes exhibit a large, whitish tissue at the normal location for the lenticel.

John H. MacGillivray is Professor of Truck Crops and Olericulturist in the Experiment Station, Davis.

SWEET POTATOES

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Either above ground houses or cellars may be used. The important consideration for a storage house is to be able to maintain uniform desirable temperatures. The roof needs good insulation or a false ceiling should be provided to prevent condensation of moisture on the roof.

Provision for heat is necessary for curing and to prevent chilling during unusually cold periods.

It is advisable to divide large storages into compartments so the potatoes from a few days harvesting can be closed up and cured without delay.

Ventilators are essential for temperature and humidity control and should be arranged to avoid direct drafts on the potatoes. Storages should be rodent proof.

Windows should be covered to exclude light during the storage season.

P. A. Minges is Associate Agriculturist, Truck Crops, in Agricultural Extension, Davis.

L. L. Morris is Assistant Professor of Truck Crops and Assistant Olericulturist in the Experiment Station, Davis.

NEW PUBLICATIONS

—now ready for distribution—

Each month, new publications of the College of Agriculture are listed in this column as they are received from the press.

Single copies of these publications or a catalogue of Agricultural Publications may be obtained without charge from the local office of the Farm Advisor or by addressing a request to: Publications Office, 22 Giannini Hall, University of California, College of Agriculture, Berkeley 4, California.

CALIFORNIA GREENHOUSE PESTS AND THEIR CONTROL, by A. Earl Pritchard, Bul. 713, May, 1949.

A handbook for both professional and amateur greenhouse operators with descriptions and many pictures of the insects and mites attacking their crops; methods of control; and an appraisal of all the new insecticides and their effectiveness in the control program.

SUN-DRYING FRUITS, by E. M. Mrak and H. J. Phaff, Cir. 392, July, 1949.

Good sun-drying practices for the farmer who has a drying yard for stone fruits, raisins or currants. Covers methods for drying apricots, freestone peaches, nectarines, clingstone peaches, pears, prunes, raisins, currants, cherries.

GROWING STRAWBERRIES IN THE HOME GARDEN, by Richard E. Baker, Ext. Cir. 151, May, 1949.

Designed to help the home gardener have better success with strawberries.

DONATIONS FOR AGRICULTURAL RESEARCH

Gifts to the University of California for research by the College of Agriculture accepted in July, 1949

BERKELEY

Carbide and Carbon Chemicals Corp. — 2 lbs. CRAG potato Fungicide 658
Division of Plant Pathology

Hercules Powder Company — 1 bag toxaphene
40–50# bags toxaphene
Division of Entomology and Parasitology

Merck & Company, Inc. — 50 micrograms of crystalline vitamin B12
Division of Poultry Husbandry

Naugatuck Chemical — 1 pt. N57–25E and 1 pt. 83N–25E
Division of Entomology and Parasitology

Niagara Sprayer and Chemical Division — 3–48# ctns. Kolofog
3–1 gal. jugs Hexamite
1–25 cap. jar Soilfume Caps
3–48# ctns. Niatox Crop Spray
1–24# ctn. Phoskil
Division of Entomology and Parasitology

S & W Tool Company — 1 quart Dianol insecticidal plaint
1 lb. Dianol Paint insecticide
Division of Entomology and Parasitology

Tobacco By-Products Company — 1 carton of dry nicotine concentrate
54 pounds 14% dry nicotine concentrate
Division of Entomology and Parasitology

R. T. Vanderbilt Co., Inc. — ¼ lb. Veegum
Division of Entomology and Parasitology

LOS ANGELES

Department of Recreation and Parks of the City of Los Angeles — $600.00
Division of Ornamental Horticulture

RIVERSIDE

Rohm and Haas Company — $3,000.00
Division of Entomology