

CELERYYields

Celery yields, as reported by the Ventura County Agricultural Commissioner, have been averaging around 30 tons per acre. This is approximately 1000 crates containing 2 dozen stalks of celery and weighing around 60 lbs. For this sample cost a yield of 1000 crates per acre is used.

Varieties and Seed

For the past 10 years almost all of the celery grown in Ventura County has been of the tall Utah 52-70 variety. For the past few years the R-strain of this variety has become the most popular. It is highly advisable that growers either give their seed the hot-water treatment for control of celery mosaic, or that they make sure that nurserymen growing plants for them have done so.

Almost all of the celery grown in Ventura County is transplanted from greenhouse-grown plants.

Soil and Climate

The medium textured soils and the climate of the Oxnard Plain are highly suitable for celery production the year around.

When to Plant and Harvest

It is a common practice among celery growers in Ventura County to harvest at a steady rate from the middle of November to the middle of July. Because the time from transplanting to harvest ranges from less than 100 to over 150 days, it is important that growers follow a planting schedule similar to that on page 34 in order to avoid wide fluctuations in the amount of celery ready to harvest in any one week. Transplanting begins early in August following a celery-free period and should end soon after the first of April in order to have all fields free of celery by July 15. The celery-free period in July is for control of western celery mosaic.

It takes about 60 days to grow greenhouse celery plants to the transplanting stage.

Planting, Cultivation, and Weed Control

Transplanting is done either entirely by hand or with the aid of transplanting machines. Most celery in Ventura County is in single rows about 24" apart with an in-the-row spacing of about 7". This is a little less than a plant per square foot, and it takes around 350 flats of 110 plants to plant an acre. During most of the transplanting season, plants are transplanted on the south side of an "A"-shaped bed in order to put the plants in a position near the water applied in the furrow immediately after transplanting and in order to take advantage of a little extra heat on this side of the bed. Cultivation after the plants are established shifts the soil so that the plants end up on the top of a very low bed.

Until chemical weed control became feasible in 1968, it was necessary in most fields to eliminate weeds in the row with short-handled hoes. This operation often requires 30 to 50 man-hours per acre but it appears that the operation will be nearly eliminated with the application of a selective herbicide 3 or 4 weeks after transplanting. Use of transplanting machines and post-emergence herbicides may make it advisable to transplant on the top of low beds and almost entirely eliminate cultivation. It has been a common practice to hand pull weeds missed by hoeing, herbicides, and cultivation.

Fertilizing

The application of 15 cubic yards of poultry manure per acre prior to land preparation for celery has been a common practice, but as land is used repeatedly for celery and other highly fertilized crops it may be difficult to prove that this practice is essential. Where pink rot is expected to be a problem, celery fields are often treated with 800 to 1000 lbs/A of calcium cyanamid. The application of a mixed fertilizer such as 14-14-7 at the rate of about 1500 lbs. per acre about 30 days after transplanting is a common practice. A second application about 60 days after transplanting may consist of a mixed fertilizer at the same rate as the first application, or it may consist of a simple nitrogen fertilizer amounting to 100 or 150 lbs/A of nitrogen. On soil that has been fertilized with chicken manure and calcium cyanamid, and soil which has been used for growing celery for a number of years, tests have failed to show benefit from more than 200 lbs. of nitrogen applied after transplanting.

Irrigation

Following transplanting, fields are furrow-irrigated as soon as the transplanting crew is out of the way and the soil is kept moist by repeated irrigations for 10 or 15 days following transplanting.

During the growing season, irrigations are applied at intervals ranging from 1 week to 3 weeks, depending on stage of plant development and on weather. As harvest time approaches, irrigations are frequent enough to maintain a moist appearance of the soil surface. Each crop is irrigated from 8 to 15 times. Allowing plants to show moisture stress late in the season not only retards the growth but increases risk of black heart, a physiological disease which may make affected plants entirely unmarketable.

Pest and Disease Control

The hot-water treatment of seed for control of early blight of celery and the celery-free period in July to control western celery mosaic are mentioned again to emphasize the advisability of all growers following these practices. Even when the hot water treatment of celery seed is used, the application of fungicide at intervals of 1 to 3 weeks during the growing season is a general practice. Insecticides are added to sprays when field inspection shows they are advisable. Celery usually escapes root-knot nematode damage because it is growing during the cooler part of the year or because nematodes are kept under control for the benefit of other crops. However, losses from root-knot nematode can be serious, and where celery is to be grown during the warmer part of the year and this pest is suspected, it is advisable to fumigate for its control.

DULLAM-LITTLE CELERY TRANSPLANTING SCHEDULE, 1968 REVISION

Transplant- ing Date	Acres to Plant/Wk to Harvest 10 A/Wk	Approx. Harvest Date	Transplant- ing Date	Acres to Plant/Wk to Harvest 10 A/Wk	Approx. Harvest Date
July 1	10.5	Sept. 18	Jan. 6	4.1	Apr. 30
8	11.3	26	13	4.4	May 3
15	12.2	Oct. 4	20	4.8	7
22	13.3	13	27	5.3	10
29	14.2	22			
			Feb. 3	5.9	May 14
Aug. 5	15.2	Nov. 2	10	6.6	18
12	16.0	13	17	7.2	23
19	16.7	24	24	7.8	28
26	17.2	Dec. 6			
			Mar. 3	8.4	June 4
Sept. 2	17.4	Dec. 18	10	8.8	10
9	17.5	30	17	9.1	16
16	17.3	Jan. 12	24	9.2	23
23	16.9	24	31	9.3	June 29
30	16.2	Feb. 4			
			April 7	9.2	July 6
Oct. 7	15.3	Feb. 15	14	9.1	12
14	14.3	26	21	8.8	18
21	13.1	Mar. 6	28	8.6	24
28	11.8	15			
			May 5	8.4	July 30
Nov. 4	10.5	Mar. 23	12	8.2	Aug. 5
11	9.2	30	19	8.1	11
18	8.0	Apr. 5	26	8.2	17
25	6.9	10			
			June 2	8.3	Aug. 22
Dec. 2	5.9	Apr. 14	9	8.6	28
9	5.2	18	16	9.1	Sept. 3
16	4.6	22	23	9.7	10
23	4.2	25	30	10.4	17
30	4.1	28			

The schedule can probably be improved by adding an acre a week for fields west of Oxnard and subtracting an acre a week for fields east of Oxnard for July, August, September, and for December and January.

CELERY, 1969

Yield: 1000 60-lb. crates/A Land Use: 6 Months

Remarks: Transplanted August to March Harvested: November to June

	Labor		Cash Costs per Acre			Total per Acre
	Per Hrs.	Cost	Machinery		Contract & Materials	
CULTURAL CASH COSTS		\$	\$		\$	\$
Fertilize, Manure	2.00	4.90	1.75	15 cu. yrd. @ \$3	45.00	51.65
Disc and roll 1 x	.26	.64	.91			1.55
Plow 1 x	.68	1.67	2.38			4.05
Disc and roll 2 x	.52	1.27	1.82			3.09
Landplane 2 x	.52	1.27	1.82			3.09
Calcium Cyanamid	.30	.74	.45	800 lb. Ca CN	40.50	41.69
Springtooth harrow 1 x	.16	.39	.56			.95
Furrow 1 x	.30	.74	.60			1.34
Shape beds	.30	.74	.60			1.34
Transplant	40.00	78.00	.20	350 flats @ .75	262.50	340.70
Irrigate 12 x	12.00	23.40	2.40	2½ A-ft. @ \$5	12.50	38.30
Spray 8 x	2.10	5.14	3.15	Pesticides	50.00	58.29
Hoe - short handle	50.00	97.50				97.50
Pull weeds 1 x	15.00	29.25				29.25
Cultivate 4 x	4.00	9.80	6.00	1500 lb. 14-14-7	60.00)	15.80
Fertilize 2 x	2.00	4.90	3.00	300 lb. NH ₃ NO ₃	13.20)	81.10
Disc and roll refuse 2 x	.52	1.27	1.82			3.09
Total Cultural Cash Costs		261.62	27.46		483.70	772.78
CASH OVERHEAD						
Land rent	@ \$14.60 per acre-month x 6				87.60	
Taxes on Machinery	@ .24 per acre-month x 6				1.44	
Supervision	@ 5.00 per acre-month x 6				30.00	
General Expense	@ 2.00 per acre-month x 6				12.00	
Total Cash Overhead	@ 21.84 per acre-month x 6					131.04
Total Cash Costs except Harvesting and Selling						903.73
HARVESTING AND SELLING CASH COSTS						
Cut tops	1.5 A/Hr. @ \$2.92 Labor, \$1.50 Tractor				4.42	
Cut, trim, fill bins	150 Hrs.				247.50	
Load bins	1 Hr. @ \$2 + \$1.50				3.50	
Haul to shed	60 T 6 Hr. @ 2.00 = \$12 \$10 for truck				22.00	
Packing	\$1.45 per crate				1450.00	
Selling	10% x 1000 x 3.00				300.00	
Total Harvest Cash Cost						2027.42
Total Cultural, Harvest, and Selling Cash Costs						2931.15
INVESTMENT OVERHEAD						
Depreciation	@ \$2.40 per acre-month x 6				14.40	
Interest	@ .72 per acre-month x 6				4.32	
Total Investment Overhead	@ 3.12 per acre-month x 6					18.72
Total Cost per Acre						2949.87
Total Cost per Crate		\$ 2.95				

CELERY

CASH FLOW - EXCLUDING LAND RENT AND TAXES*

(For a field planted in Feb. and harvested in June)

Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Start
\$460

Grow
\$340

Harvest
\$1700

*This is for only a field transplanted in Feb. Fields planted in the fall may take as long as 150 days from transplanting to harvest.

Acres, Yields, and Prices Reported by Ventura Co. Agricultural Commissioner

<u>Year</u>	<u>Acreage</u>	<u>Crates/A</u>	<u>\$/Crate</u>	<u>\$/A</u>
1962	2190	975	3.14	3068
1963	2490	1000	1.68	1680
1964	2597	982	2.39	2356
1965	2855	980	2.73	2675
1966	4330	867	2.86	2479
1967	4029	1033	2.42	2499
1968	4440	900	2.49	2238