

# Tomato Planting Dates

## FOR MECHANICAL HARVESTING

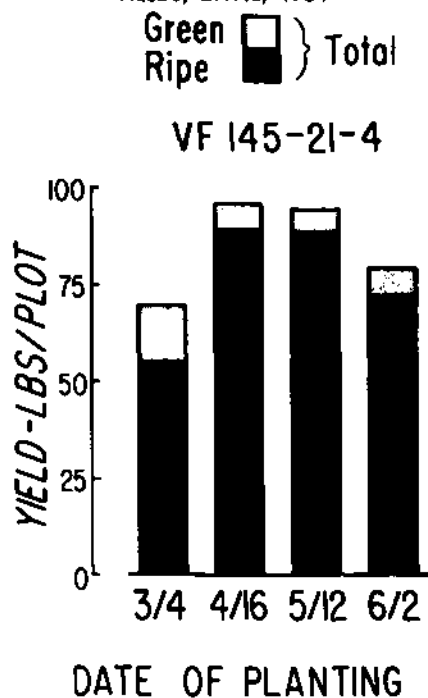
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**R**ECENT STUDIES with varieties of canning tomatoes for mechanical harvesting support tests and observations during the past four years emphasizing the effectiveness of date of planting. An orderly and continuous supply of fruit to the processor can be assured only through the use of properly spaced planting dates. During the 1965 season, more than 200 machines are expected to be used in harvesting a potential 20,000 acres—about 17 to 20% of California's average annual canning tomato production.

Time, or date-of-planting, studies were made at Davis with the tomato variety VF 145 and other varieties suitable for mechanical harvesting. From previous experience with the VF 145 variety, it was found that scheduling of various planting dates could not be done by simply planting at two-week intervals.

Early plantings from March 1 to April 15, when the soil temperatures were in the low 50°'s F, were very likely to mature at the same time. The time required for seed germination and emergence of seedlings is much longer at soil

EFFECT OF PLANTING DATE ON TOMATO YIELDS, DAVIS, 1964



temperatures of 50-55° F than at temperatures of 65-75° F. Thus, some other criteria for determining planting date had to be found. The selection of a cer-

tain definite size, or age, of tomato seedling best suited this study, so the third true leaf after the cotyledons was used (see photo at top of page). The first true leaf stage of development could also have been used if shorter intervals between harvesting dates were desired.

When the plants in a date of planting reached the third true leaf stage, this determined the next date of planting. Thus, when the seedling development of the first planting (March 4) reached the third leaf stage, a second planting was made. This occurred on April 16, the third date was on May 12 and the fourth on June 2. All plantings were direct-seeded. The size, or development, of the tomato plants from the various planting dates is shown in the lower photo of plants as taken at the date of the last planting, June 2.

The number of days required for the seedlings to emerge and the days required from emergence to harvest are shown in the table. The results were consistent, with a requirement of 123 to 126 days from emergence to harvest—allowing an orderly and continuous harvest of fruit.

DATE OF PLANTING STUDY—DAVIS 1964  
VF 145-21-4

Date planted	Days to emerge	Days emerge to harvest	Date harv.	% mature
3/4	25	124	7/31	80
4/16	14	123	9/1	92
5/12	9	125	9/23	93
6/2	6	126	10/12	90

The effect of planting date on yield of fruit, as shown in the graph, revealed significant differences between yields in most of the dates of planting. The first date of planting was significantly lower than the second, third, and fourth dates of planting. There were no significant differences between the second and third, but the fourth was lower than the second and third dates.

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