

SEEDING RATES AND PLANTING DATES FOR ONION SET PRODUCTION  
WITH SHORT, INTERMEDIATE AND LONG DAY CULTIVARS.

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## S U M M A R Y

A field experiment was conducted on the experimental farm of the University of California at Davis to determine the effect of three planting dates and four seeding rates on the production of onion sets of three commonly grown cultivars (Allium cepa L.). This experiment was part of a project to determine optimum planting date and plant population.

The cultivars were: Texas Grano, an early short-day cultivar; California Red, a semi early intermediate-day cultivar; and Sweet Spanish, a late long-day cultivar. They were planted on March 5, March 23, and on April 12. For each planting date the following seeding rates were used: 19, 31, 43 and 56 kg/ha. The first planting date, however, was not included in the statistical analysis, due to its low plant population.

More bulbs and marketable sets per plot were produced in the planting of April 12 than in the planting of March 23 by all cultivars. The number increased linearly with increasing seeding rate. In the early planting, the linear response of the cultivar Texas Grano was significantly greater than that of the other two cultivars, whereas in the late planting, the cultivars California Red and Texas Grano were not statistically different from each other in their response to increasing seeding rate, but they were with respect to the cultivar Sweet Spanish.

On the other hand, the resultant total weight of bulbs and marketable sets was higher in the early planting than in the late planting for all cultivars, and it did not increase with increasing seeding rate, except for the cultivar Texas Grano, in which the rate of increase was linear.

As was expected the average bulb and marketable set weight was higher in the March planting than in the April planting for all cultivars. These values decreased significantly with increasing seeding rate in both planting dates and all cultivars. The decrease in the average weight per bulb and per marketable set was continuous (linear) in all cultivars, and greater in the cultivar Sweet Spanish than in the other two cultivars in all cases.

The number of onion sets with average diameter between 11 and 16 mm per set increased linearly with increasing population. The rate of increment of the smaller sets was the greatest in the cultivar California Red, and the rate of the larger ones was the highest in the cultivar Texas Grano.

The number of sets with average size between 21 and 25 mm did not have the same trend of change, with increasing population in all cases. However, their rate of increase or decrease was very small and not significant in most of the cases.

The onion sets with average size between 30 and 35 mm decreased in number with increasing population in all cultivars and both planting dates.

On the basis of these results, the planting date of April appears to be the most advisable, not only for the greater production of bulbs and marketable sets in all cultivars, but also due to the favorable interaction with seeding rate in the cultivars California Red and Texas Grano.

All cultivars produced more bulbs with desirable size using the highest seeding rate (56 kg/ha), in both planting dates, which indicates that even higher seeding rates should be tested in other experiments.

The cultivars Texas Grano and California Red yielded more bulbs of marketable size in the late than in the early planting date, whereas the yield of the cultivar Sweet Spanish did not change from one planting date to another.

The increment of the number of marketable sets with increasing seeding rate was also higher in the cultivars Texas Grano and California Red than in the cultivar Sweet Spanish.