

LOW TEMPERATURE CARNATION SELECTION: PROGRESS REPORT

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In 1975, Danielle Gianotti began testing standard carnations for yield and grade at low temperatures — primarily as an energy conservation method (CFGA Bul. 312). Gianotti made 54 selections from red, white and pink varieties on a single plant basis, which appeared to perform well at night temperatures of 48 to 50 F. Since her work, we have been chiefly concerned with increasing the cuttings of her selections, and testing them further.

Last year, due to facilities limitations, we were required to do our testing under double air-inflated poly, in the ground. The change in cover and shift from raised benches to the ground no doubt made a difference in performance.

On the basis of the 1976-77 work, we were able to keep records on 27 of Gianotti's original selections, in addition to comparing with un-selected varieties. Usually, we have kept records on an individual plant basis for total yield and quality from October through March, for a total of 6 months. We were able to make 17 selections from Gianotti's and from some of the previously un-selected material.

Interestingly, production for single plants varied from an average of 4.3 flowers per plant for last year's 6 month period, to 10.3 flowers. Mean grade varied from 2.93 to 4.03. As can be expected, the major problems when growing at

48 F were off-color on the red and increased bullheads, slabs and splits. The average per plant flower production for selections this year was 7.7 flowers, versus 7.3 for un-selected — not a great difference. The difference in quality was 3.45 for un-selected versus 3.60 for previously selected plants.

Selections for next year's test were made from Atlantis, Scania, CSU Red, White No. 1, Elliott White, Crowley's Pink and CSU Pink. The CSU Pink was outstanding with a total production for 6 months of 10.3 flowers per plant, and an average grade of 3.62. Mother blocks are being set up to increase the number of cuttings.

As a sidelight, we have been doing some selection on standards in raised soil beds, under fiberglass, on an individual plant basis. There are some very good arguments for single plant selection. Unfortunately, bench position influences the results. For example, this year's outside rows produced an average of 11.6 flowers per plant over a 6 month period, versus 8.5 flowers for the inside rows. The variation was 5 to 18 flowers for outside rows and 4 to 17 flowers for inside rows. This position effect is difficult to compensate, and in the past, selection at CSU has generally been on a single row basis. Single row selection has advantages of reduced data and work load — as long as sufficient observation is made to rogue obviously undesirable plants and to tag those that are good.

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