

## NORTH CAROLINA POT MUMS

Joe Love

Today, the potted chrysanthemum ranks as one of North Carolina's most popular pot plants. This has not always been so. Texas, Illinois, and Ohio were the top three states with wholesale value of this crop in 1959, while North Carolina was fifth. The leading state, Texas, sold approximately one million dollars worth on the wholesale market, while North Carolina's crop had a wholesale value of \$620,860.

One of the reasons for the acceptance of the pot mum in North Carolina has no doubt resulted from the quality of plants produced. If size alone were the attribute used for measuring quality, North Carolina rightly deserves to be one of the leaders.

New River Nursery, owned by Mr. James Melton, is but one of the commercial ranges that produces fine quality pot mums. Incidentally, Jimmy caused a certain amount of controversy at the recent Cornell Chrysanthemum School with his description of the size six-inch mum plant that he grows in Jacksonville, N. C. (The tales were amplified by other members of the party.)

During the spring, summer, and early fall months, six-inch pot mums are grown outdoors in frames at the New River Nursery. The cuttings are potted in a "Meltonian" loam that consists primarily of soil, sand and rotted sawdust. The pots are plunged to the rim in moist sawdust. Liberal spacing is allowed for each pot (approximately two square feet). Water is applied with the Chapin Watermatics System. Fertilization is accomplished at each watering with a Fert-O-Ject injector. The plants remain outdoors until color begins to show, whereas they are then transported into a washed-air cooled greenhouse for finishing. The plants produced in this manner have been excellent.

The biggest fault found with the system last year was that too many flowers were produced with five cuttings per six-inch pot. This year only four cuttings were utilized. Again, there were a large number of flowers produced (Fig. 1). In the future Mr. Melton is seriously considering the possibility of using only three cuttings per six-inch pot.



Fig. 1. Top and side view of the variety Yellow Delaware that was frame grown. Notice the uniform distribution of flowers and stems. Incidentally, these pots require no staking or tying since stem strength is excellent. Both pots had four cuttings each, pinched once. Fifty-three flowers were counted on the plant on the right. (Photographed at New River Nursery, Aug. 18, 1964.)

As outlined in the August issue of "Grower Talks", considerable interest has been stimulated in growing bigger, better and faster potted chrysanthemums. It was indeed interesting to note that the tests conducted at West Chicago and Penn State were similar to the procedures followed at New River Nursery. The major exceptions were (1) all plants at New River Nursery were grown outdoors until color showed and, (2) plants were watered only when necessary. The similar conditions provided included: automatic watering and fertilization, a well-drained medium, four cuttings per six-inch pot, and the use of growth retardants for height control.

#### NORTH CAROLINA STATE TESTS:

As indicated in the September 1962 and April 1964 issues of the FLOWER GROWERS BULLETIN, research has been conducted at N. C. State with slow-release fertilizers. These studies indicated that quality potted chrysanthemums can be grown with the Archer Daniels Midland slow-release fertilizer (Osmocote). A recent test indicated the effect that two analyses of slow-release fertilizers (18-9-9 and 14-14-14) have on floriferousness when either four or five cuttings were planted per six-inch pot (Figs. 2-4). Both slow-release analyses were thoroughly incorporated into the potting medium at the rate of 225 grams per 2 cubic feet (4.9 oz./bu.).



Fig. 2. Variety Yellow Delaware grown under fertilizer regimes: A=225g. 14-14-14 (5 cuttings); F=225g. 14-14-14 (4 cuttings). Photographed on 9/1/64.

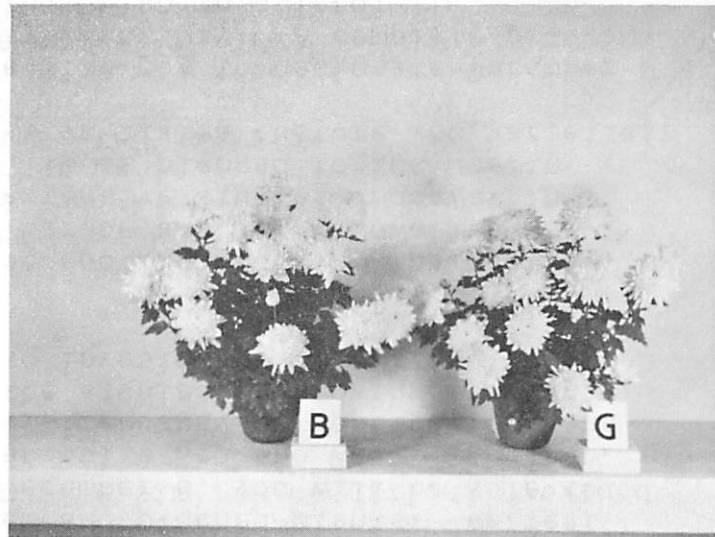


Fig. 3. Variety Yellow Delaware grown under fertilizer regimes: B=225 g. 18-9-9 (5 cuttings); G=225 g. 18-9-9 (4 cuttings). Photographed on 9/1/64.



Fig. 4. Variety Yellow Delaware grown under fertilizer regimes: E=Check (5 cuttings); J=Check (4 cuttings). Photographed 9/1/64.

Table 1. Average final height and number of flowers for the variety Yellow Delaware.

Treatment	Fertilizer	No. Cuttings	Av. Final Hgt. (Inches)	Av. Number Flowers
A	14-14-14 225 g/2 cu. ft.	5	12.4	25
F	14-14-14 225 g/2 cu. ft.	4	12.4	21
B	18-9-9 225 g/2 cu. ft.	5	12.7	18
G	18-9-9 225 g/2 cu. ft.	4	13.3	19
E	Check*	5	14.1	19
J	Check*	4	13.3	20

\*Soluble 20-20-20 alternated with potassium nitrate every 7 days at 2½ lbs./100 gals.

This test clearly confirms previous studies that excellent pot mums can be grown with slow-release fertilizer as the sole source of nutrition. With all three fertilizer regimes the pots with four cuttings averaged more flowers per plant than those pots that had five cuttings (Table 1). Plants that were fertilized with 14-14-14 averaged more flowers per plant than either the 18-9-9 or check treatments.

Time of flower was not influenced by any of the treatments. All plants were considered commercially acceptable and salable.