

## CORNELL CHRYSANTHEMUM SCHOOL

A small (but enthusiastic) delegation from North Carolina recently attended the Cornell Chrysanthemum School that was held at Saratoga Springs, New York. The course was well attended by growers, tradesmen, and university personnel. A most impressive pot and cut mum display was provided for the group by mum propagators, Yoder Brothers and California-Florida Plant Corporation.

Some of the following pertinent subjects were debated during the discussion periods:

### (a) Flash-lighting.

Although considerable research has been conducted with flash-lighting, only one grower in attendance indicated that he was using the system to interrupt the dark period. Willard Hartzell, Dayton, Ohio, reported that he has had good success with his own modified interrupted lighting program. For the past several years, mum plants at Hartzell's have been lighted with fluorescent lights (thirty minutes on - thirty minutes off) from 10 p.m. to 2 a.m. He expressed that excellent results have been obtained from both white and pink fluorescent lights.

Several researchers in attendance indicated that they have found that lighting for twenty per cent of the time has been successful. Although short light-dark cycles (12 seconds light, 48 seconds darkness) have been found adequate, lighting for six minutes out of each thirty minutes (also 20 per cent light) between 10 p.m. and 2 a.m. has given good, consistent results. It was suggested that a minimum of 20 foot candles of light be supplied at the growing points of the lighted plants.

It was stressed that flash-lighting will enable these growers interested in increasing their chrysanthemum production area to do so without enlarging their present electrical service. Too, the operating cost will be considerably reduced with flash-lighting since a smaller amount of electricity is consumed.

### (b) Chrysanthemum Cutting Storage.

The storing of mum cuttings was also an important topic of discussion. Several from the group reported that unrooted cuttings could be stored for four weeks at 31° F. Such storage does not affect flower bud initiation or the development of vegetative axillary buds after a pinch. A uniform 31° F. during storage should be maintained!

One researcher indicated that rooted cuttings could be successfully stored for four weeks. Again, it was emphasized that the storage temperature should be accurately maintained at 31°F. and should not fluctuate more than  $\pm 1^{\circ}\text{F}$ .

The following question was presented to the audience. Would it be possible to store unrooted cuttings four weeks; root them under intermittent mist in full sun (approximately two weeks); and then store the rooted cuttings for an additional four weeks!? The answer offered was a qualified 'yes' with the following conditions stipulated:

- (1) The storage temperature must be accurately maintained at 31°F;
- (2) The cuttings should be mist propagated under full sun light;
- (3) Only vigorous, disease-free cuttings should be used; and
- (4) A plastic-lined corrugated box should be used for cutting storage.

(c) Rooting Hormones.

Flower growers have accepted the fact that rooting hormones should be used on mum cuttings prior to propagation in order to hasten rooting. Those growers that do their own propagating were advised to apply the rooting hormone with an atomiser-duster rather than dipping in a liquid or talc formulation. Dusting is recommended since plant disease organisms are easily spread in the various 'dip' formulations.

(d) Cornell Chrysanthemum Manual.

A very excellent chrysanthemum manual has recently been prepared by Cornell floricultural authorities. The 185-page manuscript includes a comprehensive coverage of the following cultural topics: History; Varieties; Breeding; Stock Plants; Propagation; Spacing, Planting and Supporting; Pinching and Disbudding; Soil Preparation; Watering; Fertilizing; Light and Photoperiod; Temperature; Timing and Quality Control; and Storage and Handling.

The Disease and Insect Section is documented with excellent photographs and detailed descriptions of the chrysanthemum plant maladies. General recommendations are included for the various mum diseases. A very straight forward approach to soil sterilization is also provided.

Food for thought is offered in the Economics portion of the manual. After reading the section on Costs, a grower should be thoroughly stimulated to analyze his own operation.

We recommend the manual to anyone growing or interested in growing chrysanthemum pot plants or cut flowers. The contents will

probably answer any questions that you may have about chrysanthemums. The Chrysanthemum Manual may be obtained by sending a \$2.00 check or money order to:

Dr. Robert W. Langhans  
Department of Floriculture  
New York State College of Agriculture  
Cornell University  
Ithaca, New York