In the rush to get potted Mums to market, the speaker said that the number of blooms necessary to make good looking plants should not be overlooked. 5 cuttings in a 6" pot, 8 to 10 in a 7" potted direct in a mixture of 25-30% peat or well rotted manure and open soil about October 1st grown naturally without pinch or shade in a 60 degree house will produce well grown plants for Christmas. Indianapolis White was recommended as a good variety. 20 flowers in a 6" pot should be aimed at.

Dr. Eugene C. Gasiorkiewicz who took the place of Dr. John W. Mastalerz of Penn. State University who was unable to be present was the concluding speaker of the morning session. His subject was "Boron Deficiencies in Carnations." The final results of this research will appear in a bulletin at a later date. Dr. "Gene" also showed a very interesting group of symptoms and controls for many of the common florists' crop diseases.

Lunch at the dining commons was followed by a talk by Mr. Norman Ausburger, Sales Manager, The Acme Equipment Co., Muskogee, Okla. Mr. Ausburger said that other than cooling, the benefits to be derived from air conditioning were better ventilation and the elimination of air-borne insects since water may be used with insecticides. The wet pad exhaust fan system is preferred because it is more efficient, practical, and economical. Ten years ago there were only eight installations in the United States. Last year, there were fifty and in 1956, about five hundred.

Prof. Harold E. White of the Floriculture Department of the University of Massachusetts followed with a very interesting review of the Floricultural research projects now being worked upon at the University. In conjunction with his talk, Prof. White showed the group many pictures and diagrams illustrating the work in progress.

Dr. Poesch next spoke about "The Effects of Greenhouse Cooling upon the Quality and Production of the Major Crops as seen in Various Parts of the Country." He stated that fanning could be started immediately with a crop. With fanning, a crop can remain in a house for three years. Labor costs are reduced by cutting the cost of opening and closing ventilators. While it has been reported that some of the varieties of Carnations split when fanned particularly Littlefield and Pink Sim; others are not adversely affected. Petal counts of Roses has been as high as 61 as compared to 35 without fanning. Yellows and reds are more intense under cooling. In Denver, more than $1,000,000 worth of air conditioning has been installed and the size of Carnations has increased.

Air conditioning also increases the size of the labor pool, by making a greenhouse a more desirable place of employment with a comfortable working temperature. Further, the efficiency of the help is increased 20%.

Adverse conditions that have been noted are that some varieties of Carnations go to sleep; Caladiums and Gloxinias and similar plants do not like cooling. The speaker concluded that many practical engineers were coming to light in the florist industry who are coming up with all kinds of information and innovations about air conditioning which has gone far beyond the experimental stage.

Vice-President John Duffy of Halifax Gardens, Halifax, Mass. presided over the final session of the meetings where the first trial of the new feature of a question box proved highly successful. A lively discussion resulted as the speakers on the program as well as the growers at the meeting contributed to the question period. A great deal of valuable information was added to the meeting with this new feature.

Urea-formaldehyde Nitrogen and Leaf Scorch of Croft Lilies

by Dr. John W. Mastalerz
University of Massachusetts
Waltham Field Station

Leaf Scorch in Croft lilies was reduced by 2 or 4 teaspoons per 6-inch pot of urea-formaldehyde nitrogen mixed into the soil at potting time. A greater reduction in leaf scorch occurred when the urea-formaldehyde nitrogen was used in combination with regular applications of a nitrogen-potassium liquid fertilizer. The number of yellow leaves at the base of the plant also was reduced at higher nitrogen levels.

Data presented in Table 1 indicate that two levels of urea-formaldehyde nitrogen used alone or in combination with bi-weekly applications of a nitrogen-potassium liquid fertilizer did not affect the average height, number of buds or leaves of Croft lily plants. Approximately 55 per cent of the leaves had scorch lesions present when no nitrogen was added during the forcing season. The amount of leaf scorch was reduced to 27 per cent with bi-weekly applications of the nitrogen-potassium liquid fertilizer.

At the 6 and 12 gram rates of urea-formaldehyde nitrogen, the amount of leaf scorch was approximately 15 and 13 per cent respectively, but when used in combination with the nitrogen-potassium liquid fertilizer, the percentage of scorched leaves was reduced 7.9 and 6.5 re-
respectively. The number of yellow basal leaves also was decreased approximately one-half at the 12 gram rate of urea-formaldehyde nitrogen in combination with the nitrogen-potassium liquid fertilizer.

Croft lily bulbs, 9 - 10 cm. in size, were potted into an unsterilized greenhouse soil formerly used for carnations. The soil had been originally conditioned with sphagnum peat moss and was medium high in nitrates, and extra high in phosphorus and potash (Morgan test). The pH of the soil was 5.6; therefore, ground limestone was added at the rate of 4 ounces per bushel (10 lbs. per 100 sq. ft.). Plants were grown continuously at a minimum night temperature of 60°F and data were collected at time of flowering, April 9-20.

Six and 12 grams, per 6-inch clay pot, of the 38-0-0 urea-formaldehyde nitrogen (Uramite) were mixed thoroughly into the soil before potting. The nitrogen-potassium liquid fertilizer consisted of 1 lb. of ammonium nitrate and 1 lb. of potassium nitrate per 100 gallons of water. Applications were made every two weeks.

Research by several workers (1) (2) (3) has shown that leaf scorch may be decreased with heavy applications of lime together with frequent applications of inorganic nitrogen during forcing. White (4) demonstrated that growth of Croft lilies fertilized with 38-0-0 urea-formaldehyde nitrogen was similar to that for plants regularly supplied with a 15-30-15 liquid fertilizer. He made no reference to the effect on leaf scorch.

Seeley and Velazquez (2) reported that adding an organic source of nitrogen at potting time to a soil low in organic matter did not reduce leaf scorch unless followed by regular applications of inorganic nitrogen during forcing. The need for supplementing urea-formaldehyde nitrogen (a synthetic organic source of nitrogen) with regular applications of soluble nitrogen to reduce leaf scorch also was demonstrated in the experiment reported in this paper.

References


INFORMATION ABOUT BULB FORCING

ARRIVAL
Unpack the bulbs at once.

STORAGE
Keep cool and dry.

SOIL
Use fresh soil; no manure or fertilizer. If soil is acid apply lime.

PLANTING
Soak new pots well before using. Plant bulbs for earliest forcing immediately. Bulbs for later forcing should be planted before real cold weather starts.

OUTDOORS
Soak thoroughly before burying bulbs in a cool place. Repeat watering when soil becomes dry and provide for good drainage. Beware of rodents (use “d’-Con”).

CELLAR
Should be well ventilated. Use Fermate or Parzate to prevent mould. Keep temperature from 45 to 50 degrees for best root action. Keep soil damp, especially during the first weeks.

GREENHOUSE
Never bring bulbs inside unless they are well rooted and the flowerbuds are well out of the neck of the bulbs. Even temperature is preferable.

WATERING
Tulips and Daffodils, once inside should be watered in the morning. Hyacinths, do not water during the first 2 or 3 days.

This information is given to assist bulb forcers, but as climate and various other conditions vary considerably in different districts, the necessity of the forcer’s personal care and judgement remains.

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Our Association is growing larger and stronger all the time. If you know of any florist who is not a member, invite him to join M. F. G. A. NOW!
TABLE 1. Effect of 38-0-0 urea-formaldehyde fertilizer on growth and incidence of leaf scorch in Croft lilies. 1956.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>Ave. height per plant inches</th>
<th>Ave. no. buds per plant</th>
<th>Total no. leaves per plant</th>
<th>Total no. leaves with scorch lesions</th>
<th>Per cent leaves scorched</th>
<th>No. basal leaves nitrogen deficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No. Nitrogen</td>
<td>15.0</td>
<td>5.8</td>
<td>83.7</td>
<td>46.4</td>
<td>55.4</td>
<td>31.8</td>
</tr>
<tr>
<td>2. Potassium nitrate ammonium nitrate applied bi-weekly</td>
<td>15.0</td>
<td>5.7</td>
<td>82.9</td>
<td>22.4</td>
<td>27.0</td>
<td>24.6</td>
</tr>
<tr>
<td>3. 6 grams 38-0-0</td>
<td>16.5</td>
<td>6.1</td>
<td>84.2</td>
<td>12.9</td>
<td>15.3</td>
<td>21.6</td>
</tr>
<tr>
<td>4. 12 grams 38-0-0</td>
<td>15.5</td>
<td>5.8</td>
<td>80.5</td>
<td>10.2</td>
<td>12.7</td>
<td>18.6</td>
</tr>
<tr>
<td>5. 6 grams 38-0-0 plus potassium nitrate ammonium nitrate applied bi-weekly</td>
<td>14.3</td>
<td>5.2</td>
<td>82.4</td>
<td>6.5</td>
<td>7.9</td>
<td>17.2</td>
</tr>
<tr>
<td>6. 12 grams 38-0-0 plus potassium nitrate ammonium nitrate</td>
<td>16.2</td>
<td>5.4</td>
<td>81.1</td>
<td>5.3</td>
<td>6.5</td>
<td>15.2</td>
</tr>
</tbody>
</table>

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