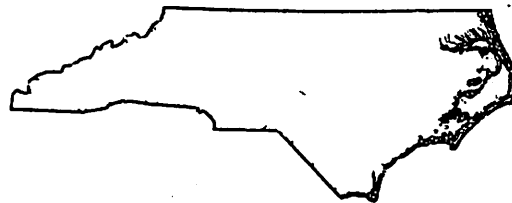


North Carolina

Flower



VOL. 21 NO. 2

JUNE 1977

Growers' Bulletin

OFFICIAL PUBLICATION OF THE N. C. COMMERCIAL FLOWER GROWERS' ASSOCIATION

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MAT WATERING: A PROGRESS REPORT

Roy A. Larson and Bobby G. Hilliard

We are now in our third summer of mat watering research and to date we must state that most of our experiences have been successful. Root rot problems have not occurred on poinsettias, Easter lilies, pot mums, bedding plants and other crops which are troubled by these pathogens, but we have experienced azalea decline (*Phytophthora cinnamomi*) in a few instances when we potted azaleas in 4" pots in a medium composed primarily of peat moss. (See article, Mat Watering and Diseases, in this issue). We haven't conducted sophisticated mat watering: fertilizer rate studies, but we do know we can grow some high-quality plants with a top-dressing of Osmocote (poinsettia crop had 1 tsp/6 1/2" pot on September 13 and a repeat application on November 6).

We have tried several methods of applying water to the mats, from simply wetting the mats periodically with a hose to the use of dual-wall tubes. At the present time we primarily are using PVC pipe and spaghetti tubes (Fig. 1). Valves are manually opened for five minutes in the morning and again in the afternoon.

Over a dozen types of mats have been tried, including the bubble plastic manufactured by Kimberly-Clark Corporation for packing and other purposes (Fig. 2). In Norway a geranium grower was using newspaper for the water-holding reservoir, and we have used 3 layers of newspaper sheets with good results on 'Ace' Easter lilies and poinsettia stock plants.

Algae can be troublesome with mat watering, and along with the algae come associated problems such as fungus gnats and their larvae; unpleasant odor, particularly if the mat dries out; deterioration of mat, especially if excessive effort is made to clean off the mats between crops. We keep the algae population down by restricting the amount of fertilizer that gets on the mat, though that practice does keep one from getting maximum efficiency from mat watering. We have experimented with several chemicals to control algae but the most successful material, Cyprex, is an apple fungicide and does not have label clearance for algae control.

We now have most of our potted crops in our greenhouse sections on mat watering systems, as a general cultural practice. Mat watering has reduced the manual labor, plants can be watered quickly and uniformly, foliar diseases are no problem because no water is splashed on the foliage. Our benches are level, and we do have good drainage under the benches for the surplus water that does run off the bench.

Fig. 2. Bubble plastic used successfully for watering.

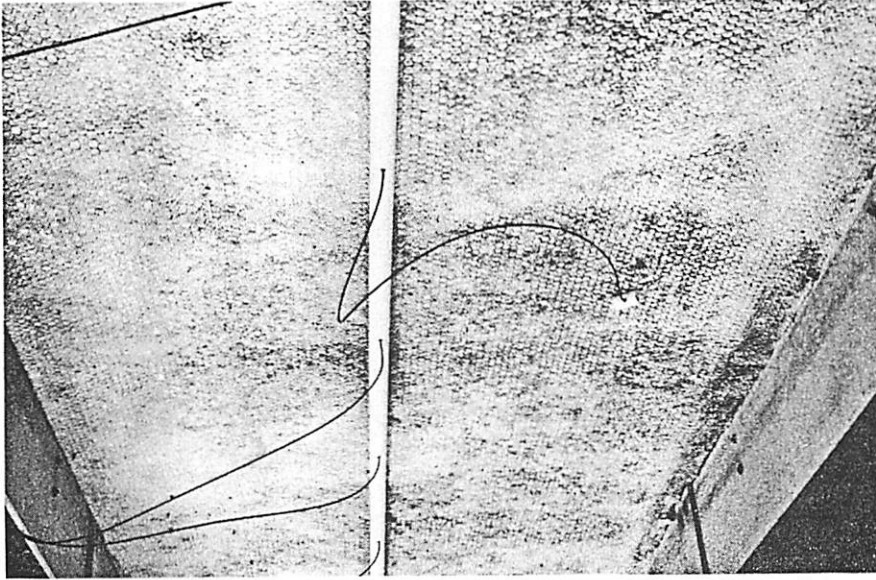


Fig. 1. Simple method of applying water to mat. One tube covers about 5 square feet of mat area.

