

SATURDAY AFTERNOON SESSION

December 3, 1960

The final technical session convened at 1:50 o'clock, Mr. A. M. Shammarello, A. M. Shammarello & Son Nursery, Cleveland, Ohio, presiding.

MODERATOR SHAMMARELLO: Let's call this meeting to order, please. We are running a little behind time.

The following speakers will conclude the meeting for this year. We have a variety of speakers who will discuss many topics.

Let me present to you, Dr. John Mahlstedte, Iowa State University, Department of Horticulture.

DR. JOHN MAHLSTEDTE: Thank you. I would like to discuss with you for a few moments the peat container that is displayed in the exhibit area. It is presented strictly on an experimental basis. It is a large peat pot, if you like, with a polyethylene skin on it. We have tried different plant materials, using it as a growing container and also using it as a forcing container to see where it might have some application in the field of plant propagation and nursery management.

At the conclusion of the talk I would also like to say a few words about this Dyfoam pot which is also displayed in the same area.

I would like to discuss, first, the use of the large six by nine inch peat container, as a forcing unit for hybrid tea roses and then consider its merits and faults as a growing container.

Dr. Mahlstedte presented his papers which were supplemented by colored slides.

USE OF THE PEAT POT AS A FORCING CONTAINER FOR HYBRID TEA ROSES*

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INTRODUCTION

With increased production and sales of ornamental plants grown in containers, both the producer and merchandiser would like to find a substitute for the Number 10, black asphalted can that has been used to produce much of the stock grown in the "one gallon" size of container. Emphasis on packaging has called the attention of nurserymen to the need for a dual purpose growing and selling container for the smaller sizes of landscape ornamentals. Functional, colorful, plantable, cheap pots would have an increasing, expanding market in the years ahead.

*Pots and funds for this study supplied through the courtesy of the Willis Reynolds Corporation, Lebanon, Indiana
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It was therefore the purpose of this study to determine if the 6" x 9" experimental peat pot* fitted with a polyethylene jacket might serve as a forcing container for hybrid tea roses, which are usually potted early in the spring, forced, and sold during the summer months.

METHODS AND MATERIALS

In order to determine the effect of different potting procedures on the performance of both the plant and the container, two mediums, two plant root treatments, and two medium treatments were utilized in this experiment. Number 1, Chrysler Imperial roses, were pruned to three, 6 to 8 inch canes in order to insure uniformity between the various treatments applied. The root systems were pruned to a length varying between four and five inches prior to potting. Sterilized soil, composed of one third pea gravel, one third peat, and one third Webster type soil, and a mixture of 50-50 peat and perlite by volume were used as the mediums. Five single plant replications in a completely randomized design constituted the experimental design for the study.

After pruning the roots of one series of plants was dipped in Rutex, an anti-desiccant which has had limited use as a substitute for packing materials in nursery storages. After potting another series of plants were watered with Aqua-Gro, which was applied at the rate of one ounce per gallon of water. Control treatments with and without Rutex and Aqua-Gro completed the treatments applied to the roses.

After potting on June 3, 1960 all plants were removed to a shade area and the cane systems capped with 1½ mil. polyethylene bags. This was done in order to maintain a high relative humidity in the environment immediately adjacent to the canes, which in turn would insure the maximum amount of bud break and prevent undue loss of moisture during the time the plants were becoming established. Two weeks after potting, the polyethylene bags were removed and the plants fertilized with a 10-6-4, slow release fertilizer at the rate of one teaspoonful per container.

Plant performance in terms of bud break, and total growth was evaluated on September 28, 117 days after the plants had been placed in the containers. In addition, pots were classified as acceptable, or unacceptable, depending on the condition of the container and polyethylene jacket.

RESULTS AND CONCLUSIONS

The use of a soil wetting agent greatly facilitated watering during the initial phases of the experiment. In addition, the peat container also was readily wet evenly to the juncture of the jacket.

In handling, it was noted that the heavier soil medium necessitated careful handling in order to prevent splitting of the container as it was set in place. Although the lighter peat-perlite medium was easier to handle, plants had to be spaced quite close together, or supported towards the end of the experiment to prevent the plants from blowing over. The polyethylene jacket housing the peat container although quite thick before extrusion is relatively thin over most of the soil surface, and for this reason was quite subject to puncture. The lip of the peat

pot above the medium line generally disintegrated towards the end of the experiment, which necessitated handling the plant by the "soil ball."

Representative samples of each container were field planted in mid-August. The plants suffered no setback and rooted out well by the end of the growing season.

In general, there was little difference between the performance of the plants contained in any of the mediums, root dips or medium treatments. However, from table 1, it is quite apparent that a medium of peat and perlite, together with a Rutex root dip, and an Aqua-Gro watering amendment resulted in roses which had more breaks per plant and a resultant greater total growth. Averaging the percentage of acceptable pots at the end of the growing season, it is also quite apparent that the lighter soil mix resulted in a higher percentage of acceptable pots.

Table 1.—The effect of medium, plant treatment, and watering on the performance of Chrysler Imperial roses in peat pots.

Medium	Treat	Treat	Ave No Breaks per Plant	Ave Total Growth per Plant	Ave Length of Breaks	Pots 9 28 % Accept
Soil	None	None	8.52	37.75	4.58	75%
Soil	None	Aqua	6.25	36.13	5.78	75
Soil	Rutex	None	7.75	42.5	5.48	80
Soil	Rutex	Aqua	5.75	41.0	7.13	60
Peat-Perlite	None	None	7.0	40.12	5.73	100%
Peat-Perlite	None	Aqua	7.4	42.4	5.73	75
Peat-Perlite	Rutex	None	8.6	40	4.65	100
Peat-Perlite	Rutex	Aqua	12.0	64.7	5.30	100

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USE OF THE PEAT POT AS A GROWING CONTAINER FOR ORNAMENTAL PLANTS*

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INTRODUCTION

It is a common nursery practice to grow ornamental plants in various sized containers for periods of time varying with the type of plant and size desired for marketing. It is possible with plant types which make up quickly, to start in the early spring with a well rooted cutting and

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