

the actual root origin was in cambium which developed down into the callus.

Just in summary, I would make this remark, that wounding did not seem to be important either in the formation of callus or root origin as far as this piece of work was concerned.

Secondly, that the origin of adventitious roots varied depending upon whether or not the cuttings were treated with a synthetic growth substance. With growth substances the origin was in phloem tissue. Where no treatments were given, the origin was in callus tissue. This is one of about two reports in the literature that I know of where roots have actually been shown to originate in callus tissue.

Thank you.

MODERATOR MARCH: The next item on the program is "Pocket Planting Mixer", which will be the topic of our next speaker, Mr. Harvey Gray, New York State University, Agricultural and Technical Institute, Farmingdale, New York.

POCKET PLANTING MIXER

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Propagators and plantsmen dealing in ericaceous plants recognize the importance of fibrous, acid organic matter in the production of their crops.

In commercial production costly operations and organic matter must be recognized and reconciled with. Young plants either seedlings or cuttings, in their first and/or second year present no great problem nor cost, when grown in beds containing up to 50% peat. It's in the field product with plants in their second, third, fourth years that the organic matter requirement becomes a costly production problem.

Large quantities of organic matter added to mineral soils in an overall application is costly. Small quantities of fibrous peat to create an organic pocket for planting presents a costly operation if a uniform pocket mixture is to be created. It is here that the pocket mixer comes into play.

To make use of the pocket mixer for ericaceous plants, the mineral soil is first deeply tilled with a rotating tiller. One large shovelful of soil is removed along the planting line. Each hole will be filled with sphagnum peat that has been nicely shredded. The "Go-Kart mechanized wheelbarrow" is used to transport the peat to the

planting pockets. After a handful of a special fertilizer and chlor-dane mixture has been thrown down on each pocket, the mixing takes place. One or two year bed grown plants are set down for hand planting. We believe to be successful with ericaceous plants, pocket planting and pocket mixer are prime essentials. With the system reviewed here today, three good men will plant 1,000 plants in an 8 hour day. The labor cost per plant at \$2.00 per hour is about five cents per plant.

MODERATOR MARCH: Our next topic "Comments on the Propagation of Native Azaleas" will be presented by Dr. Henry T. Skinner, National Arboretum, Washington, D. C.

COMMENTS ON THE PROPAGATION OF NATIVE AZALEAS

Henry T. Skinner
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 Washington, D. C.

The deciduous Ghent, Mollis and Knap Hill hybrid azaleas have found a restricted market in this country for two principal reasons: They are not as readily propagated as the semi-evergreen types and, though generally hardier, they are not as easy to grow in the average garden. Vegetative propagation of named clones is essential but many, particularly in Mollis azaleas, remain difficult to root from cuttings. As garden plants, too many selections, especially again in the Mollis types, are ill adapted to our eastern climate. In resenting our summer heat, they lack vigor or, if they grow reasonably well, they too often have poor habit or poor late season foliage too frequently disfigured by mildew. Not all selections have these faults, but many do. I have yet to see even a Knap Hill or Exbury hybrid which combines top quality flowers and flower truss with top quality habit, vigor, and clean, attractive foliage interestingly colored in fall - as it could - and as many semi-evergreen azaleas do.

Recognizing this situation, a number of hybridizers are now re-using our native azaleas to breed with the large-flowered introductions for improvement of these characteristics including their susceptibility to more ready cutting propagation.

Ignoring matters of climatic adaptability, habit, disease resistance, etc., let us briefly compare some of the native species with respect to ease of vegetative propagation. Those with potentialities for breeding purposes may be roughly grouped as follows:

1. Most difficult to propagate by cuttings. Outstanding in this category are the two northern and very hardy pink azaleas, Rhododendron roseum and nudiflorum, in that order.

2. Most easy to propagate by cuttings. Listing the easiest first, we would group eight species in about this order: