

ROOTING A SPORT OF
CEPHALOTAXUS SPECIES

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I wish to discuss briefly the rooting of a Cephalotaxus sport and I shall begin by describing the stock plant from which the various lots of cuttings were taken.

The cuttings for this test were taken from a plant of Cephalotaxus species growing on the grounds of the Sarah P. Duke Gardens at Durham, North Carolina. This plant is probably thirty or forty years old. It is about eight feet tall and six feet in diameter. Its main mass is stiffly erect with comparatively large, coarse branches. It would be generally unsuitable for the home grounds unless the home grounds were very large, but nonetheless, it has a place in a garden such as the garden which I am describing.

Very near the base it has developed a large fan-shaped spray of softer foliage with branches suggestive of a spreading Taxus species. This fan-shaped spray is probably five feet in circumference, and is readily traced to a single point on one of the main erect stems. It has probably developed within the last ten or fifteen years and obviously represents a mutation or sport on the normal type plant.

It would, if it were put into production, very likely have some value in the southeast especially in the warmer area where most taxus varieties do rather poorly and are regarded as being unreliable in any situation unless it be a quite shady or otherwise very favored location.

On March 20, 1958, one hundred sixty six-inch tip cuttings were collected, 120 from the sport spray and 40 from the normal main body of the plant.

The 120 from the sport spray were divided into three lots of 40 each. Lot No. 1 was treated with 0.8% indolebutyric acid in talc (Hormodin 3), Lot No. 2 with 2% indolebutyric acid in talc, while Lot No. 3 received no treatment. Two years later, when the cuttings were examined and potted, there were no important differences between any of these lots. The precise figures for Lot No.'s 1, 2, and 3 were 25, 28 and 29 rooted cuttings respectively.

We got no effect whatsoever from the addition of the hormones of the type which we used and at the concentrations which we used with respect to increased or improved rooting of these three lots of cuttings.

At the same time we took 40 cuttings from the normal main body, which were designated as Lot No. 4 and treated with 0.8% indolebutyric acid in talc (Hormodin 3). In Lot No. 4, only 16 cuttings rooted and there were fewer heavily rooted cuttings than in Lot No.'s 1, 2, and 3.

When Lot No.'s 1 and 4, which received identical treatment, were compared directly, Lot No. 1 yielded 25 rooted cuttings of which 21 were heavily rooted while the corresponding figures for Lot No. 4 were 16 with only 10 heavily rooted. These differences are attributed to some imperfectly understood juvenile characteristics of the sported or mutated tissues. Increased rootability of such tissues is widely known in such genera as Picea and Abies, but to the best of this writer's knowledge, it has never been reported in the genus Cephalotaxus.

MODERATOR MARCH: Thank you, Mr. Fillmore.

Our next speaker will be Mr. Hurov of Cornell University. His topic is "The Propagation of Semi-hardwood Leafy Cuttings Using Polyethylene Bags and Sheets with Aluminum Reflectors".

THE PROPAGATION OF SEMI-HARDWOOD
LEAFY CUTTINGS USING POLYETHYLENE
BAGS AND SHEETS WITH ALUMINUM
REFLECTORS

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In the wet tropics there is a need for a method in which leafy cuttings of tropical arborials can be rooted directly in situ in containers or in the nursery row. Elimination of transplanting problems and excessive installation costs are the main reason.

Plastic Bags: A number of workers methods have shown that plastics can be used for propagating softwood cuttings. Among these Nichols (1958) showed that, in Trinidad, softwood cuttings of cacao could be rooted successfully in plastic bags. This prompted us to investigate the use of plastic bags in British North Borneo. Our investigations showed that plastic bags could be used successfully for propagating leafy semi hardwood cuttings from 96 different tropical arborials. Some of the more difficult rooting species rooted included: *Mangifera indica*, *Hevea brasiliensis*, *Achras sapota*, *Lansium domesticum*, *Eucalyptus deglupta*, *Psidium guajava*, *Nephelium lappaceum*, *Artocarpus integra*, *Annona squamosa*, *Tamarindus indica*, *Cinnamomum Zeylanicum*, *Euphoria malaiense* and *Anacardium occidentale*.

The method generally entailed setting cuttings in .02 mm guage, 14 X 8 inch polythene bags containing a mixture of 80 parts decomposed padi husk and 20 parts fine river sand. The bags were set in a position where they received early, cool morning, sunlight until 9:30 a.m. and 50% shade approximately for the rest of the day. These conditions were found on the eastern side of a rubber plantation. Cuttings were taken from adult trees and were treated with several root inducing stimulants prior to setting. Cuttings usually rooted in 1-2 months.