in a little home way off from the crowd. He produces paintings of all kinds, but I was particularly taken with the clarity and fidelity of the botanical part of his drawings. I thought that in these days of mass production and kidochromes it was rather pleasant to see craftsmanship of rather a high order, and so I asked him if he would make three drawings and come and explain how he does them. He was unable to be here, but the three drawings are here. He tells me that he works entirely in water colors. In order to get the clarity and depth of effect which I think you see most clearly on this picture, he uses colored ink in addition to water colors, to etch out the finer details of the flowers and plants.

I think that this is a very fine example of real craftsmanship and that is the only reason it is here.

MODERATOR MARCH: Thank you, Mr. Wells.

Our next speaker will be Mr. William Flemer, III, of Princeton Nurseries, Princeton, New Jersey, and his topic is: "Further Experiences in Propagating Sciadopitys verticillata from Cuttings."

FURTHER EXPERIENCES IN ROOTING SCIADOPITYS VERTICILLATA CUTTINGS

William Flemer, III
Princeton Nurseries
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Like many other members of the Plant Propagation Society, I was greatly intrigued by Sidney Wasman's report in the 1960 meeting on his work rooting cuttings of Sciadopitys verticillata, which had always been a plant we considered impossible to root. We had always taken these cuttings in the mid fall, and although all cuttings calloused heavily and lived for long periods, they never rooted although we kept them in flats for up to one year. The sole result was a gradual enlargement of the callus. However, when we took cuttings in the late winter and early spring following Sidney's suggestions, the picture improved very greatly. This little report summarizes our results.

As Sidney noted last year, a great problem in cutting experiments with Sciadopitys is the very limited amount of wood available. Unlike working with Junipers or Taxus you cannot set up experiments with hundreds of cuttings for each treatment, and hence the results in this report must be viewed with some scepticism as only 10 cuttings were involved in each treatment reported. Briefly, we attempted to elucidate the effect of three factors in rooting; time of taking the cuttings, strength of hormone used in treatment, and variations in wounding. All our cuttings were taken from a single 38 year old tree to rule out differences in the rooting ability of various clones. All cuttings were of the past season's growth, and all were taken from the lower half of the tree, which is 15 feet tall. The rooting medium used was 50% peat, 50% perlite.

The first experiment was concerned with the proper time to take cuttings. In this series, all cuttings were wounded by drawing a knife blade down opposite sides of the cutting, creating two wounds. The basal portions of the cuttings were dipped in water and then heavily dusted with Hormodin No. 3 powder. Ten cuttings were taken every two weeks and the results after five months in the flats of mix were as follows: (Cuttings not rooted were well callused.)

Date of Sticking	Date of Potting	Percent Rooted
February 1, 1961	July 1, 1961	40%
February 15	July 14	60%
March 1	August 1	80%
March 15	August 15	90%
April 3	September 6	70%

The second experiment was with cuttings all made on March 1, 1961 and concerned the strength of hormone used. The cuttings were all wounded on opposite sides of the cutting by drawing a knife blade along the cutting, creating two wounds. The cuttings were all potted on August 3. Cuttings not rooted were well callused and might have rooted later had they been re-stuck and carried on.

Strength of Hormodin Powder	Total % Rooted	% Well Rooted
Hormodin #1	60%	40%
Hormodin #2	90%	50%
Hormodin #3	80%	70%

The term "well rooted" was a rather subjective concept and meant five roots or more, two or more inches in length, per cutting.

The third experiment involved cuttings again taken on March 1st, 1961 and potted on August 3rd. All cuttings were treated with Hormodin #3 powder. The cuttings were wounded by drawing a knife blade down the side of the lower 1/3 of the cuttings on 1, 2 or 3 sides of the cutting, producing 1, 2 or 3 wounds per cutting.

Number of Wounds	Total Percent Rooted	Percent Rotted
1	70%	0
2	90%	1%
3	70%	3%

As will be seen from the above results, under our conditions three wounds apparently opened up too much area of the cutting epidermis and some of these heavily wounded cuttings rotted after callusing had started but before it was completed. We did not have any significant rotting in experiments in which two or less wounds per cutting were made.

In closing, it must be emphasized again that only very small numbers of replicates were made and the results come out in nice round percentages because only 10 cuttings were used for each treat-

ment. We hope this year to test these findings by larger scale experiments, although because of the shortage of wood even these tests will be limited in scope.

One further consideration should be mentioned and that is whether cutting grown Sciadopitys will ever make shapely, saleable plants. M. Leon Chenault in this little work L'Art de Bouturage mentions in discussing layering of Sciadopitys that it should be only used as a last resort if no seed is available because misshapen plants requiring years of staking result. It may be that Sciadopitys is like Araucaria excelsa, the Norfolk Island Pine, in which unsymmetrical and unsaleable plants result from side branch cuttings even though they root quite satisfactorily. Given the leisurely rate of growth of Sciadopitys, however, we shall all be aged and doddering men before we find out!

MODERATOR MARCH: Thank you, Mr. Flemer.

"Plastic Greenhouses for Propagation" will be the topic of our next speaker, Mr. Harvey Gray.

PLASTIC GREENHOUSES FOR PROPAGATION

Harvey Gray
New York State University
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Farmingdale, New York

The propagation house I am about to speak of is designed to produce ericaceous plants from seed or cuttings in a year-round program. The supporting frame is made of 1-1/4" galvanized pipe and Lord and Burnham split tees.

The ridge, sash bar-rafters, eave and sill plates are home-made from rough cut redwood bench lumber. The lower section on the sides and end are enclosed with Johns Manville 1/4" asbestos wallboard.

Four mil polyethylene is attached to 4 ft. wide sash. The sash is portable, made of fir 2 X 2's, treated with copper naphthalate, and covered with two layers of plastic with 1-5/8" dead air space between layers. The plastic is held in place with thin strips of redwood and tacker staples. The house is readily ventilated by the sliding sash.

A feature of the house is an upper and lower five foot wide center bed. The lower bed is for summer propagation, using either the vaporproof chamber or the mist system. The upper level is used for winter propagation.

The house is heated by hot water, two inch pipe coils, and each bench has its own heating coil. The heat is caused to flow on command of the thermostat in the medium (the type used in the electric cable heating units).