FRIDAY AFTERNOON SESSION

December 6, 1963

The Friday afternoon session was spent in a tour of the Monsanto Company research laboratories where new agricultural chemicals are screened and developed, and of the Climatron in the Missouri Botanical Gardens.

FRIDAY EVENING SESSION

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PLANT PROPAGATORS' QUESTION BOX

Mr. Ralph Shugert, Neosho Nurseries, Neosho, Missouri served as moderator. The meeting convened at 8:00 p.m. in the Crystal Room, Sheraton-Jefferson Hotel. [*Editor's Note*: The questions and answers are included in this year's Proceedings for the first time.]

MODERATOR SHUGERT: Is it possible to root pines from cuttings?

MR. JOHN MCGUIRE: We have had some success rooting the candles. We had about 60% root this past spring.

DR. RICHARD ZIMMERMAN: In the Department of Forestry in Georgia there has been some success in rooting the needle bundles of slash and loblolly pine. However, there is a problem in that the needle bundles will root, but the dormant bud does not grow. They are now trying various treatments to get the bud to grow before the needle bundle cuttings are taken.

PROF. STEVE O'ROURKE: I would like to mention some Japanese work in which the terminals of the pines were cut to induce the needle bundle buds to grow. That paper is included in a review article I prepared for the 1961 Proceedings.

[*Editor's Note*: The article Prof. O'Rourke referred to is: Ishikawa, H. and M. Kusaka, 1959. Vegetative propagation of Japanese black pine (*Pinus thunbergii*) using leaf bundles. Jour. Bul. For. Expt. Sta., Meguro, Tokyo, No. 116:59-64.]

MODERATOR SHUGERT: What is the best procedure for rooting London plane trees by hardwood cuttings?

VOICE: We always use heel cuttings which have a small amount of 2 year old wood. The cuttings are made in the fall, dipped in hormodin, heeled in for the spring, and then stuck. We generally have 70% success.

MODERATOR SHUGERT: Can someone tell us conditions needed for growing beech in central Illinois?

DR. L. C. CHADWICK: I would like to mention that there have been several reports of damage to beech from over-fertilizing in the fall. As a consequence most tree men now use one half rate when it comes to fertilizing large trees of American beech. The tree requires a well drained, open soil.

MODERATE SHUGERT: How do you propagate *Cryptomeria?*

MR. CASE HOOGENDOORN: We can only root the understock, *C. japonica.* We take the cuttings before frost in October, dip them in #3 Hormodin and stick them in sand and they root very well. *C. Lobbi compacta* callus but do not root under our conditions.

MODERATOR SHUGERT: Has anyone had success in rooting mountain laurel cuttings?

MR. WIL CURTIS: We have a man in our area (Oregon) who takes the cuttings in March, puts them in sand and peat, no hormone powder, but with bottom heat and gets a pretty fair percentage of rooting. In fact, excellent rooting of the white forms and about 50% of the pink forms.

MR. ARIE RADDER: We took cuttings in February, wounded them on both sides, and used a strong hormone powder. We had about 50% rooting.

MODERATOR SHUGERT: Has anyone had success rooting *Taxus* under mist?

MR. HANS HESS: I don't believe that anybody has had much success rooting *Taxus* under the mist during the summer. They will root very well, but they become very chlorotic, are set back, and take a long time to recover. You can do a pretty good job of rooting *Taxus* under mist if you take the cuttings during February or the beginning of March, treat them with a hormone, and put them in flats of sand. During the first part of April, as the weather begins to warm up, put the cuttings under intermittent mist. Use as little water as possible. They will root in a period of 6 - 8 weeks without the chlorotic condition.

MODERATOR SHUGERT: I did not understand, when visiting the Forrest Keeling Nursery, if the seed was sown on top of the ground or was it drilled?

MR. HUGH STEAVENSON: The seed is on top of the soil or pressed slightly into the soil by the roller. On top of the seed we put a layer of sawdust. The thickness of the sawdust layer is determined by the size of the seed. As the seed germinates, we can rake some of the sawdust off. However, the seed will go through a much thicker layer of sawdust than through soil.

MODERATOR SHUGERT: Do you have any trouble with wind blowing the sawdust away?

MR. STEAVENSON: Yes, we do. It is a constant problem, requiring raking back. We also use erosion mats and they help a lot.

MODERATOR SHUGERT: Does *Prunus cistena* root better in the greenhouse or in outside mist beds?

MR. VINCENT BAILEY: We have best results in the greenhouse. Perhaps if we used the same care with our mist beds as we use inside, the results would be the same. We take cuttings when the plants are actively growing and remove the soft tip. We use about a 10 inch cutting.

MODERATOR SHUGERT: Has anyone rooted *Prunus Besseyi* or *P. tomentosa* from either hard or soft wood cuttings? The reason for the question is that seed has been hard to obtain for these two plants.

DR. CHADWICK: I have rooted *Prunus tomentosa*, taken from softwood cuttings in early July with about 75% success.

VOICE: We have rooted *Prunus Besseyi* from hardwood cuttings with about 50% success.

MODERATOR SHUGERT: How do you root *Sciadopitys* cuttings?

MR. GERRY VERKADE: Using Sid Waxman's techniques which are in our Proceedings, we were able to root 50% this past year. Timing is a very critical problem.

VOICE: We graft them on *Sciadopitys* roots.

MR. HOOGENDOORN: Where do you get the roots from?

MR. MARTIN VAN HOF: Perhaps from large *Sciadopitys* trees.

MODERATOR SHUGERT: What is a good understock for pear?

MR. CURTIS: A number of years ago we used the Anders quince entirely for a root stock for pear. After the war the Providence stock was available and the majority of the better nurserymen are using Providence. We get a better union and a more satisfactory tree. As for Bartlett, very few of us graft on either Anders or Providence because we feel it makes a very poor union. So we always use an interstock of Old Home. Old Home makes the most satisfactory interpiece and is less susceptible to "decline."

MODERATOR SHUGERT: Has anyone had any experience using the "Gro-Lux" lamp as compared with regular fluorescent lamps?

DR. KEN REISCH: We have tried "Gro-Lux" lamps on African violets and found little difference from the regular fluorescent lamps.

DR. HAROLD TUKEY, JR.: We have tried the "Gro-Lux" lamps on bedding plants and in growth chambers. They give exactly the same results as a combination of cool white fluo-

rescent and incandescent lamps. In some cases the latter combination was superior.

VOICE: Is the Youngstown *Andorra* that Mr. Wilms showed yesterday the same as the compact *Andorra*?

MR. HANS HESS: The *Andorra compacta* which Mr. Owens sells is a different selection from the Youngstown compact *Andorra*. There a number a selections on the market.

MODERATOR SHUGERT: How is a zinc deficiency corrected?

DR. TUKEY: A zinc sulphate spray is the best way to get zinc into a plant.

MR. HANS HESS: What is the minimum temperature necessary in combination with lights to break dormancy?

VOICE: About 70° is the minimum.

MR. RICHARD VANDERBILT: In the case of *Rhododendron* we give the house an exposure of 20 days temperature under 40° F. We then warm it up to 65° F. and with lights to lengthen the day, the whole house breaks into growth at one time rather than over a period of a month.

VOICE: This probably varies considerably with the plant. For roses we use 80° F.

VOICE: I would like to comment about the use of zinc. We use zinc sulphate and lime, 8 pounds zinc and 8 pounds lime to a hundred gallons of water, to control bacterial spot on peach. Now, if the growers leave out the lime, I have seen peach orchards completely defoliated in the summer. I'm not sure if low quantities of zinc sulphate would do the same, but I thought I should mention it.

MR. BAILEY: Has anyone had experience using dormant apple buds held in storage for budding in July?

MR. HENRY SKINNER: Yes, we have used them on dwarfs. We take the buds during the winter and hold them in storage and use them in July or a little earlier.

MR. ROBERT SIMPSON: We have done this on ornamental crabs on plants which did not take the previous fall. We usually do this in May but I don't see why it could not be done in July.

MODERATE SHUGERT: Prof. O'Rourke, what is the difference between the calcined clays on the market?

PROF. O'ROURKE: The companies claim that the difference is in the temperature at which the clay is treated. The higher the temperature, the harder the material, and the more resistant it is to breakdown.

The session adjourned at approximately 10:00 p.m.