

SANITATION AND PROPAGATION — METHODS AND MATERIALS

Moderator: JAMES WELLS

Recorder: F. O. LANPHEAR

The round-table discussion on sanitation and propagation provided some useful and interesting information for the many that were present. As might be expected, the sanitation practices varied considerably among the propagators. One example that illustrates this was the difference in frequency of changing the rooting medium; varying from changing with every batch of cuttings to using the same medium for 20 years. In relation to the differences among propagators it was pointed out that those on the West Coast are known to be much more concerned with this problem and practice sanitation much more extensively than most propagators in the East.

The discussion centered around certain key points which I will now attempt to summarize. One of these was the use of various chemicals as disinfectants in the various propagation steps. There appeared to be considerable use of Morton Soil Drench and Pano Drench either as a drench for the rooting medium or for the cuttings themselves. Some applied these materials to the medium prior to inserting the cuttings, others applied them immediately after sticking the cuttings, and some continued to apply them on a weekly basis. Other chemicals that were mentioned for possible use as disinfectants were Chlorox and Purex. It was pointed out that for certain disease problems such as *Rhizoctonia* on Rhododendron cuttings, more specific chemicals such as oxyquinoline sulfate, sold as "Sonox," might be used.

Another topic that received considerable attention was the use of various fungicides on the cuttings prior to sticking. Rather than drenching the cuttings with the materials mentioned previously, some used Captan or Fermate with apparent success. The Captan was either mixed with the talc containing IBA or applied as a solution. The availability of certain commercial products, such as Hormo-Root, containing both the root promoting substances and fungicides was noted.

An interesting problem that was raised in relation to the use of these chemicals is "what effect does continual application of these materials to the rooting or growing medium have on plants or to the people applying them?" It was pointed out that many of these materials particularly mercury compounds, with repeated usage might attain toxic levels to plants or even humans. Roses were mentioned as being particularly sensitive to mercury. Another after-effect of chemicals was noted from spraying stock-plants of camellias with "Cygon" for scale control. Cuttings taken from the sprayed stock plants did not root as readily.

The use of chemicals was not, however, considered the only approach to sanitation. As was suggested, the use of chemicals do not substitute for good management. Practices that were

considered useful by some were (1) removal of dead leaves and debris that accumulate during the rooting process, (2) general clean-up of the entire propagating house annually, and (3) mixing media on a clean concrete surface.

The importance of the environment on the diseases and their control was illustrated with the problem of basal rotting of *Taxus*. If the medium temperature was maintained between 60 to 70° F., very little basal rot was observed; however, increasing the temperature to 80 and 90° F. resulted in a much greater incidence of the basal rot. It was also noted that adequate light and proper manipulation of other environmental factors might be of definite value in preventing many disease problems.

And finally, a question of commercial importance, "to what extent do all the sanitation measures improve your chances of success in the propagation phase?" In one case, drenching junipers with Morton Soil Drench was estimated to decrease basal rotting 25 to 40%. Many believed that definite improvement would be obtained with good sanitary procedures. The statement that seems to summarize the opinion of most on this question was that the cost of precautionary sanitary measures was small in comparison to the cost of losses that could be incurred from a serious disease problem.

MR. TOM PINNEY, JR.: Thank you, Fred. Now for the final report, Wayne Lovelace will summarize the discussion on cost control in propagation

COST CONTROL IN PROPAGATION — LOWERING COSTS

Moderator: GEORGE ROSE

Recorder: WAYNE LOVELACE

Our discussion group opened by asking, "What is meant by cost control in propagation?"

Does this mean to produce smaller cuttings, grafts, or seedlings, or to crowd more cuttings into a given area, or to produce cheaper, easier to grow varieties. It could mean to use cheaper, less experienced help, or to use cheaper, more easily worked understock regardless of the quality of the resulting plants, or to increase the volume of propagation to cut the cost of the individual item and then hope that the material produced can be sold.

We concluded that cutting the cost of propagation is only a very small part of the answer to production cost control.

The following points were presented to be of prime consideration along with actual propagation costs.

1. Change in consumer demand.
2. Change in marketing procedures and outlets.

These enter into cost control much more than trying to produce a plant cheaper than your competitor.