

Question Box

Moderated by Ralph Shugert and Bruce Briggs

Question. For John Larson. What is the rooting percentage for the third generation of cuttings?

John Larson: It is 90% to 95%.

Question. For John Larson. What commercial plug mix are you using for rooting commercial cuttings on? What size/type of plug tray are you using?

John Larson: We are using Grace Sierra vegetable plug mix, and a 400-plug tray.

Question. Which variety of forsythia is most suitable for winter forcing of bloom? Can the white flowering form be forced?

David Schmidt: Most *Forsythia × intermedia* cultivars will do well.

Clayton Fuller: 'Spring Glory' or 'Lynwood' will do well for forcing. It takes about 10 days.

Bill Barnes: I have worked with *Abeliophyllum distichum*, often called white flowering forsythia, and it forces as well as forsythia.

Question. For Brian Maynard. Why can't shade plants grow in the sun? What physiological process limits these plants to grow in low light levels?

Brian Maynard: A lot has to do with how chlorophyll is found in the chloroplast and how the chloroplasts are arranged in the leaf, how thick the leaf is, and the capacity of the leaf to adapt. Leaves that grow in low light are thinner and have chloroplasts that are flatter to intercept more light. When grown in high light the chloroplasts become orientated in a vertical manner and the leaf lamina becomes thicker. One of the problems with intercepting too much light is that the photosynthetic process goes too fast, and the leaves start to oxidize. Therefore the answer to the question is how much the plant can adapt.

Question. If one buys an index to past proceedings but doesn't possess the volumes, is there a source one might call and get a certain article faxed or copy sent?

Charles Heuser: I do not have a complete set of the proceedings so I am not a source for all the information. There is one person who has a complete set, and that is Ralph Shugert, and in the past he has been willing to send copies.

Editor's Note: Tom Pinney, indicated that Ron Amos of his firm will send copies; Dick Zimmerman has a complete set and he has volunteered; Kris Bachtell noted that the Morton Arboretum will do it; and Chris Graham noted that the RGB has a set and would serve Canadian members. A question was raised regarding the availability of back Proceedings. It was noted that there are a few back issues available, mostly newer volumes, and interested individuals should contact John A. Wott, International Secretary/Treasurer for information.

Question. For Mary McClelland. What concentration of hydrogen peroxide would you recommend for surface decontamination of tissue-cultured explants?

Mary McClelland: I'm sorry to say that I can't confidently give you a

recommended rate at this time. We are just starting our work with it. But gathering from the interest the topic generated, I was encouraged to document our trials and get back to you with practical advise. If any of you have other information on other sterilants, please contact me.

Steve McCulloch: We surveyed a number of products and published a paper in the Proceedings. We concluded that sodium hypochlorite was the best.

Deb McCown: We use quaternary ammonium compounds, such as Lysol, as surface sterilants.

Bill Barnes: Some of us have tried Phisan but have found it to be species specific, some plants react negatively to it, and it is not labeled for such use.

Carmine Raguse: Benadine, and iodine compound; it is an excellent compound, is a close relative of iodine.

Question. For Bill Hendricks. I thought you suggested that compost on beds helps prevent disease, could you explain?

Bill Hendricks: The product I am using is composted municipal sludge (not sludge) plus bark. The bark brings in disease suppression. It is also a source of fertility and micro nutrients.

Ralph Shugert: Before you abandon a fungicide program in your seed beds, you need to do some R&D to check it out.

Question. For Phillip King. What is the maker of the air-jet fog head and where do you get them?

Phil King: They are made by Spraying Systems. I will be glad to provide any additional information members may want by phone.

Tom Kimmel: Bete Company is also a source of such nozzles.

Question. For those nurseries with a student intern program. How and where do you attract the best students?

Dan Studebaker: It really gets down to who you know. We work through the university system, 2-year program at Wooster, and contribute to scholarship programs.

Ted Meyers: We work about the same with Michigan State University, and the state nursery trade association and in conjunction with the winter meeting. The best way is to have the university and trade associations get together and work something out.

Ralph Shugert: We have not had an intern for 3 years. I am very particular about who we have and require that they come to the nursery for a 3-h visit. That personal interview is so important to assess their ability.

Question. For Kenneth O'Dell. Is there a source where one can purchase fern spores?

Dale Hendricks: The American Fern Society might be a source. They have a spore exchange.

Carl Totemeyer: I might add the New York Botanical Garden has a world authority on ferns and would have sources. John Mikkell would be a potential contact person.

Question. Has anyone used sprays of dilute methanol on the foliage of plants to increase plant growth?

Tom Kimmel: My research person who has a large research file on the subject is not here, but it is supposed to add oxygen to the leaves.

Question. Does root activity continue at night at the same rate as during the day?

Sid Waxman: The person who did the work was Koths and it is in the Proceedings.

Question. What would a typical propagation schedule and percent rooting be for *Sciadopytis verticillata*?

Sid Waxman: The first thing to do is to find a clone that works for you. Then the following should work: take cuttings in January/February, place cuttings into water to let the resin drain out, treat with Woods (1 : 5) or Hormodin #3, mist, 70F bottom heat, and a medium of 3 peat moss and 2 perlite (v/v). They should root in 5 to 6 months.

Clayton Fuller: We do essentially the same thing as Sid, except we do not remove the resin. Instead we double wound with a slit wound, not the normal wound, about 3/4 in.

Ralph Shugert: Could you also discuss the sexual germination of *Sciadopytis*?

Sid Waxman: We found that soaking in aerated water produced more uniform germination. The seeds also respond to photoperiod, long day inhibits and short day encourages.

Ralph Shugert: We found with *Pinus mugo* that soaking made a big difference in the germination of that plant. A good Canadian friend mentioned to me that all conifer seeds should be soaked before sowing.

Question. Has anyone found a way to propagate *Spiraea japonica* 'Shiboi' to get true tri- or at least bi-color flowers rather than a high percentage reverting to either all white or all pink flowers?

Steve McClouch: It is very easy to root. However, the key is careful selection of wood with the proper selection of pigmentation is the key.

Ron Amos: My observation is that if you if you select foliage with only the red it will not show both. Foliage on the lighter green side will be better and show both.

Question. What is the best method for propagation of *Daphne cneorum*?

Voice: There are probably as many ways to grow it as nurserymen growing it. We have found that summer is bad, they can not stand moisture on their leaves. We are doing it now (December), bottom heat of 21C, and lay off the water. You should get 50% to 60% rooting. With the *Daphne burkwoodii* types, summer cuttings work best.

Bruce Briggs: We have found that tough old plants work best and leave a heal on the cuttings.

Question. How do you get *Styrax japonicus* 'Pink Chimes' and weeping forms to go through one winter?

Bill Barnes: Ideally you should have no fertilizer after it is rooted. The best solution is to bring stock plants into the greenhouse in February/March, force cutting wood, root them when the photoperiod will keep them growing. We run into the same problem with *Hamamelis* and *Stewartia* cuttings.

Question. For Elwin Orton. Can *Cornus kousa* × *C. florida* hybrids be grown on their own roots? What understock should be used if grafted?

Elwin Orton: You can do it easily, if you are licensed. They do grow well from rooted cuttings.

Deb McCown: We are under contract to Rutgers University to micropropagate Dr. Orton's dogwood. We have five in culture. We can sell them only to a list of licensed growers.

Question. For Elwin Orton. Does the bract color on *Cornus kousa* 'Satomi' hold well in your experience?

Elwin Orton: I have never seen a good red form. We may be seeing the same thing that we see in *C. florida* where in cool seasons the heterozygote condition for red causes the development of a pink color. The same condition may exist in *C. kousa*.

Question. What rate of Basmid would you recommend for a soil sterilant before sowing the grass seed for the grass to feed deer? Also what post emergence herbicide would you recommend and at what rate per acre?

Ralph Shugert: I would recommend 330 lb/A and probably could cut back to 270 lb/A.

Question. What is the best tool for applying a top dress fertilizer to a container?

Ben Davis: A spoon.

Clayton Fuller: People do not like to bend over, so we build a drop tube device. It consists of a waste basket—of a size that will hold 20 pounds of Osmocote that is attached with a belt to the worker. We then purchased a funnel and attached a plastic tube which allows us to direct the flow of fertilizer.

Kees Govers: Plant Products Co. in Ontario carries two stainless steel applicators that strap to the chest with a capacity of 20 lb capacity. The mechanism consists of a nylon plunger on a spring-loaded shaft. Quantity is set by screwing the plunger further into the shaft. The hopper feeds into a chamber below, the plunger dispenses when pulled up or pushed down depending on the model. A 3/4-in. drop tube made of PVC drops the fertilizer into the container. Labor savings are 40% to 50% over spoon feeding. Material savings also occurs as the applicator is set for a certain container size and always drops the same amount.

The second part of the morning session convened 1:30 p.m. with Charles E. Tubising serving as moderator.