

EASTERN REGION QUESTION BOX SESSION

The Question Box Session was convened at 2:30 p.m. with Ralph Shugert and Bruce Briggs serving as moderators.

MODERATOR SHUGERT: Is the grafting video that was produced by I.P.P.S.—Eastern Region still available? If so advertise it in our newsletter.

KATHY FREELAND: I have the master of that video if we want to reproduce it.

MODERATOR SHUGERT: Question for Albert Bremer. You stated that you inserted chip buds at an angle. What species do you use this technique with?

MARTIN MEYER: He puts the chip bud in at an angle so that it crosses over to both sides. The cut in the rootstock is not cut at an angle.

MODERATOR SHUGERT: Comment to Ralph Shugert from Dick Bir on rice hulls in media. We did quite a bit of work with rice hulls from an apple processor about 10 years ago. Composting is absolutely needed because: (1) Apple tree seedlings are weeds and plentiful. (2) A yellow mycelial growth from some non-parasitic fungus filled our container mixes. If they ever dried out they were very difficult to rewet and the same mix without rice hulls had no yellow fungus and was not a problem to rewet. (3) More than 20% rice hulls in a pine bark/peat mix reduced growth and increased the need for irrigation. (4) Rice hulls as a soil amendment limited plant growth with evergreen and deciduous rhododendrons when pine bark in the same quantities increased growth. The plants looked fine, i.e. not nitrogen starved. (5) The apple processor stopped using rice hulls so we didn't pursue the work any further.

TIM WOOD: Large amounts of rice hulls tend to stratify in a mix and causes watering problems. There have been some comments that hammer milling reduces that problem.

BRUCE BRIGGS: Remember that there is a difference between rice hulls that have been hammer milled and those that have not been.

MODERATOR SHUGERT: Can anyone relate millimoles of light intensity to foot candles or lux, and describe optimum levels used for acclimating microcuttings? What did you find to be an optimal GA concentration for overcoming *Amelanchier* "stall out."

RICHARD ZIMMERMAN: The conversion can be found in HortScience. 18(6):818-821. 1987.

STEVE MCCULLOCH: We grow several thousand amelanchier and have not seen this "stall out."

ED LOSLEY: We treat amelanchier as a seasonal crop and do not bring them out when the season is short. We bring them out in March.

GAYLE SUTTLE: The amelanchier problem sounds like the problem we have with *Malus*. We solve it by chilling or bringing them out later.

MODERATOR BRIGGS: Question for Gayle Suttle. Do you have any new ways to increase rooting of hard-to-root plants in vitro? On your *Populus* did the roots produce juvenile tops and for how long?

GAYLE SUTTLE: That is too broad of a question. We find that having a healthy vigorous plant is the most important thing. With our microcuttings of redbud, which are difficult for us, we have combined IBA (2,600 ppm) with DMSO for success.

MODERATOR BRIGGS: When you take root cuttings from *Populus* and lay them down are the shoots that arise juvenile?

BILL BARNES: We used to do this with *P. tremuloides*. The shoots that arise are juvenile and can be rooted provided the base is etiolated. If they turn green they probably will not root. You can keep taking cuttings from the roots as long as the roots will produce them.

MODERATOR SHUGERT: Does anyone have successful propagation techniques for *Myrica pensylvanica* by hardwood or softwood cuttings?

BILL BARNES: The secret is to have the best stock plants available. Old plants or older plants in containers root poorly. Take your cuttings off a newly rooted cutting or one-year-old plant. In our case we would root the cutting in June or July, overwinter them, and they would flush into growth around the first or March. That flush is the source of our new cutting material. You can root that cutting and flush it and root that cutting. You can do that 3 to 4 times. Once those cuttings beginning to harden off as the day length begins to shorten. The trick is to get the cuttings before the daylength begins to shorten. The cuttings should be butter soft or snap like a string bean. Between the months of March to the middle of June in Pennsylvania.

MODERATOR SHUGERT: Has a procedure for successful tissue culture propagation of *Taxus cuspidata* 'Capitata' been developed?

RICHARD ZIMMERMAN: None that I am aware of.

RALPH SHUGERT: Zelenka Nursery did provide a grant in 1979 and 1980 to Michigan State University and Dr. Ken Sink. He was unable to produce roots or shoots *in vitro*.

MODERATOR SHUGERT: Is anyone rooting *Corylus avellana* 'Contorta' from cuttings?

DIXON HOOGENDORN: We did some this year very successfully in the greenhouse. In our outside mist beds we were not as successful. It was a cool and

wet summer. We rooted them in sand and have potted them up and have placed them in our overwintering frame. The cuttings were taken about the first week of July and treated with Hormodin #2.

MODERATOR SHUGERT: Has anyone had success rooting *Clematis texensis*?

STEVE MCCULLOCH: We have tissue cultured some of the cultivars and had no problem rooting the shoots out of culture under mist. It took about 2 to 3 weeks.

MODERATOR BRIGGS: My *Styrax japonica* cuttings were direct rooted into pots in June. I got an excellent stand. However, I have had difficulty overwintering them. How can I successfully overwinter them?

BILL BARNES: It is best to get that cutting rooted as early as possible in the summer or late spring as you can. Sticking stock plants in a greenhouse is a possibility to get cuttings early. Root the first of June with as low a hormone concentration as you can get away with. Higher hormone concentrations tend to cause a latent bud dormancy. If your stock plants are under long day, put cuttings under long day and once they are rooted they will break bud and keep growing. The regrowth should aid carbohydrate storage which helps get them through the winter. If they fail to break bud the rooted cuttings may not have enough carbohydrate to make it through the winter.

BRUCE BRIGGS: We have had a problem with tissue cultured plants. Some times we will get them to 2 ft tall and they will not overwinter. It could be a storage problem.

TOM MCCLOUD: We have had success with hardwood cuttings from water sprouts taken in January, stuck in the greenhouse, in peat and perlite with bottom heat, and Woods Rooting Compound at the rate for hardwood cuttings. By spring or early summer they are rooted. The sprouts were taken from an old tree and had a heal at the base.

BRUCE BRIGGS: Questions for Mark Richey. Had it been determined that your slow-release prills were "spent" as a result of faster-than-expected release? Are you working with other brands of slow-release fertilizer?

MARK RICHEY: There are probably as many problems as there are brands. My contention is that it is not the nice neat package that is being marketed to us. We have to understand that the growing conditions that we will put the slow-release fertilizers under will vary from one nursery to another. Based on my observations in pots and containers I am lead to believe that there is a quick release when the fertilizer contacts water. There is not a nice even release during the whole life of the product. The technical rep said the prills were empty in answer to that part of the question.

MODERATOR SHUGERT: Question for Mic Armstrong. What is the biocontrol for birds and where do you get it?

MIC ARMSTRONG: I am not sure of the name of the product for bird control. With the GL-21 it cost \$3.00 extra for the two 50 cubic foot bags.

DAVE BAKKER: For spring seeded plants, such as spruce, we wet the seed and put pure maneb and plant the seed. When the seed germinates the birds will not eat the germinating seeds.

MODERATOR SHUGERT: You mention seven group of plants that you arrange according to their needs such as watering. What are the seven groups.

MARK RICHEY: One group is those that have leaf problems. Another group is those that have root problems if kept to wet. Those that you want to keep cooler in the spring because they are rapid growers would be another. It would be those types of plants. It is the first year that we have done that and we may expand that next year.

MODERATOR SHUGERT: Question of Ed Croon. In our life time do you think that we are going to see taxol in a bottle from cultivars of taxus?

ED CROON: Yes.