

## “Propagation Practices” Question-Answer Period

**Mona Meyers:** I have a question for Jim Borland and Sven Svenson. As I understand it, light intensity during root formation during your respective studies seem to be at odds. One of you is advocating low light intensities and the other using HID lighting. Could you both comment on this? Is HID lighting that different from the lighting Sven Svenson is referring to?

**Jim Borland:** Actually, I was using that lighting for growing-on seedlings for the most part or for cuttings that were rooted.

**Sven Svenson:** The light intensity requirements for cuttings changes depending on the stage of root formation or development. There is a stage where higher light is required when roots are beginning to emerge from the cutting. I'm suggesting at the beginning is where lower light intensities may be beneficial. The quality of artificial lighting may be sufficiently different from shaded-natural lighting to warrant further study.

**Anonymous:** Can you comment further on the smoke treatments you briefly mentioned?

**Martin Grantham:** The first published paper was from Hannes Delonge on the *Bruniaceae*. They piped smoke into tented chambers containing whole flats of seeds. This treatment greatly increased germination. At this point they have chosen one particular feinbas shrub, *Paserina vulgaris*, to burn. They've also made connections with companies making “liquid smoke” to try and isolate the active ingredients.

**Mike Babineau:** A question for Sven Svenson. We have trouble with cuttings forming callus, but no roots. Did your research touch on that at all? Do you have anything to add whether the temperature or light affects that?

**Sven Svenson:** One of the species we worked with, *Photinia*, has a tendency to do that. On occasion the cutting will have a mass of callus on the base the size of a softball with no roots formed. We had some indication that soil temperature may play a role in this, but it's not a consistent response. It may have something to do with the physiological state of the cutting as it comes off the stock plant.

**Mike Dyke:** I want to add a few comments. First, on alternatives to peat. In Europe, there's pressure to reduce the use of peat. We have had very good results using coir fiber. On the aspects of biocontrol, very few nurseries in the U.K. are using biocontrol. However, those who are have used 15 to 20 predators. Once you start down the route of biocontrol you need to keep moving the times to keep ahead of the pests that come in. Finally, on the aspects of the environment for the rooting of cuttings, recent work at East Malling in the U.K. has suggested that combinations of low or high light levels combined with dry or wetness on the leaf can have huge effects on the rooting ability of various plants. A general guideline is the smaller the leaf the higher the light levels and the dryer the leaf likes to be.