

General Session IV: Question and Answer Session

Kristin Yanker-Hansen: Have you done any work with tropical forests?

Lee Klinger: Actually, the same holds for tropical forests. In the tropics you actually shift from early successional deciduous and semi-deciduous to evergreen trees. The evergreen trees in the tropics tend to be broad-leaved evergreens as opposed to the needle-leaved evergreen in the temperate zones, but you still have that shift.

Mary Helen Seeger: Is the fertilization regime you're suggesting similar to what Ralph Navarro is doing?

Lee Klinger: Yes it is, although Ralph is promoting more of phosphate fertilization. My emphasis is on not using any of the phosphate products; I'm just using calcium-rich minerals. Also, he's not promoting the lime wash, which I'm finding to be very effective in getting a very fast response, especially with cracked trees. The lime minerals quickly get into the tree.

Mary Helen Seeger: Just one more comment on that. With other types of *Phytophthora* that's been a recommended procedure for backyard use.

Ellen Zagory: Does an increase in pH kill *Phytophthora ramorum*?

Lee Klinger: So far I've not been able to get funding to answer that question.

John Keller: There is some information known on other species of *Phytophthora* that are sometimes suppressed in extremely acidic soils that probably wouldn't be seen in nature, but in some nursery soils the root-attacking phytophthoras are sometimes suppressed by low pH.

Germaine Boivin: What are the chances that *Phytophthora ramorum* could show up in the central valley in northern California?

John Keller: There was one nursery in 2003 in the central valley on the north end of the San Joaquin Valley where it was found, and even in hot areas, the pathogen can show up in cool, moist shade houses.

Kristin Yanker-Hansen: Are your seeds available to us today?

Paul Rys: Yes, they are. I believe as all plant propagators in the theory of abundance. Seeds don't grow in envelopes. I pass out my seeds to people all over the world.

Kristin Yanker-Hansen: How do you irrigate your plants?

Paul Rys: There are several methods for watering. We set up misting systems, and during the heat of the day, we will use automatic misters that will overhead spray for 1–2 min. every 20 min. Misting helps avoid any water stress that will slow or stop vegetative growth.

Kristin Yanker-Hansen: Do you think it matters how much water you put to the roots of these pumpkins?

Paul Rys: We don't apply too much water, but they need to be moist for best growth.

Dave Herbert: Are you suggesting that a whitewash treatment will improve or promote healing in cracked bark?

Lee Klinger: Yes, I am. It's actually through the nutritional value of the lime wash. I need to point out that I'm treating more than 70 varieties of trees now and having good success.

Greg McPhee: What is your nutritional program for your pumpkins? Are you using growth promoters?

Paul Rys: I only add organic matter from horse manure and shavings, and the reason why I'm doing that is other growers add all kinds of chemicals to get them to grow really big. I'm trying to grow them in a controlled environment. If I see a pumpkin plant that is vigorous with no additives, then I know it's going to have the potential for being bigger later.

Notes on Propagation of Various Tropical Woody Ornamentals®

Richard A. Criley

Department of Tropical Plant & Soil Sciences, University of Hawaii, Honolulu, Hawaii 96822

Auxin series, ranging from 0 to 7500 ppm, were evaluated on eight tropical woody ornamental materials as laboratory exercises for a class in plant propagation. The auxins were either indole-3-butyric acid (IBA) used alone or the commercial preparation Dip 'N Grow® (1% IBA and 0.5% NAA). Terminal cuttings were taken in late fall, rooted under intermittent mist during low light winter conditions, and evaluated 6 to 8 weeks later in most cases. Rooting percentages and a rooting index based on root mass were determined. Optimum auxin concentrations were: 1000 ppm for *Acalypha wilkesiana* (dwarf copper-leaf), 6250 ppm for *Aglaia odorata*, 500 ppm for *Duranta erecta* 'Alba', 6000 ppm for *Galphimia gracilis*, 1500 ppm for *Ilex vomitoria* 'Stoke's Dwarf', 6000 ppm for a *Rhododendron aurigeranum* × *R. herzogii* hybrid, 2500 ppm for *Thunbergia erecta*, and 1200 to 2250 for *Gardenia brighamii*.

INTRODUCTION

"Propagated by cuttings" is the usual notation for propagation information in many of the books that describe tropical ornamental plants (Chin, 2003; Rauch and Weisich, 2000; Sparrow and Hanly, 2002; Staples and Herbst, 2005; Whistler, 2000). Such information is not specific enough, especially for plants that are difficult to propagate by cuttings. The information provided in this paper was extracted from a series of plant propagation experiments set up for a plant propagation class at the University of Hawaii over several years. The objective was to inform students about how to take data and determine the best concentration in an auxin series for the propagation of a particular plant. Students had to prepare a write-up of the exercise as practice for future laboratory experiments.

MATERIALS AND METHODS

The plant materials were: *Acalypha wilkesiana* (dwarf copper-leaf), *Aglaia odorata* (Chinese rice flower), *Duranta erecta* 'Alba' (golden dewdrop), *Galphimia gracilis* (thryallis), *Gardenia brighamii* (nanu, a native Hawaiian gardenia), *Ilex vomitoria*