

General Session VI: Question and Answer Session[©]

Dale Pollard: I was under the impression that once you slashed and burned a jungle forest area it really didn't rejuvenate itself very effectively, but you mentioned that it does. I was wondering whether you could elaborate on that?

Raul Moreno: I am halfway guessing here, but I think that part of it has to do with the size of the clear-cut and the shape of it to allow for the plant material and seed to move in. If it's done over a very large area, regeneration will be difficult.

Dave Hannings: Could trees be planted in the cleared area while you're growing corn or whatever so they could be growing a year or two?

Raul Moreno: Yes, that would be more of an agroforestry approach.

Douglas Justice: Do we know what the *Plectranthus* species is?

Scott Trees: It's a hybrid, and I don't know what the exact species is.

Douglas Justice: These cuts that are being made in the forest are corridors with relatively few species being planted in them. Is that not confounding the whole issue of biodiversity? If you have a corridor, won't pests be able to move along the corridor and make a mess?

Raul Moreno: This corridor closes up very fast. Remember, you're opening the corridor with machetes and so you're actually just pruning whatever is there. Part of the follow-up that is sometimes not done is that the plants take at least a season or two to become established. The other issue there is light. These corridors need to be wide enough for the corn.

Richard Criley: Would you comment briefly on Ball's agreement with the South Africans for your exclusive rights to these plants?

Scott Trees: Ball has an agreement with the Kirstenbosch National Botanic Gardens in South Africa. Part of that agreement is in exchange for funding we've given to Kirstenbosch to build a greenhouse and buy vehicles: we get first right of refusal on germplasm coming from their scientists to use in our breeding programs. Anything that's developed in our breeding programs we pay royalties back to the South African government.

Steve McCulloch: With the *Salvia* breeding, what is meant by mutation breeding? Are you irradiating seeds or plants? What kind of irradiation are you doing and how does that enter into the breeding?

Scott Trees: We use a couple types of irradiation in our breeding programs. Originally, we were working only with gamma irradiation, but we're working with other types now. We irradiate cuttings or small liners (rooted cuttings) where we get a better survival rate.

Kathy Echols: With *Perilla frutescens* var. *purpurascens* 'Magilla' now being a little different, will this change the patent restrictions on it since it was patented under a particular name?

Scott Trees: *Perilla* 'Magilla' wasn't patented. The name was trademarked, but it wasn't a patentable plant and the reason for that is that the plant was already

being sold in Japan. In the U.S.A., if a plant has been sold for a year anywhere else in the world you can't patent it. However, we did mutation breeding on this cultivar and got out a green variant we called Magilla Perilla Vanilla that is a green and creamy colored plant. That one we can patent since we changed the nature of it.

Kristin Yanker-Hansen: For the irradiated plants, how long have they existed and is there any possible reversion back to the original?

Scott Trees: There probably will be reversions back. This plant has only been around for 2 years, and I haven't seen any reversions, but in other examples of mutation-breeding plants from other companies I've seen reversion after several years. It's a big part of the quality control to maintain stock plants that have not reverted.

Paolo Sangankeo: In traditional breeding of something like the *Plectranthus*, how many generations before you get to where you want to be?

Scott Trees: It depends on the crop and what the ploidy level is of the plants you're working with. Breeders are always looking for faster ways of getting things onto the market. We are always looking for short cuts, for example, using tissue culture or multiple trialing sites. When we create a new product we trial it to make sure that it's what we say it's going to be. Traditionally, companies do two or three trials a year; we do 14 trials a year around the world. We trial that plant in California, greenhouse and field, in Illinois, Florida, Holland, and with selected growers around the world. After a year's trial we have 28 evaluations and we feel confident we can introduce a plant in 1 year after it's been selected. The average amount of time breeding the plant is 3 years from start to finish.

Vernon McQueen: On the corridors, how wide are they and how far apart are they in the forest?

Raul Moreno: I believe they are 2–3 meters wide and a minimum of 5 m apart. They follow the contour of the land on which they are located.