

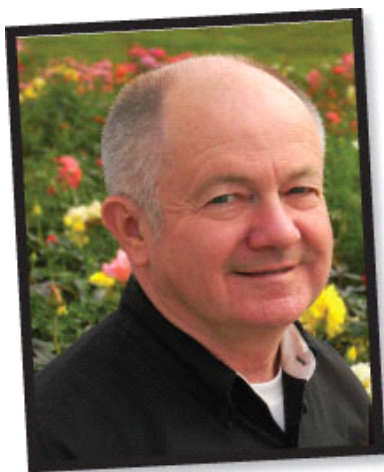
GROWERTALKS

Columns

12/27/2010

Growing Ideas: Roots

Dr. P. Allen Hammer



DR. P. ALLEN HAMMER

I have an obsession with roots on poinsettias. Part of my obsession is trying to figure out why some greenhouses grow such excellent roots and why others seem to struggle as I did at the university when conducting poinsettia trials.

Both photos here show poinsettias with outstanding roots. Also note that one photo is from Florida and one from Oregon. This quickly rules out the argument that sun and temperature control the excellent root systems on the poinsettias. So, what controls the root system development in poinsettia production? Certainly genetics, root medium, growing environment, fertility, container, fungicides and watering all contribute to root growth. Watering is the most important factor in excellent roots in poinsettias; however, each of the above factors to a much lesser extent

can also affect root development.

Genetics plays a role. However, I see much greater variability in root development among greenhouses than I see between different cultivars. Container color can affect root growth by absorbing sunlight and creating too-high root medium temperatures. Containers that allow light transmission also inhibit root growth. Fungicides reduce root diseases, but isn't the reason for excellent root systems. In fact, crops with excellent root systems often receive less fungicide treatments. And although fertility is important for root growth, there's simply no way fertility explains the differences I see among poinsettia root systems in greenhouses.

The grower determines the root growth on poinsettias with their daily watering decisions. One can certainly argue root medium plays an important role in those daily watering decisions; some root media are simply much easier to water than others. Yet I often see major differences in root growth even with the same root medium. It's essential that the root medium used in poinsettia production be well aerated. A too-wet root medium will never produce the root systems seen in the two photos. Too-wet conditions can be caused by a root medium holding too much water as well as the grower applying water too often to a wet root medium.

In general, I always see better roots in those greenhouses managed by what we often label as "dry" growers—but I don't want to create the idea that growers simply run the poinsettia crop dry to improve root

growth. The “dry” grower looks at the crop and weather to make watering decisions. There’s a very delicate balance between the plants needing water and the plants becoming too dry. (I repeat what I often say: “Growing is all about the details.”) The ultimate decision is in the grower’s hands to determine what the poinsettia root systems look like in December by controlling the watering in the previous months of production. Roots just don’t happen.

Growers should also pay attention to root growth and the watering connection with the spring crop. The very same principles apply, although it’s often easier with the spring crop because plants are most often in smaller containers, the plants keep growing, and crop growth goes from cold, short days to warm, long days. We all know it’s almost impossible to over-water those spring crops in late May. Watering still remains at the top of the list of critical production decisions made numerous times daily by growers. **GT**

Dr. P. Allen Hammer is a retired professor of floriculture at Purdue University, West Lafayette, Indiana, and is now in product development and support for Dümmen USA.