GROWERTALKS

Columns

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The Doctor is In!: Fertilizing Liners

Dr. P. Allen Hammer

Over the years, researchers have collected lots of data on plant nutrition. And although we have great understanding of how plants uptake and use fertilizer nutrients, everyday fertility control in the greenhouse still seems to be a mystery. Fertility control is extremely complex because of all the interactions among plant cultivars, fertilizer formulations, root medium, watering, environment and a host of other unknown factors in individual greenhouses. But even with the complexity of greenhouse plant nutrition, growers must make daily fertilizer decisions without becoming overwhelmed with the complexity.

One such question I want to address: How should liners be fertilized? I'm a firm believer in high fertilizer applications for most liners (there are a few exceptions I won't address here) to produce the best possible liner. Growers often resist high fertilizer application in liner production because the liner will grow too fast and be too soft. And although I understand the argument, I strongly disagree with using low fertility to control liner growth. Low temperatures and full sunlight should be the very first tool growers use to control liner growth. And in some cases, very low doses of PGRs can be used as a secondary tool for growth control.

Pictured left: Petunias that were watered with alternate clear water and fertilizer.
Pictured center: Petunias that were watered with clear water.
Pictured right: Petunias that were watered with fertilizer at every watering.

We conducted a study in Indiana from December to February of this past year with petunias to provide visual data showing the effect of fertilizer on petunia liners. Four cultivars of petunia cuttings were stuck in Ellepots with a standard fertilizer charge. Best practices of bottom heat, mist and environment were used for propagation. Once cuttings began to root, the Ellepots were watered with clear water, alternated with clear water and fertilizer solution or fertilizer solution at every watering. The liners received the treatments every three to four days. The fertilizer solution was 300 ppm N from Jacks Petunia FeED (2-3-19). The photos show the liners three weeks after sticking. Only one cultivar is shown, but each cultivar showed the very same

response. The liner receiving 300 ppm N at every watering showed superior growth and branching. The liners were also more vegetative.

Applying high fertility to liners does produce superior liners; however, growers will have to pay much closer attention to keeping the liners toned by using environment to control growth. But there's absolutely no question—the quality of a liner is directly related to paying close attention to all of the growing details. Growing a low fertility, hard liner may be easier, but certainly won't produce the "best" liner. I would suggest growers consider changing their approach to liner production and try high fertility this spring, but remember it's also important to change the approach to toning the liner. It's easy to prove high fertilizer doesn't work, but much more difficult to prove high fertility produces a superior liner because one has to completely change their thinking. **GT**

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