

Calcium Hunger in Inert Media

Idealite, a manufactured aggregate, is being tested rather widely in Colorado as a growing medium. While this material initially has a high calcium content (CFGAs Bulletin 215), it was not known how long this calcium supply would be adequate for healthy plant growth.

Where no calcium was added, early calcium hunger signs have been observed on carnations growing in

Idealite in 6 to 9 months after planting. These included more or less in this order (1) sleepiness of flowers, (2) deformity of flowers and poor development of the flower centers, and (3) the leaf-tip scorch typical of advanced calcium hunger. Probably preceding these signs there was a loss in cut flower keeping quality but this was not checked. Rose leaf scorch was observed 12 months after plants were started in new Idealite.

Calcium in tissue from carnations showing these signs was as low as 0.5%. Looking back in Bulletin 215, none of the plants grown in inert media mixtures in that experiment contained as much as 1.0% calcium. Rose tissue levels showing leaf scorch from calcium hunger were 0.38%. General recommendations on calcium levels in carnation are 1.0 to 2.0, with recommendations for roses slightly lower.

Many other inert media (scoria, perlite, some sands and gravels) have little or no calcium. An adequate calcium supply should be available by adding 5% by volume of the media of 3/8" mesh limestone gravel. Ground limestone can be supplied as a fast corrective measure. Or, one-half the nitrate in the nutrient solution may be supplied through calcium nitrate. Records from comparative calcium-magnesium-potassium levels are presently being analyzed so firm recommendations on optimum balance of these in the nutrient solution will appear in Bulletin 221.