Characterization of Nutrient Disorders of Pot Rose 'Karina Parade'

Pot rose cultivar 'Karina Parade' plants were grown in silica sand culture to induce and photograph nutritional disorder symptoms. The nutrient deficiency treatments were induced with a complete nutrient formula minus one of the nutrients. Plants were monitored daily to document and photograph sequential series of symptoms on youngest, young, recently mature, and mature leaves as they developed (Figures 1-9).

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Figure 1. Darker green coloration of leaves except in uniform yellow-green chlorotic old leaves by phosphorus deficiency.

Figure 2. Interveinal chlorosis on the lower leaves occurred with potassium deficiency.

Figure 3. The collapse of flower stalks and the formation of exuded droplets occurred with calcium deficiency.

Figure 4. White tan patches progressed from interveinal chlorosis with magnesium deficiency.

Figure 5. Chlorotic upper leaves were observed with sulfur deficiency.

Figure 6. Interveinal chlorosis on young leaves occurred with boron deficiency.

Figure 7. Tip brown necrosis of the recently matured leaves occurred with boron toxicity.

Figure 8. Interveinal chlorosis induced by iron deficiency.

Figure 9. The progression of manganese deficiency initiated as an interveinal chlorosis which progressed to whitish-tan spots.

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