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Occurrence and correction of chlorosis in young petunia plants

F. Šrámek, M. Dubský

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: A glasshouse pot experiment tested the effects of 14 different combinations of substrate type, pH and nutrient treatments on the occurrence and severity of leaf chlorosis in a susceptible variety of petunia. Plants grown at optimal pH level (4.7) in peat substrate with low limestone dose were symptom-free even without added micronutrients. Severe chlorosis occurred in plants grown at high pH in peat substrate with high limestone (pH 6.7) and in peat-bark-compost (pH 6.2); it was associated with decreased Fe and Mn content in leaves. Regular application of nutrient solution with low concentration of Fe, Mn, and other micronutrients as EDTA chelates greatly reduced chlorosis in plants grown in peat-bark substrate and in peat-bark-compost, and it improved Fe uptake. An exception was peat substrate at high pH level and high limestone where chlorosis was only partially reduced by this treatment. Regular application of Fe, Mn, and other micronutrients as sulphates or citrates had no substantial effect; only application of three additional substrate drenches of 30 mg/l Mn from Mn-EDTA and 90 mg/l Fe from either Fe-EDTA or Fe-EDDHA substantially corrected chlorosis and increased foliar Fe and Mn in cases where plants were grown in high limestone peat substrate.

Keywords:

Petunia × atkinsiana, chlorosis; iron; manganese; iron chelates; Fe-EDTA; Fe-DTPA; Fe-EDDHA; Mn-EDTA

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