ROOTSTOCKS

macro- and micro-nutrients

Orange Leaves

trees on sweet orange rootstock than in the leaves from trees on the trifoliate rootstocks. Although the concentrations of chloride and boron in the leaves of trees on trifoliate rootstocks were substantially higher than those found in the leaves from trees on sweet orange rootstock, the levels were still not in the high or toxic ranges for citrus production. High range of chloride is from 0.4 to 0.6%, and is toxic when greater than 0.7% on a dry weight basis in citrus leaves. High range of boron is from 101 to 260 ppm, and is toxic when boron concentration exceeds 260 ppm on a dry weight basis in citrus leaves.

The copper concentration in the leaves from trees on sweet orange and Rubidoux trifoliate (C) was significantly higher than in leaves from trees on English small trifoliate rootstock. Leaves from trees on Rubidoux trifoliate (C) rootstock had a lower iron concentration than did leaves from trees on English small trifoliate and Benecke trifoliate rootstocks, but not different from that found in the leaves from trees on the other rootstocks. Effects of rootstocks on leaf phosphorus, magnesium, sodium, zinc, and manganese in this experiment were not statistically different.

Interstock effects

The five trifoliate interstocks had no significant influence on leaf nitrogen, phosphorus, potassium, calcium magnesium, sodium, chloride, manganese, copper, boron, and iron concentrations when compared with sweet orange rootstock with no interstock. Leaves from trees on sweet orange rootstock with no interstock contained a significantly higher zinc concentration (93 ppm) than the leaves from trees containing Rubidoux trifoliate (A) and (C) interstocks 47 and 51 ppm, respectively. The other trifoliate interstocks tended to reduce the concentration of zinc in the scion leaves as compared with leaves from trees grown without an interstock.

Concentrations

The concentrations of zinc and manganese in the leaves of all trees studied were higher than normally found in zinc and manganese un sprayed leaves from citrus trees grown on the South Coast Field Station soil. These concentrations were more in line with the values found in zinc and manganese sprayed leaves.

The data obtained from this experiment clearly demonstrate that rootstocks have a strong influence on nutrient concentrations in scion leaves. The concentrations of chloride in leaves from Valencia trees on several trifoliate orange rootstocks were 56% higher than in leaves from trees grown on sweet orange rootstock. The corresponding figure for boron was 43%. On the other hand, the concentrations of nutrient in leaves from trees grown on sweet orange rootstock were not affected by Rubidoux trifoliate (C), Rubidoux trifoliate (A), English small trifoliate, Benecke trifoliate, and Jacobson trifoliate interstocks.

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