



A continuing program of research in many aspects of agriculture is carried on at University campuses, field stations, leased areas, and many temporary plots loaned by cooperating landowners throughout the state. Listed below are some of the projects currently under way, but on which no formal progress reports can yet be made.

ROOTSTOCKS

macro- and micro-nutrients

Orange Leaves

trees on sweet orange rootstock than in the leaves from trees on the trifoliolate rootstocks. Although the concentrations of chloride and boron in the leaves of trees on trifoliolate 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 trifoliolate (C) was significantly higher than in leaves from trees on English small trifoliolate rootstock. Leaves from trees on Rubidoux trifoliolate (C) rootstock had a lower iron concentration than did leaves from trees on English small trifoliolate and Benecke trifoliolate 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 trifoliolate 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 trifoliolate (A) and (C) interstocks 47 and 51 ppm, respectively. The other trifoliolate 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 unsprayed 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 trifoliolate 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 trifoliolate (C), Rubidoux trifoliolate (A), English small trifoliolate, Benecke trifoliolate, and Jacobsen trifoliolate interstocks.

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INSECTIVOROUS BIRDS FOR FOREST INSECT CONTROL

BIOLOGICAL CONTROL specialists at Berkeley are investigating parasites and predators for control of insects that cause great economic damage to forest resources. The research includes study of the feeding and nesting habits of insectivorous birds, and analysis of potential methods for increasing population densities of several beneficial species.

EGGS HELP ENVIRONMENTAL RESEARCH

EGG YOLK DEPOSITION rates may be significant in determining the exposure of birds to environmental hazards, such as pesticides, toxic metals, and oil-soluble pollutants. A recently developed staining technique yields yolk rings which scientists at U.C. Davis will study, to determine the recent history of the female bird's environment during the period of yolk formation. Eggs of representative wild birds will be studied in cooperation with state and federal agencies.

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