

## NUTRITION

### Zinc Deficiency Correction: D. Chaney, K. Uriu, D. E. Ramos

Foliar sprays of either 1 lb of zinc sulfate or 2 lbs of zinc EDTA per 100 gals of water were effective in correcting zinc deficiency when applied early in the spring. Two to 3 postbloom sprays applied at 2 to 3-week intervals were suggested. Fall and dormant spray applications have not provided correction.

Soil broadcast applications of zinc EDTA at 2 lbs per tree in the winter provided good correction on mature walnuts in sandy loam soil in the Stanislaus County area. One lb zinc EDTA per tree was considerably less effective; whereas 4 lbs per tree was no better than the 2-lb rate. A solution of zinc sulfate (3/4 lb per gal of water) probed into the soil with a spray rig at a rate of 15 lbs per tree gave a correction comparable to the 2-lb zinc EDTA treatment.

### Walnut Leaf Curl ("mesophyll collapse"): G. S. Sibbett

During the 1971 season, Marchetti walnut trees exhibiting spring symptoms of walnut leaf curl, commonly referred to as mesophyll collapse or leaf necrosis, in an orchard of healthy trees were included in a replicated trial designed to compare zinc status of affected trees with those that were healthy. Foliar treatments of Zinc Rayplex<sup>R</sup> at 15 lbs per 100 gals of water applied as symptoms occurred in late April failed to control the condition. Leaf samples showed little difference in zinc status between affected and nonaffected trees and soil samples taken at individual tree sites showed no difference in nutrient or salinity content. Substantial difference in parasitic nematode population existed in these samples. Trees showing symptoms of the condition harbored large populations of root lesion nematode while those trees with no symptoms had no parasitic nematodes. Soil applications of zinc chelate have been made and nematodes have been treated to compare these treatments with controls in the 1972 growing season.