

# EFFECT OF VARIOUS PESTICIDES ON LETTUCE PHYSIOLOGY AND YIELD

N. C. Toscano

Cooperative Extension, University of California-Riverside, CA 97521

The effects of various insecticides on lettuce physiology and productivity were investigated in the field. Measurements of plant photosynthesis and stomatal conductance rates were taken with a dual-isotope porometer. Methyl parathion and permethrin had the greatest significant effects on photosynthesis and stomatal conductance rates. Lettuce plants receiving weekly treatments of methyl parathion produced smaller lettuce heads as compared with those treated with other insecticides and untreated check plants. Results indicate that the use of the dual-isotope porometer has great potential in monitoring subtle changes in plant photosynthesis and stomatal conductance rates caused by pesticides. The potential development of "pesticide thresholds" which would indicate the maximum safe number of pesticide applications permissible on designated crops was suggested.