

finally bring the walnut aphid to low levels by the last of July.

Walnut Aphids and *Trioxys pallidus*: C. S. Davis, G. S. Sibbett, M. M. Barnes,  
R. B. Jeter

The Iranian biotype of *Trioxys pallidus*, introduced by R. van den Bosch, effectively suppressed walnut aphid populations in almost all walnut orchards of the Central Valley of California in 1971. Second brood treatment for codling moth with phosalone and chlorphenamidine were preferable to azinphosmethyl with respect to subsequent interference with parasite activity, in studies conducted in collaboration with van den Bosch. UniRoyal K-840 was effective against walnut aphid and offers promise of highly selective action. Effects of walnut aphid on production and quality were continued for a third year, excluding the parasite with methoxychlor, and showed a 24% reduction (P..001) in yield on trees infested with aphids during spring. Prevention of honeydew induced and direct heat damage by white-washing was studied by excluding and maintaining aphids on white-washed trees.

Insecticides applied for second brood codling moth control on walnuts in an orchard in the Sacramento Valley and for first and second brood in another orchard in the San Joaquin Valley were also tested for their effect on the walnut aphid parasite, *Trioxys pallidus*. Parasitism of the walnut aphid was determined by dissecting the walnut aphid and looking for parasite larvae. Ninety-seven days after second brood application in the Sacramento Valley, parasitism in the following chemical treatments was as follows: Check 62%, Zolone 54%, Phosphamidon 52%, Fundal 37%, Imidan 10%, Guthion 2%. One-hundred-eleven days after second brood application in the San Joaquin Valley parasitism in the following chemical treatments was as follows: Check 45%, Fundal 24%, Zolone 12%, Guthion .5%. One-hundred-seventy-five days following first brood application in the San Joaquin Valley parasitism in the following chemical treatments was as follows: Check 45%, Fundal 56%, Guthion 52%.

Influence of Walnut Aphid on Sunburn: G. S. Sibbett, C. S. Davis, M. M. Barnes

Walnut aphids were allowed to build up on Payne walnut trees "whitewashed" (60 lbs Sungard<sup>R</sup>, 2 lbs Sungard<sup>R</sup> spreader, and 2 oz du Pont spreader/sticker) and those unwhitewashed in a replicated trial. When aphids were controlled and trees white-washed, significant increases in total edible kernel and networth per inshell lb occurred. Significant differences in nut size and several kernel quality criteria occurred when aphids were controlled regardless of whitewash treatment. No significant differences in networth per inshell lb were found between other treatments.