

Section VIII  
Mites & Sap-sucking Insects

SPIDER MITE CONTROL ON RED RASPBERRIES

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**Laboratory trials.** An emulsifiable soybean oil (Natur'l Oil) and molasses (kind used in cattle feed) were tested against twospotted spider mites, *Tetranychus urticae*, in the laboratory. Lima bean seedlings in the primary leaf stage were sprayed to the point where the leaves were uniformly wet. Five adult female mites were placed on each leaf 0.5, 24, or 48 hr. after infestation. The motile forms were counted 1 week after infestation.

All rates of oil significantly reduced mite numbers, even when infestation did not occur for 48 hr. after treatment (Table 1). The two highest rates of molasses, 12.5 and 25% reduced mite numbers >90%, even when infestation did not occur for 48 hr. after treatment (Table 2). At 6.25%, mite numbers were reduced when leaves were infested 0.5 or 24 hr. after treatment. The 3.12%-rate did not affect mite numbers.

**Field trials.** Abamectin, AC 303,630, molasses, Natur'l Oil and Vendex were tested against twospotted spider mite in a red raspberry field at Puyallup, WA. It was not possible to replicate treatments, so plots were single rows 400 ft. long and each treated row was paired with adjacent untreated row. Sprays were applied with a hooded over-the-row boom in 285 gal. of spray per acre at 200 psi. One week after treatment, 30 leaflets were picked from each plot and all motile forms of mites counted. Vendex, 2% Natur'l Oil, and AC 303,630 gave 75-84% reduction in mite numbers within that week (Table 3). All other treatments gave some reduction. There was a large number of the coccinellid mite predator, *Stethorus punctum picipes*, in the field and none of the treatments reduced their population.

The same materials were tested at different rates on red raspberries at Vancouver, WA. Plots were single rows 30 ft. long and treatments were replicated four times in a randomized complete block design. Sprays were applied as described previously for the Puyallup trials. Both rates of AC 303,630, 25% molasses, and Vendex significantly reduced the mite population within 1 week (Table 4). Two weeks after treatment, mite numbers were relatively the same to each other but overall had declined sharply in all treatments, probably due to the presence of large numbers of the Asian ladybeetle, *Harmonia axyridis*.

(1982). The morphological differences are subtle, requiring measurements and calculations; however, the two subspecies are biologically distinct. *Metopolophium festucae sensu stricto* has been known from North America for a long time and colonizes only grasses. Stroyan (1982) says it is "rarely and probably only transiently on cereals." On the other hand, *M. festucae cerealium* is a cereal pest. Again, according to Stroyan (1982), it is found "on various grasses, and rather common on cereals, especially winter-sown oats and barley, where severe damage may be caused." Damage is most serious on oat and barley in the spring, and lesser damage occurs on wheat.

It is not known whether *M. festucae cerealium* will cause much damage to cereal crops in the Pacific Northwest. The difficulty in separating it morphologically from other *Metopolophium* spp. poses additional problems.

#### ***Myzus ascalonicus* Doncaster**

A suction trap collection of a shallot aphid (*Myzus ascalonicus*) in Lewiston confirmed its establishment in north Idaho. The shallot aphid is a close relative of the green peach aphid and is a moderately important vector of potato leafroll virus in Europe. It is most commonly reported on stored root crops, particularly onions. We would like to see samples of any aphids found colonizing stored root crops in order to establish the distribution of the shallot aphid in the Pacific Northwest.

#### ***Eucarazzia elegans* (Ferrari)**

One *Eucarazzia elegans* was collected in the Klamath Falls suction trap in September. This species, which has no common name, was first detected in the USA in 1984 by Dr. Manya Stoetzel (Systematic Entomology Laboratory, USDA-ARS) and has become established in southern California. According to Dr. Stoetzel, *E. elegans* infests only mint and related plants and is not likely to become a serious pest.