Pome Fruits—Biological Control

Coexistence of *Zetzellia mali* (Acari: Stigmaeidae) and Phytoseiid Mites in Biological Control Systems for Apple Pest Mites

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Keywords: *Zetzellia mali, Typhlodromus pyri*, spider mite, apple rust mite, apple

Zetzellia mali, an egg predator, is the most important non-phytoseiid acarine predator of phytophagous mites. It has been suggested, however, that its presence could dilute the biological control effort of phytoseiids if the two groups are present at low prey levels and therefore it should be suppressed at these times.

Field data do indicate that *Z. mali* does have a negative impact on phytoseiid populations but that this impact is greater on some species of phytoseiids than others. In an apple system connating two phytoseiids, *Typhlodromus pyri* was less heavily affected by the presence of *Z. mali* at low prey densities than was *M. occidentalis. M. occidentalis* was, in fact, eventually displaced by *Z. mali* while the combination of *T. pyri* and *Z. mali* continued to provide satisfactory biological control of spider and apple rust mites.

Laboratory trials indicate that the differential impact of *Z. mali* on the two phytoseiid species may be due to a difference in the oviposition locations of the phytoseiids and the foraging strategy of the stigmaeid. The use of *Z. mali* in biological control systems with phytoseiids at low prey densities may, therefore, be possible with appropriate management.