

I. Pome Fruits  
a. Biological control  
1. Phytoseiids on apple

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Comparative Emigration, Immigration, and Colonization of Young Apple Trees by Typhlodromus pyri and Metaseiulus occidentalis in Hood River, Oregon.

Two species of predatory mites (Acarina:Phytoseiidae) which co-occur in the Hood River Valley are effective natural enemies in the biological control of pest mites in apple orchards. These species, Typhlodromus pyri and Metaseiulus occidentalis, have markedly different natural history characteristics which complement each other in a program of integrated pest management. In order to determine how to reach and maintain a mixed population in an orchard, a better understanding of their emigration, immigration, and colonization traits must be reached.

To study these traits, mini-orchards of young, potted apple trees were established at three different distances (0 m., 10 m., and 100 m.) from four species pool orchards. Weekly leaf samples were taken from the mini-orchard and source orchard trees, and all predator and prey (pest) mites counted and identified. From the data collected over the season, it can be seen that M. occidentalis is able to immigrate over longer distances than T. pyri. Furthermore, because of its higher rate of reproduction, M. occidentalis colonizes the mini-orchards faster than T. pyri. Another season of study is necessary to gain greater insight into the situation.

O = Dry adapted in Wenatchee - responds to overbreaks

P = Wet Adapted, in WV

provides control @ low densities

Born - Hood River