

Arthropod Management Update

European Red Mites - 'Rotate' your Miticides

As was advocated last year, it is important again to 'rotate' your miticides in order to manage the development of resistance. If you used either Apollo or Savey last year, you should not use either of them this year or if you had instead used Agri-Mek, you should switch to Apollo or Savey or possibly just a pre-bloom application of oil. The best situation would be for European Red Mites (ERM) to remain under threshold levels - which is a real possibility if the predacious mite *T.pyri* is present.

Update on *T.pyri* Establishment in Vermont - 1998

Over the past three years, we have been participating in a collaborative, New England-wide project led by Dr. Jan Nyrop from Cornell University to introduce the predacious mite, *Typhlodromus pyri*, as a biological control agent for ERM. Three sites in Vermont were involved in this project: Larrabee Point Orchard in Shoreham, Allenholm Farms in So. Hero, and the UVM Hort. Res. Center in South Burlington. At each site, *T.pyri* were released in designated trees. Also, in each orchard 'control' trees located away from the release trees were flagged and were monitored each growing season. The results of the project have been presented at the Vermont Tree Fruit Growers Association Meetings in 1998 and 1999.

The good news is that not only did *T.pyri* become established in the release trees in each orchard, but it was also found naturally occurring in other trees in the orchard as well. One of the stipulations of participating in the project was that pesticides known to be harmful to the predacious mite would not be used. It appears that this has allowed not only the released predators to survive but also has allowed naturally occurring populations to increase in number.

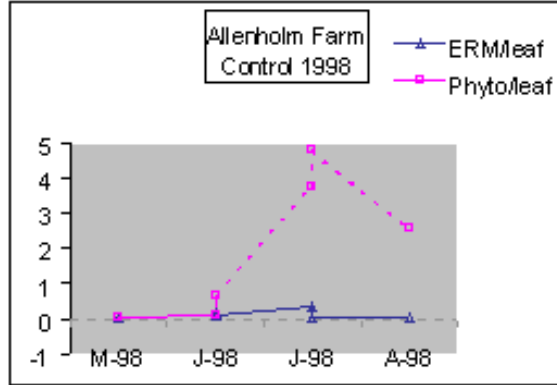
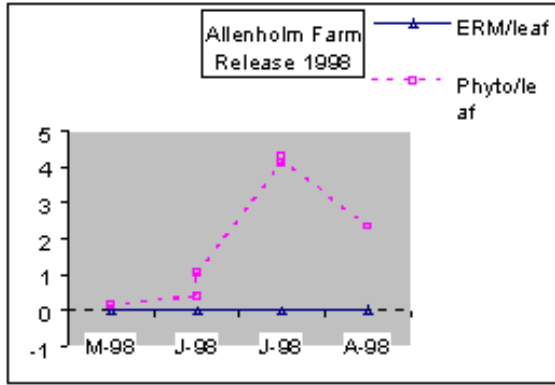
The following graphs summarize the data collected in 1998 on the # of ERM/leaf and the # of predacious mites/leaf (i.e., Phyto/leaf) during May, June, July and August in each orchard. In each of the orchards, ERM did not reach threshold levels on the monitored trees and, in most cases, *T.pyri* outnumbered ERMs.

What can you do in your orchard to encourage naturally occurring populations of *T.pyri*?

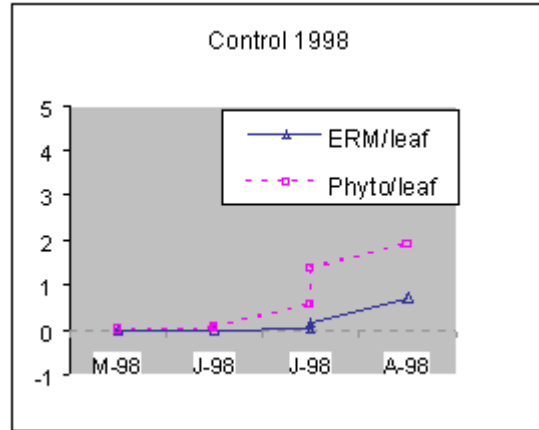
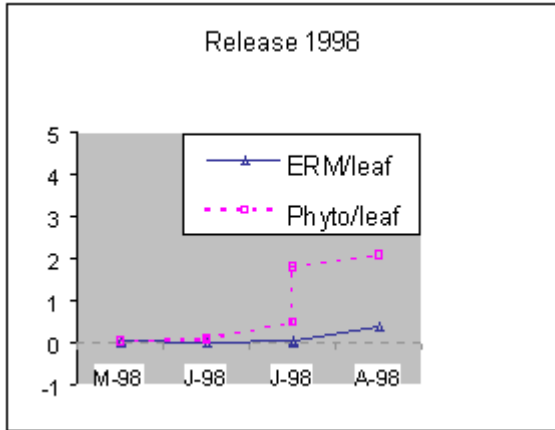
The first step is to not use materials that are toxic to *T.pyri* such as: pyrethroids, dimethoate, Carzol, Lannate, and Vydate. Mancozeb or Polyram should be limited to pre-bloom applications. Also, if possible, avoid using Lorsban, Agri-mek, and Kelthane. If this is not possible on your whole orchard, perhaps you can establish a 'nursery' block where you could avoid these materials and try to encourage *T.pyri* populations. Dr. Nyrop is investigating ways to distribute *T.pyri* from orchard to orchard or block to block - I will have more on this in a future newsletter.

Biological control of ERM by *T.pyri* is an exciting prospect for Vermont! Try to encourage the development of *T.pyri* populations in your orchard!

Allenholm Farm Orchard- South Hero, VT



Larrabee Point Orchard- Shoreham, VT



UVM Horticulture Research Center- South Burlington, VT

