

predator, whereas with the predator they did not go above 20 mites per leaflet. From this we can conclude that Phytoseiulus can hold populations down below damaging levels during much of the year, but on highly susceptible varieties a certain amount of damage would have to be tolerated.


From the work of the past year it has become increasingly clear that the severity of attack by the two-spotted mite diminishes greatly during the summer and early fall. In June it was possible to increase two-spotted mite populations on the more susceptible variety by applying insecticides that were known to be harmful to the predator, but on the less susceptible variety populations of the two-spotted mite did not increase even when the predators were practically eliminated. Later in the summer neither variety seemed to support high populations of the two-spotted mite even when insecticides were applied to remove the predators. This substantiates, as we have said in the past, that the two-spotted mite is less of a pest on strawberries during the summer, but it will take more time to determine exactly why this is the case.

Another thing that has become evident is that after Phytoseiulus reduces populations of the two-spotted mite during the spring and summer there is a strong tendency for it to be replaced by the native predator Typhlodromus. Apparently with low levels of the two-spotted mite, Typhlodromus can survive better than Phytoseiulus. How complete this replacement is, and what effect it will have during the ensuing year still has to be determined.

Although Phytoseiulus populations sometimes reach as high as two or three predators per leaflet, this condition usually exists for a relatively short time after high two-spotted mite populations have been controlled, and through much of the year predator populations are very low. This indicates that it would be difficult to harvest large number of predators in a strawberry field, and suggests that artificial rearing of the predator may be essential for extensive liberation in new fields.

Although considerable information has been gained concerning the use of Phytoseiulus, it must be recognized that this is a long term approach to the control of the two-spotted mite. To be really practical it will be necessary to find ways of obtaining large numbers of predators, applications of insecticides will have to be reduced to a minimum for other pests by only treating when necessary, and the pesticides used will have to be those least detrimental to the predators. No matter what finally solves the two-spotted mite problem, these studies should contribute to more soundly based control measures for the various pests on strawberries.

Sincerely yours,


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