

Biology/Phenology

Does Orchard Floor Management Affect Thrips Management?

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Abstract: This is a report of the 2nd year of a multiple-year experiment investigating the effect of orchard floor management (herbicides in the drive row vs. high dandelion populations) on thrips densities and damage to apple fruit. Two treatments (herbicide or weedy) were established at four sites in 2003. Dandelion density, thrips populations in dandelion and apple, and fruit damage were measured periodically. Most blocks had differential dandelion densities between the two treatments during the first season, and all were different by the second season. Although there have been no consistent treatment differences in thrips densities in the apple flowers, fruit damage was reduced in two of the four sites in the herbicide-treated plots relative to the weedy plots. In a separate experiment (2nd year), we sampled thrips densities in apple flowers at intervals along 300 ft transects from the orchard border (next to native vegetation) into the orchard interior. The native vegetation (sagebrush-steppe) contains several known hosts of western flower thrips and is a presumed source of thrips migrating into apple orchards. Samples were taken from 7-8 commercial orchards with a history of thrips damage. Thrips densities declined the farther the samples were taken in the orchard interior, with the highest populations occurring next to the border. This suggests that the native habitat is an important contributing source of thrips that attack apple.