

## Apple Leaf Curling Midge

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The apple leaf curling midge (or apple leaf midge), *Dasineura mali*, is an introduced pest of apples. The midge is of European origin, first reaching eastern Canada and northeastern United States in the 1960s prior to its arrival here in western Washington. The midge was discovered in northern Whatcom County in July of 1994 and has since spread into much of western Washington.

### Biology and Damage

The apple leaf curling midge, *Dasineura mali*, is a small fly. The adult female deposits her eggs in the leaf folds of immature apple leaves. After hatching, the tiny pinkish orange larvae begin feeding causing the margins of the apple leaves to become tightly curled. Infested leaves eventually roll into distorted tubes and may discolor becoming red to brown and then brittle, before they finally drop from the tree. Terminal shoots are stunted as a result of this leaf damage. Some of the larvae pupate in the damaged or rolled leaves, while others drop to the ground to pupate and overwinter, emerging as adults the following spring. The midge can complete two or three generations per year. Even when midge populations are high, however, evidence indicates that this pest does not significantly impact fruit production. A sibling species, *Dasineura pyri*, does similar damage to pears.



Apple leaf curling midge symptoms

### Management

Even though this pest is unlikely to cause serious economic impacts to fruit production, monitoring for the presence of the pest and any associated tree decline is recommended- particularly given that certain apple varieties may show greater susceptibility to the pest than other varieties. In its native habitat of Europe, egg and larval parasites help suppress populations of this pest but little is known about biological control of this pest in North America. Generalist predators, such as predatory mites and pirate bugs, may feed on the midge. No insecticides are specifically registered for this pest and contact insecticides would be largely ineffective give the leaf curl condition. If the apple leaf curling midge population becomes problematic, removal of infested plant tissue is probably the most effective management strategy.