



Adult Apple Maggot Fly
Wiki Commons



Apple Maggot Damage



Apple Maggot tunnels in ripe fruit

The Apple Maggot is the most destructive pest of apples grown in home gardens in Wisconsin. Also known as the railroad worm, this insect is a type of fly. Commercial growers are usually successful in managing apple maggots, but the general public faces a more difficult task when attempting to protect only one or a few trees. Successful management depends on the number of apple maggots in your area each year, the extent of unmanaged apple trees around your yard, and the thoroughness of your management program.

Life Cycle. Apple maggots spend the winter in the ground as non-feeding pupae. They begin to emerge from the soil as small (1/4" long) flies starting in July. You can identify an apple maggot fly from the characteristic black and white banding pattern on its wings and a conspicuous white spot on the body. These flies do not all appear at the same time, but emerge at different times from early July until September. Peak emergence usually occurs from late July through early August. They can be found on apple tree foliage, fruit, or bark as well as nearby trees, shrubs, and weeds.

About 7 - 10 days after emergence, adult females start to lay eggs. They possess a sharp ovipositor (egg laying apparatus) that pierces the skin of the apple and allows eggs to be inserted into the apple flesh. One egg is laid per site, although more than one egg is often laid in a single apple. In about 5 - 10 days, eggs hatch into cream colored legless maggots that feed and tunnel in the flesh of the fruit, leaving brown 'tracks' or trails.

Damage. Apple maggots cause two types of injury. The first injury is caused by oviposition that damages the area around the site where the eggs are laid. The flesh stops growing, resulting in a sunken, misshapen, dimpled area. The second injury, which is the more severe of the two, occurs as the maggots tunnel through the flesh. As a result, the pulp breaks down, discolors, and starts to rot.

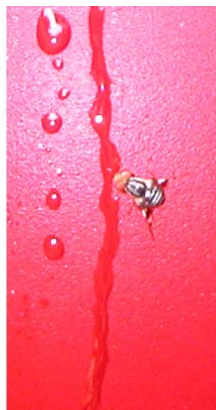
Management

Sanitation. Sanitation is important in reducing apple maggot numbers. Pick up and dispose of apples properly within a few days after they have fallen to the ground. This reduces the number of overwintering pupae on your property. Bury the apples in the ground at least one foot deep. You can also use these apples for cooking or cider. Cooperation among neighbors increases the effectiveness of sanitation – management efforts will be disappointing if there are unmanaged apple trees nearby producing a significant apple maggot population.

Trapping. Although results may not be as good as insecticide sprays, you can manage adult apple maggots by capturing them with sticky red sphere traps. These traps are readily available from gardening stores or gardening catalogs. You can also make your own traps. Use a plastic or wooden ball about 3" in diameter (a little bigger than a real apple) and colored red or black. Attach a wire to the traps (e.g., using an eye screw). Coat the traps with a sticky substance such as Tangle Trap. You can purchase a feeding attractant to increase the number of apples maggots that go to the traps (if you buy a kit, many include the lure with it).



Apple sticky trap with Apple Maggot Fly
USDA



Trapping (continued)... Hang 1 trap for approximately every 100 apples in your tree. That's about 5 traps for an average standard tree. Traps should be hung by July 1. When an insect lands on the sticky sphere, it becomes trapped and dies. Check traps periodically. Traps become ineffective when they are covered with insects and/or debris. Clean off the spheres and reapply the glue as needed. Removing the glue can be challenging; try vegetable oil for the best results.

Bagging. Apple maggot flies can be prevented from laying eggs in apples by placing a plastic bag or nylon footie over each apple. Many types of plastic bags will work. Place the bag over the apple before the apple maggots emerge, no later than July 1. Tie or staple the bag loosely around the stem. Cut off the bottom corners of the bag to allow moisture to drain out.

For more information on bagging, please see the document "Fruit Bagging"



Apples grown using two different types of bagging