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Garden Plants Wilting

Several plants, pictures and questions have come into the office related to aphids and spider mites. What are these pests and what damage should you expect from them?

Aphids are a soft bodied insect that produces a new generation every 10 days. This insect can be brown, red, white, clear, yellow or green. They feed by piercing the leaf surface and sucking out plant juices. This causes the plant to wilt a small bit and the leaves will curl. Leaves will also begin to turn yellow as the location of each bite turns yellow. A tomato plant may go from having strong, healthy, green leaves to having leaves that curl, possibly from the top down, almost overnight.

Aphids hide on the bottom of leaves and at the stem joints. A plant can be completely overrun with aphids and the insects can still be visually out of sight. Because there are multiple generations alive at one time there will be many different sizes. Lady bugs can be an indication that aphids are present as the ladybug population will increase in number if there is a good food supply available.

Spider mites reveal themselves most often through little yellow spots on the surface of the leaf where they have pierced the leaf and removed plant juices. They start to appear in the heat of summer after the rains dissipate. This yellow stippling on the leaves is usually followed by leaf drop. Very fine webbing can sometimes be seen if the population is high. Spider mites often go unseen on the plant due to their very small size.

With both insects, if you shake the plant over a white piece of paper, you will quickly notice some aphids or tiny dots. When the dots begin to move you will know you have a spider mite population present.

High levels of feeding by both insects will produce a sticky, clear sap on the leaf. This sap and resulting sooty mold can attract ants. Although they are usually harmless to the plant,

ants can be an indicator of a pest population. As the infestation progresses you may notice white casts (insect skins) stuck to the leaf.

Once you find these pests there are several ways to control them. The first step is to review the population to decide if your plant is in real trouble. When the weather provides plenty of rain or when plants are well watered, the effects from aphid and spider mite are less noticeable. The plant is resupplied with water and is less prone to wilting. Once the rain stops and plants are stressed from lack of water, wilting will occur.

Aphids create a new generation every 7 – 10 days and spider mites every 10 days. Because of this rapid reproduction a population is hard to control with chemicals. Natural enemies feeding on these pests can help lower a population over a short time period. Work to encourage predators in the yard so they will be available to feast on pests. Ladybugs, lacewings and syrphid flies all feast on aphid pests helping to keep the population down. Grow plants that attract predators or repel aphids. Queen Ann's lace, yarrow and tansy are plants that attract ladybugs. Coriander, catmint and onion help to repel aphids.

Parasitic wasps can also play a role in control by laying eggs inside the aphid that hatch and consume the body. Predatory mites will help to control spider mites. If these natural enemies are controlling the pest population then don't spray any chemical applications as this will kill the beneficial insects as well. Make sure the plants are well cared for and provided with water when needed. Plants in good health are better able to fend off pest attacks. You may want to sacrifice a stem that has a high pest population to help balance out the beneficial insects and pest populations.

Pests can be knocked from the plant by using a water hose and a spray of pressured water. This can be repeated as often as you like focusing on the underside of leaves in order to catch the hiding pests.

Sometimes populations are out of control before you notice them. In this case a good insect killer or miticide may be necessary. Some active ingredients to look for on the label include carbaryl, permethrin and acephate. Both aphids and spider mites have an uncanny way of hiding to avoid control. You may have to spray them every 7 to 10 days for a couple of weeks to control the infestation. In this case you should rotate with a spray of horticulture

soap or oil (works great on fruit) to prevent any resistance. Make sure to spray the underside of the leaf, the upper side of the leaf, the stems and any spaces on the plant where insects can hide. Always read the label before applying chemicals to ensure proper application and control without harming the host plant. If you notice natural enemies present, move them to another part of the garden for safety so they can help again later.

Helpful Publication: Barrett, Bruce A. Aphids, Scales and Spider Mites on Home Gardens and Landscape Plants. University of Missouri Extension Publication G7274; University of Missouri; March 2004.

The Extension office is open Monday - Friday, located in Kennett, Missouri at 233 North Main Street. For horticulture questions contact the horticulture specialist at 573-686-8064. MU is an equal opportunity/ADA institution.