

Aster Yellows Disease Affects Many Plants

By: Kelly Feehan, Extension Educator

Release: Week of July 22, 2024

The disease aster yellows is infecting purple cone flower and other plants. It is wise to be able to recognize symptoms of this disease. There is no control and the sooner infected plants are removed, the less likely the disease will spread to other plants and carryover from year to year.

On purple coneflower, typical symptoms are deformed flowers and stunted plants. Flower heads are often tufted instead of flat and petals are green. Leaves may appear to be growing out of the flower.

Other symptoms on a variety of plants include pale colored veins, yellowing of new leaves, and abnormally bushy growth. Taproots, especially carrots, may be excessively hairy. Once a plant is infected, it will never recover.

Aster yellows is caused by a tiny organism called a phytoplasma. It does not spread on its own. It is carried from plant to plant by leafhoppers who feed on infected plants. The phytoplasma can only live inside a plants vascular system or inside aster leafhoppers.

Aster leafhoppers are brown, yellow or green and wedge-shaped but difficult to distinguish from other leafhoppers. They are tiny, quick moving insects that hop.

About two weeks after a leafhopper picks up the phytoplasma, the microorganism moves through the insect's gut and into the salivary glands from where it infects plants when leafhoppers feed. The phytoplasma continues to multiply inside a leafhopper and the insect can transmit the disease throughout its life span of 100 days or longer.

Symptoms of aster yellows are more pronounced in hot weather. In cool weather, a plant can be infected without showing symptoms. The disease is rarer in areas where temperatures remain above 90 degrees F. for extended periods.

Aster yellows can infect over 300 types of plants including flowers, vegetables and weeds. If you suspect aster yellows, it pays to promptly remove and destroy infected plants. While gardeners watch for it on purple coneflower, if deformed growth is noticed on other plants, consider removing and destroying them.

Removing weeds in lawns, gardens and surrounding areas is helpful. Many weeds act as a host for the microorganism and if weeds are not managed, the disease will continue to spread to garden plants.

Because aster yellows will not survive in dead plant tissue, there are a couple of disposal options for infected plants. Bury it in your home compost pile or in the ground. Make sure it is completely covered so insects cannot feed on the infected plant materials before the phytoplasma dies. Where legal, burn infected plants. Check fire restrictions in your area prior to burning.

Another way to avoid aster yellows is to select less susceptible plants. Some examples of resistant annual flowers are verbena, salvia, nicotiana, geranium, cockscomb and impatiens.

Since there are not extensive or conclusive lists of resistant plants, here is a list of plants known to be damaged by aster yellows. Along with purple coneflower, flowers are aster, canna, chrysanthemum, gladiolus, marigold, phlox, veronica and zinnia.

Vegetables often infected by aster yellows include broccoli, cabbage, cauliflower, carrots, dill, lettuce, onion, garlic, spinach, squash and tomatoes.