

Problem: Aster Yellows



Host Plants: Aster yellows has a huge host range. Though more than 200 dicot plants may be affected, a coneflower (*Echinacea*) infection is very common.

Description: Aster yellows is caused by an organism called a phytoplasma. The disease is common on weeds such as goldenrod and beggar-ticks (*Bidens sp.*). It is also damaging perennial flowers such as coneflower, black-eyed Susan, marigold, perennial statice, gladiolus and many others. It has the potential to infect vegetable crops as well.

Symptoms of aster yellows may be variable depending on host plant, strain of the phytoplasma, etc. Initial symptoms may include vein clearing or yellowing progressing to an overall yellowing of the leaf. Infection early in the season will cause stunting, shortened internodes, and dwarfed, deformed or lopsided flower heads. The most diagnostic feature is adventitious shoot proliferation, which appears as a mass of leaves with a bushy or witch's broom effect. This may also occur in place of normal flower production. Because the phytoplasma is a systemic pathogen, plants will remain infected. Sensitive plants may be killed by the organism.

Aster yellows is transmitted from plant to plant primarily by the aster leafhopper. We think that most plant infection in a given year is caused by the migration and feeding of infected leafhoppers from south and southeast of Kansas in early spring. The disease tends to be sporadic depending on the yearly flights of these leafhoppers. Although native leafhoppers appear to be less important in the transmission of the phytoplasma, some late-season spread of the organism from diseased to healthy plants may occur in this manner.

Recommendations: Control of aster yellows is difficult. By the time symptoms appear, it is too late. Any infected plants in the garden should be removed. Application of granular insecticides at planting or regular foliar treatments when leafhoppers are present will help reduce the severity of this disease, but this isn't practical except in a commercial cut flower operation. See the "Aster Yellows" publications below for more specific recommendations.

References:

1. [Aster Yellows](#), Horticulture & Home Pest News, IC-495(22) – Reviewed, January 2022; Iowa State University
2. [Aster Yellows](#), Colorado State University, PlantTalk Colorado 1452

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