

## Aster Yellows

Brian Hudelson, UW-Madison Plant Pathology

**What is aster yellows?** Aster yellows is a chronic, systemic disease that affects over 300 species in at least 38 families of broad-leaf, herbaceous plants. Members of the aster family (Asteraceae), such as asters, marigolds, *Coreopsis* and purple coneflower are commonly affected by this disease. Vegetable crops such as carrots and potatoes are also susceptible. Aster yellows occurs throughout North America.

**What does aster yellows look like?** Symptoms of aster yellows are often mistaken for damage due to herbicide exposure. Infected plants are typically stunted and twisted, with foliage that is yellow or red. Infected plants are often sterile. Floral parts that are normally brightly colored may be green, and petals and sepals may become puckered and distorted. In purple coneflower, secondary flower heads (often in a cluster) may emerge from the primary flower head. In marigolds, flowers are often leafy and a muddy green-orange color. Infected carrots have red leaves and form taproots with tufts of small, white "hairy" roots. Roots from these plants often have a bitter taste.



**Coneflowers with aster yellows (right) often have deformed, discolored flowers.**

Floral parts that are normally brightly colored may be green, and petals and sepals may become puckered and distorted. In purple coneflower, secondary flower heads (often in a cluster) may emerge from the primary flower head. In marigolds, flowers are often leafy and a muddy green-orange color. Infected carrots have red leaves and form taproots with tufts of small, white "hairy" roots. Roots from these plants often have a bitter taste.

### **Where does aster yellows come from?**

Aster yellows is caused by the aster yellows phytoplasma, a bacterium-like organism that lives in the food-conducting tissue (phloem) of plants. Aster yellows is rarely lethal. Thus, infected perennials can serve as source of the aster yellows phytoplasma for many years. The aster leafhopper (*Macrostelus fascifrons*), a common insect, moves the aster yellows phytoplasma from plant to plant.

**How do I save a plant with aster yellows?** There is no known cure for aster yellows. Plants suspected of having aster yellows, including weeds such as dandelions, should be removed immediately so that the aster yellows phytoplasma cannot be spread from infected plants to other non-infected plants in the area.

**How do I avoid problems with aster yellows in the future?** Some herbaceous plants (e.g., geraniums and impatiens), as well as most woody ornamentals, are not susceptible to aster yellows. Therefore these plants should be used in areas where aster yellows is a problem. In landscape settings, attempts to control aster leafhoppers as a means of controlling aster yellows are typically not effective and are not recommended.

**For more information on aster yellows:** See UW-Extension bulletins A2595, A3679 and A3788 (available at <http://learningstore.uwex.edu>) or contact your county Extension agent.