Wisconsin Department of Agriculture, Trade and Consumer Protection

Wisconsin Pest Survey Report

Stem and Bulb Nematode ALERT

Stem and bulb nematode (*Ditylenchus dipsaci*) was found in *Phlox paniculata* 'Fireworks' in a Wisconsin greenhouse in June of 2013. This microscopic worm-like creature is an economically serious pest that is widespread throughout the world in temperate climates. The nematode was identified by DATCP Plant Industry Laboratory and confirmed by UW-Madison and USDA ARS Nematologists. This is a first official report for Wisconsin (Jefferson County). There have been unofficial reports of it occurring in Wisconsin alfalfa fields in the past. This find follows a recent detection on the same host by the Missouri Department of Agriculture. In the last two years the stem and bulb nematode, also referred to as bloat nematode has caused significant problems in garlic production in MN and NY. If left unchecked it can cause total crop loss.

Stem and bulb nematode infects a large number of agricultural and ornamental crops, and weeds such as: alfalfa, apples, beans, carrots, clover, oats, onion, garlic, peas, potatoes and strawberry. The nematode completes its life cycle in stems, bulbs and leaves, causing distortion, bloating and discoloration of shoots or rotting of bulbs, tubers and rhizomes. Stem and bulb nematodes can survive in dried plant debris, seed and in soil which makes control very difficult. Avoidance is the best strategy. Good sanitation practices and removal of infected plant material are essential.

Photo: Phlox 'Fireworks' infected with stem and bulb nematode. The circled plant in the foreground is stunted and distorted displaying classic symptoms.

DNA sequencing of the nematodes found on Phlox 'Fireworks' shows they belong to a population that feed on alfalfa, corn, oats, onion, garlic, phlox, red clover, sugar beets, narrowleaf plantain, gentian speedwell and garden loosestrife, yellow foxglove.

The stem and bulb nematode *(Ditylenchus dipsaci)* should not be confused with the potato rot nematode *(Ditylenchus destructor)*, which prefers to stay below ground in roots, tubers and rhizomes and does not survive desiccation. *D. destructor* is a state quarantine pest. The stem and bulb nematode *(D. dipsaci)* is neither a state nor a federal quarantine pest but many countries require nematode-free certification before allowing importation of plant material.

The greenhouse grower and out-of state supplier voluntarily destroyed all implicated plants to limit the spread of this pest.

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