XHT1134

University of Wisconsin Garden Facts

Extension
UNIVERSITY OF WISCONSIN–MADISON

Provided to you by:

Onion Thrips

Karen Delahaut, UW-Madison Fresh Market Vegetable Program

Onion thrips (*Thrips tabaci*) are an important annual pest of onion. They can attack nearly all garden crops, but serious damage is generally confined to onions, cauliflower, cabbage, snap beans, cucumbers, melons, tomatoes, and sweet clover.

Onion thrips damage to onion foliage.

Appearance: Adult onion thrips are about 1/12 inch long and pale yellowish or brown. Their wings have no veins and are fringed with long hairs. Onion thrips nymphs resemble adults except for their smaller size and lack of wings.

Symptoms and Effects: Onion thrips primarily damage onions with their rasping feeding activities. Both adults and larvae cause damage that appears as a silvery streaking or whitish blotches on leaves. As time passes, affected areas become dry and yellow. Heavy infestations can cause browning of onion leaf tips. Severe damage to onions will cause bulbs to become distorted or remain undersized. Heavy feeding can also result in decreased pollen set.

Because thrips prefer tight spaces, cabbage varieties with dense heads are most susceptible to damage. Onion thrips are often found several layers deep within developing cabbage heads. Red varieties are usually less susceptible than green varieties. Thrips damage can be serious on sauerkraut cabbage varieties where necrotic flecking of internal tissues and white blisters on outer leaves of the raw cabbage can eventually show up as dark blotches on processed sauerkraut. Heavy thrips buildup inside cabbage heads may cause heads to be distorted. On cauliflower, thrips damage causes tan or brown streaks on the curd. Damaged curds are more susceptible to soft rot bacteria. Onion thrips are also vectors of plant viruses such as tomato spotted wilt virus and impatiens necrotic spot virus.

Life Cycle: Adults and nymphs overwinter on plants or debris, or along weedy field edges. Females can reproduce without mating and lay eggs beneath the leaf surface. Eggs hatch after five to 10 days and nymphs are full grown within 15 to 30 days. Development of the last two nymphal stages occurs in the soil, without feeding. After the fourth molt, adult female thrips return to the plant. There are usually five to eight generations per year. Hot, dry weather favors thrips outbreaks.

Revised Jan. 9, 2005

University of Wisconsin Garden Facts

Extension
UNIVERSITY OF WISCONSIN-MADISON

Control:

Cultural: Thrips should be controlled early, before they become protected by plant tissue. However, due to their small size and reclusive habits, onion thrips are often difficult to monitor and control. Treatment thresholds established for dry bulb onions are three thrips per leaf or 15 thrips per plant. The threshold for Spanish onions is one thrips per leaf. Yellow or white sticky traps may be used along field edges to monitor the initial migration of thrips into a field. Cleaning plant debris from the field and the surrounding area may aid in controlling thrips. In general, onion cultivars with an open type of growth, circular leaf structure, and glossy foliage suffer less damage than cultivars with leaf sheaths tight to the stem. Red onions are particularly susceptible to attack while sweet Spanish onions are more resistant.

Chemical: Because onion thrips tend to concentrate in protected locations within a plant, control using insecticides is difficult. Foliar insecticides should be applied in sufficient water, and with a spray additive to achieve penetration into the plant. Insecticide resistance is a primary concern, severely limiting the choice of insecticides. Refer to UWEX publication A3422 “Commercial Vegetable Production in Wisconsin” for a list of registered insecticides.

For more information on onion thrips: See UW-Extension Bulletin A3422, or contact your county Extension agent.

Thanks to Jeff Wyman and Phil Pellitteri for reviewing this document.