

Onion Thrips

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SCIENTIFIC NAME: *Thrips tabaci* Lindeman

CLASS: Insecta

ORDER: Thysanoptera

FAMILY: Thripidae



Onion thrips (Alton N. Sparks Jr., Bugwood.org)



Onion thrips adult and larva (NC State Extension)

Description

Adults

Adult females of onion thrips are about 1.1 to 1.2 mm long, yellow, with brownish blotches on the thorax and the median portion of abdomen. Antennae are gray with the first segment lighter than other segments. Males are rare.

Eggs

The eggs are very small, about 0.2 mm long, kidney shaped, and white. They are deposited within plant tissues.

Larvae

The first instar larva is white, about 0.35 to 0.38 mm long. The second instar larva is yellowish, about 0.7 to 0.9 mm long.

Pupae and Prepupae

The pupa and prepupa are similar to the second instar larvae in color and shape, except for having small wing pads.

Biology

Distribution

Onion thrips have been found in most countries throughout the world.

Host Plants

Onion thrips are extremely polyphagous. They inhabit leaves, shoots, and flowers of many plants. It prefers to feed on onions, but feeds on many field crops, vegetables, various flowers, and bedding plants. It may cause heavy damage to chrysanthemums and carnations.

Damage

Onion thrips feeding cause yellowing or dropping of leaves, buds, or flowers. High infestation results in stunted growth, brown blisters, white blotches, silver whitish areas or feeding scars. Young terminal leaves frequently show malformation when heavily attacked, with crinkly surfaces, sunken and raised thin areas, marginal erosion, margin curling inward, and a chlorotic yellowish appearance with grayish color along all large veins. Young buds may be killed as soon as they come out. In addition, they freely feed within flowers, attacking the tender portions.

Life Cycle

Onion thrips have six to ten generations depending on temperature. Adults and larvae overwinter in the soil or plant litter on the ground. Pupae and prepupae overwinter in the soil. The average length of development is: 6 to 8 days for eggs, 10 to 14 days for larvae, 5 to 9 days for prepupae and pupae, and about 20 days for a generation. It may take as long as 35 days for a generation if temperature is at 15° C. The lower developmental threshold is about 11.5° C and using this threshold as a base, development required is 191 degree days. Adults reproduce parthenogenically throughout the season, rarely reproduce sexually, which results in mostly female adults in the field. The average adult life is around 32 days, and pre-oviposition, oviposition and post-oviposition periods are 6.1, 22.5, and 3.9 days, respectively. The average number of eggs laid by an unmated female is 37.4 (20 to 200).

Management Strategies

The application of chemical insecticides is the common control measure. An onion thrips problem in an integrated pest management program can be solved by using selective pesticides or by using selective treatments such as soil drenches. A combination of selective chemical insecticides and a predaceous mite in the genus *Amblyseius* (Acari: Phytoseiidae) have been successfully used to control this thrips.

