



Ornamentals

Greenhouse Thrips

Pest **9**
Fact
Sheet

Introduction

The Western flower thrips (WFT), *Frankliniella occidentalis*, is a devastating pest of ornamentals and the major vector for tomato spotted wilt virus (TSWV). WFT is difficult to control due to its wide range of hosts, ability to develop resistance to pesticides and vector capabilities. The reduced aesthetic quality caused by WFT and TSWV results in major economic loss for the grower. Other species of thrips found in greenhouses are generally less damaging.

Description & life cycle

There are several developmental stages of the WFT. The length of each stage is greatly influenced by temperature. Under optimum temperature conditions (80 - 85°F) the WFT is capable of developing in less than 10 days.

Egg: The adult female deposite her eggs in leaf or petal tissue. The eggs hatch within two to four and-a-half days.

Larva: The WFT has two larval stages. The 1st instar larva is small and white and a voracious eater. In 1 to 2 days the larva will molt and continue to feed heavily as a second instar larva. The larva is difficult to detect due to its size and habitat beneath developing terminal foliage or at the site of petal attachment. When the larva is ready to pupate it will relocate in the soil.

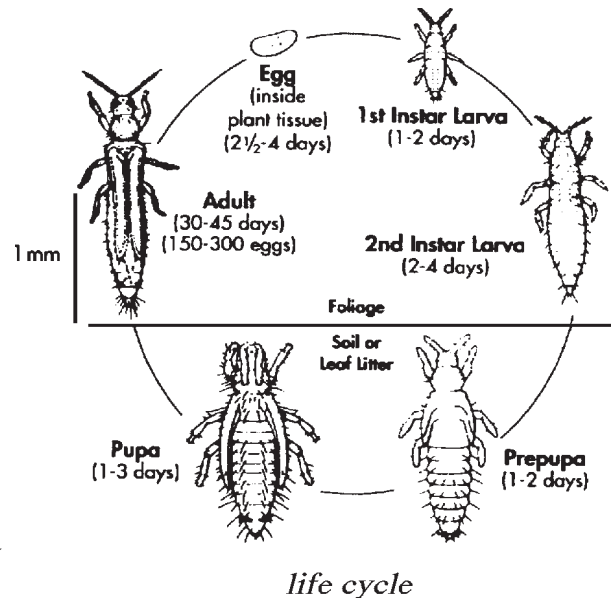
Pupa: The pupa also has two stages. The 1st, or prepupa, is generally inactive unless disturbed. It has a soft body and short developing wing pads. The 2nd stage, the pupa, produces longer, more developed wings.

Adult: The adult WFT female is 1/16" long and varies widely in color between light yellow and dark brown. The male is smaller, less hardy, pale yellow and slender.

Control

Cultural: Inspect your plants for thrips and Tomato Spotted Wilt Virus (TSWV) before they are introduced to your greenhouse. Make sure that weed control is thorough - weeds harbor TSWV and thrips. Discard TSWV infected plants. Vegetatively propagated plants are more likely to maintain in the greenhouses. Eradicate vector (thrips), especially if they are carrying TSWV. You may have to close the greenhouse.

Chemical: You should treat the entire greenhouse, but don't expect great control. You should also treat your plants at **low** thrips population levels. Be sure to treat at least twice, 5 days apart until thrips are under control. Once thrips are under control, treat at 7 - 10 day intervals. In order to delay insecticide resistance, use the same insecticide for 4 weeks, then switch insecticides (exception - fumigants).



Biological: Predatory mites - no prescription plan has been developed through university research at this time.

Monitoring: Use trap plants (Petunia var., Summer Madness var., Super Blue Magic var., Calypso) and yellow or blue non sticky cards near the plant. Thrips feeding scars are readily noticed and TSWV will form brown lesions. Use sticky cards (blue is best) near plants and vents (1 - 3 per 1000 ft²) to monitor adults. Spray when there is an abrupt increase in thrips on cards and spray to keep thrips level at no more than 5 thrips per trap per week. Preventative early treatment works best. If you are monitoring white flies or fungus gnats besides thrips, use only yellow cards.

Consult your county Extension Educator (see county office telephone listing below) for specific pesticide recommendations.

Summary

Damaging stage	Larva, adults (eggs may cause unsightly pimpling when deposited in the leaves of some plants)
Part of plant attacked	Flowers, flower buds, developing terminal and occasionally fully expanded leaves
Overwintering stage	Does not winter outdoors in New Hampshire
Symptoms of damage	Scarring of petals, silvery appearance of leaves
Number of generations per year	Several
Time of year when damage is done	Varies
Number of pesticide applications per year	At least two

Acknowledgements: Lindquist, R.K. 1991. *Identification of Insects and Related Pests*, Columbus, OH: O.F.A. Services. Parella, M. et.al., *Get a Jump on Thrips*, Willoghby, OH: Meister Publishing.

UNH Cooperative Extension County Office Telephone Numbers

Belknap (603) 527-5475	Carroll (603) 539-3331	Cheshire (603) 352-4550	Coos (603) 788-4961	Grafton (603) 787-6944
Hillsborough Goffstown (603) 641-6060	Merrimack (603) 796-2151	Rockingham Brentwood, NH 03833 (603) 679-5616	Strafford (603) 749-4445	Sullivan (603) 863-9200

Stop! It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. If unsure of registration status of a particular pesticide product, contact the NH Division of Pesticide Control at (603) 271-3550. Store pesticides in their original containers in a locked cabinet or shed away from food. Dispose of unused pesticides or empty containers safely, according to NH regulations. If you suspect pesticide poisoning, call the New Hampshire Poison Control Center at 1-800-562-8236.



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