

Improving Lettuce Insect Pest Management (Vegetable Levy HAL Project VG 01038)

Managing Thrips in Lettuce

Thrips have become an important pest of lettuce in the past few years. Thrips can damage lettuce plants by **direct feeding** on leaves or by **transmitting** tomato spotted wilt virus (TSWV).

There are number of thrips species that can be found feeding on lettuce:

Onion thrips (*Thrips tabaci*)

Tomato thrips (*Frankliniella schultzei*)

Western Flower thrips WFT (*Frankliniella occidentalis*)

Plague thrips (*Thrips imaginis*) (does not transmit virus)

Feeding damage

Thrips can cause feeding damage to lettuce seedling and growing plants resulting in curved leaves, silvery and wilting of lettuce leaves.

Virus transmission

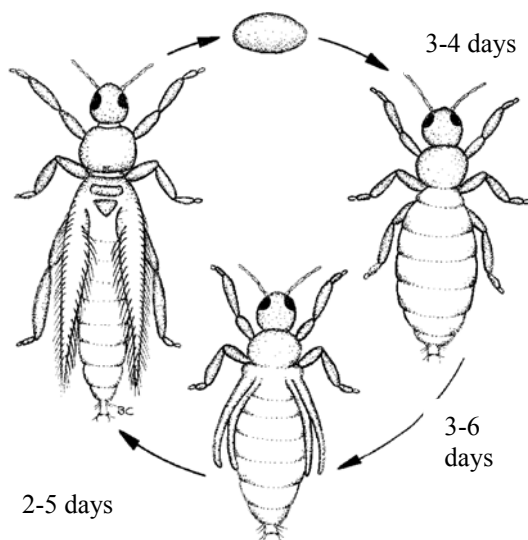
Onion thrips, Tomato thrips and Western Flower thrips can transmit Tomato Spotted Wilt Virus. Thrips only become infective if they breed on virus-infected plants. So, weed control around the perimeter of the crop is vital.



Adult western flower thrips (virus vector)



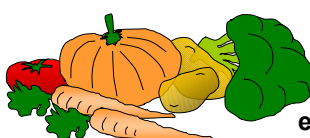
Plague thrips (does not transmit virus)



Life cycle of Thrips



TSWV symptoms in lettuce



Control Strategy

Monitoring is the Key

Frequent monitoring will allow thrips to be targeted as soon as they are detected.

What to do?

Monitor Crops – this is critical.

- It is essential to monitor crops frequently (look in the leaf axis and tips of young growing leaves)
- Monitor young crops – it will be impossible to control thrips once they are inside the lettuce heart.
- Monitor thrips activity using sticky cards (yellow or blue).

Non-Chemical Controls

Eliminate all possible sources of pest

- control any weeds around and in lettuce growing area
- remove and destroy unhealthy plants and old crop (after harvest)



Decision Making

- The use of broad spectrum insecticides will kill beneficial insects and make an integrated pest management program ineffective.
- Are thrips numbers high and do I need to kill the thrips (by the time thrips are visible, virus may have already been spread)?
- Can I tolerate some virus damage to maintain an integrated pest management program?

Chemical Application Strategy

- Spray application is only effective when thrips are actively feeding.
- Preferably apply sprays in the evening.
- It is important when applying sprays to allow sufficient time between irrigations.
- Do not spray more frequently than required. Some thrips can quickly develop resistance to many insecticides.
- Use soft chemicals, if available to encourage activity of beneficials, such as mites and brown lacewings.
- Some chemicals are only effective on specific thrips.

Registered Chemicals for thrips on lettuce include:

Chemical Group	Product
ORGANOPHOSPHATE	CHEMAG DIMETHOATE, UNITED FARMERS UNIDIME, SUPERWAY DIMETHOATE, AGCARE BIOTECH DIMETHOATE, CHEMAG DIMETHOATE, 4 FARMERS DIMETHOATE, CONQUEST DIMETHOATE, ROTAM ROMETHOATE, FARMOZ DIMETHOATE, DANADIM, DIMETHOMAX, BASF PERFEKTHION EC 400, HY-MAL,
CARBAMATES	NUFARM METHOMEX 225, METHOMEX 225 ULV
SPINOSAD	SUCCESS (WFT)
SYNTHETIC PYRETHROID	GARDEN KING PYRETHRUM SPRAY

Remember: Read the label and observe withholding periods. All restricted chemicals (which include Schedule 7 Poisons and other restricted chemicals) must be used strictly in accordance with label directions and require an Agricultural Chemical User Permit.

Disclaimer:

The advice provided in this publication is intended as a source of information only. Always read the label before using any of the products mentioned. The State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purpose and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.



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