

THRIPS ON POME FRUIT: APPLES

Thrips, a small insect, can cause damage to apples, making them unsuitable for export.

Likelihood of thrips outbreaks

Thrips damage tends to be sporadic in most areas – several seasons with almost no discernable thrips presence may be followed by a season of severe, often localized outbreaks. In deciding whether or not to monitor thrips in an orchard, the following aspects should be considered:

History of thrips damage in the orchard:

If thrips damage occurred in the orchard during the last two or three seasons (or more), chances are that it may happen again and monitoring for thrips should be done.

Susceptibility of the crop to economic thrips damage:

Pears seem to be less prone to thrips damage than apples. Because thrips damage to apples, mainly pansy spotting (Fig 1) and dimpling (Fig. 2), is caused early in the season, most of the damaged apples can usually be removed during thinning. However, if the orchard has suffered such severe thrips damage before that economic losses occurred in spite of thinning, chances are that it may happen again and monitoring should be done.

Weather conditions favourable for thrips outbreaks:

Observations in recent years suggest that thrips outbreaks and damage are more likely to occur during warm, dry seasons and in warm, dry areas. If hot, dry conditions occur, thrips should be monitored in orchards with a history of thrips damage.

Monitoring

Identification of thrips

It is not easy to identify thrips because they are so very small. Western flower thrips (*Frankliniella occidentalis*) causes pansy spot damage on apples. It is a pale straw colour to slightly orange-brown with dark fringes around the wings (Fig. 3). The flower thrips or “kromnek” thrips (*F. schultzei*) is almost identical to the western flower thrips, but it is a dark brown colour with black wing fringes (Fig.4). At present it is not known for certain what damage *F. schultzei* causes – it appears to be associated with silvering or russetting. *Thrips tabaci* is also straw coloured and can be confused with



Fig. 1
Pansy spot damage on apple



Fig. 2
Dimpling on apple

western flower thrips, while *T. simplex* cannot be distinguished from *F. schultzei* with the naked eye. It is not certain what, if any, damage is caused by these species. At present it is also not known which species causes dimpling on apples.

Because of these problems, it may be best to have the thrips found in the orchard identified by an expert before deciding whether or not control is warranted. Otherwise all thrips resembling the descriptions given above can be counted and those resembling the species shown in Figure 5 should be disregarded.

Method of monitoring

Thrips can be monitored by using sticky traps (blue or yellow) hung in the orchard OR by beating blossoms, foliage or fruit over a white paper, tray or dish. Traps must hang outside the tree canopy.

When to start monitoring

Much of the economic damage is done during the early stages of flowering, even before flowers open, and fruit set. Monitoring should start at least two weeks before bloom and in crops where silvering or russetting shortly before harvest is likely, monitoring should continue until harvest.

Interpretation of monitoring results

At present there are no reliable treatment thresholds for thrips. For the moment we have to work on a presence/absence basis. If thrips are present prior to bloom in orchards with a history of thrips damage, control should be considered.

Timing of Control

Because feeding and oviposition damage are done

during flowering and fruit set, control should be applied at the very onset of flowering and even just before flowering commences. If conditions are favourable and thrips populations can build up to high levels before bloom, spraying at 30% bloom and two weeks later may be too late to prevent damage (especially pansy spot and dimpling).

Bees: Do not spray one week before bees are brought into the orchard or within three days after bees have been introduced. When choosing a product for thrips control during the flowering period, pay attention to the bee hazard of the available products.

Control Measures

- Ground cover should not be mowed or disturbed from the onset of flowering until two weeks after blossom.
- Products registered for control of western flower thrips on apples, are:
 - Hunter (chlorfenapyr) 360 SC at 35 ml/100 L water.
 - Tracer (spinosad) 480 SC at 15 ml/100 L water.
 - Dicarzol (formetanate) 500 SP at 35 g + 200 g sugar/100 L water for suppression of thrips only.
- Consult relevant export regulations or the DFPT website (www.deciduous.co.za) for information on the names of products permitted on fruit exported to the various markets and their respective withholding periods.



Fig. 3
Western flower thrips *Frankliniella occidentalis*



Fig. 4
Flower ("kromnek") thrips *Frankliniella schultzei*

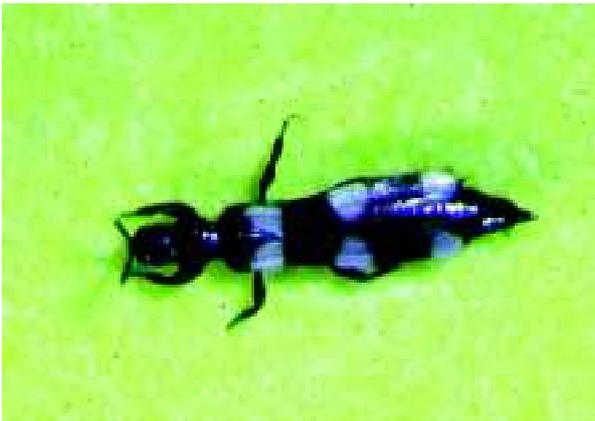
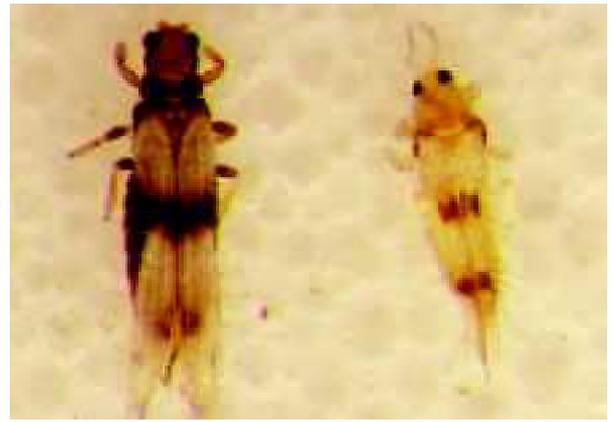


Fig. 5
Thrips that do not cause fruit damage – disregard when monitoring

For more information contact DFPT Research, Stellenbosch
tel: 021 882 8470

