

Thrips palmi

Why the concern?

The melon thrips, *Thrips palmi*, is a notifiable pest in the UK. It can cause damage to a wide range of glasshouse ornamental and vegetable crops, particularly plants in the families Cucurbitaceae and Solanaceae, such as cucumber, aubergine, tomato and sweet pepper. Adults and nymphs feed by sucking the cell contents from leaves, stems, flowers and the surface of fruits, thereby causing silvery scars, and leaf chlorosis. Plant growth can be deformed and heavily scarred. A severe infestation can kill the entire plant.

Where is it found?

The pest almost certainly originated in South-East Asia, but in the past couple of decades it has greatly increased its geographic range so that it is now found throughout Asia and the Pacific, and has spread to Florida and the Caribbean, as well as parts of South America, Africa and Australia. Within Europe, there have been outbreaks of *T. palmi* on crops in protected cultivation, several in the Netherlands since 1988 as well as one outbreak in southern England in 2000. All of these outbreaks were eradicated. In 2004, there was also a report of *T. palmi* on an outdoor crop in Portugal. *T. palmi* has the potential to introduce and spread several non-indigenous plant viruses of the genus *Tospovirus*, the group that includes *Tomato spotted wilt virus*.



Thrips Palmi adult.



T. palmi and the viruses it transmits are not established in the EU. However, they continue to present a risk especially to a wide range of glasshouse grown crops and have the potential to cause significant economic impacts. If these viruses were introduced to the UK with imported plant material, it is possible that species of thrips already established in the UK may then prove able to act as vectors thereby facilitating their spread.

How is it introduced?

Routine inspections for this pest have been carried out for a number of years. The first UK interception of *T. palmi* in 1997 was on imported orchid flowers and findings on orchids increased throughout Europe leading to specific EU measures in respect of orchid flowers from Thailand. It has the potential to be imported on a wide range of vegetables, ornamental cuttings, pot plants and other cut flowers. Indeed, *T. palmi* has been regularly intercepted on harvested bitter melon (*Momordica*) from both the Caribbean and Asia, and has also been found on chrysanthemum and rose flowers. Introduced *T. palmi* adults may also be carrying plant viruses, which can then be transmitted to suitable hosts. However, these (tosspoviruses) are not thought to be seed borne.

What does it look like?

All thrips are very small and difficult to detect. Plants should therefore be checked regularly for signs of damage caused by feeding. *T. palmi* adults can only be distinguished with certainty from those of other thrips species by means of laboratory examination. Species which might be confused with *T. palmi* include the onion thrips (*Thrips tabaci*) and western flower thrips (*Frankliniella occidentalis*) which are commonly found under glass, and species such as *Thrips flavus* which is found throughout the UK.

Adult *T. palmi* are about 1 mm long. The trunk of the body is entirely yellow with a dark longitudinal line formed by the joining of the wings when they are held at rest.



Thrips Palmi damage to Aubergine.



Thrips Palmi nymphs (x25 magnification). Photograph by Zenkojou Noson, Kyoiku Kyoiku Co. Ltd., Japan.

The eggs are laid within the plant tissue and are not visible to the naked eye.

The nymphal (immature) stages are creamy yellow to pale orange and resemble adults without any wings. They are very similar in appearance to the nymphs of other indigenous thrips species and cannot be identified to species at this stage. The nymphs feed on the aerial parts of the plant, and then drop to the soil to pupate.

The pupae are a similar colour to the nymphs. However, they are unlikely to be seen as they usually remain concealed in the soil. When the adults emerge, they return to the aerial parts of the plant to feed and lay eggs.



Thrips Palmi feeding damage on curcubit leaf. Photograph by Zenkojou Noson, Kyoiku Kyoiku Co. Ltd., Japan.



Adult *Thrips Palmi* (x75 magnification). Photograph by Zenkojou Noson, Kyoiku Kyoiku Co. Ltd., Japan.

Keep a good look out

- Seek assurance from your plant supplier(s) that plants are free from this pest as part of any commercial contract.
- Ensure that any known hosts of *T. palmi*, such as orchids, are treated prior to import.
- Keep any imported material for 'growing on' separate until it has been thoroughly inspected and found to be free from *T. palmi* and any suspect virus symptoms.
- Monitor your crop during the growing season and erect sticky traps. Blue traps are recommended for thrips, in preference to yellow. Check traps regularly for the presence of thrips.
- Never combine ornamental and vegetable crops in the same cropping area. This minimises the problems presented in control programmes and the potential of virus spread.
- If any life stages of the pest are detected, inform Defra (see contact details below) immediately to ensure the prompt implementation of an eradication programme.

If you suspect the presence of this pest on your premises, you should immediately inform your local Defra Plant Health and Seeds Inspector or the PHSI HQ, York:

Tel: 01904 455174

Fax: 01904 455197

Email: planthealth.info@defra.gsi.gov.uk

Website: www.defra.gov.uk/planth/ph.htm