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Greenhouse Growers, Are You Ready for Thrips?

As greenhouse producers are preparing for spring and the flowers become more numerous, it is time to get ready for those dreaded thrips.

Well over a dozen species of thrips feed on greenhouse crops, with the most important species being the western flower thrips, *Frankliniella occidentalis*. Adult thrips are typically 1/16" long and have fringed wings. Eggs are laid in foliage and flower tissue and hatch out in about one week depending on temperature. Larvae, or nymphs, look like adults without wings. The nymphs feed on flower buds, young terminal growth, and leaves. The first nymphal stage exists for one to two days, and the second nymphal stage exists for two to four days. The second stage will move into the growing medium and form first a prepupae and then pupae. These pupal stages are not feeding, and chemical treatments of the growing medium are not likely to be effective.

The life cycle of thrips is typically two to four weeks—the higher the temperature, the shorter the cycle. Thrips feeding on the terminal buds may go undetected and cause considerable damage to a crop. The piercing and sucking mouthparts cause damage to plant tissue that looks like silvery or translucent streaks or spots on the leaves and flower petals. Thrips are not strong fliers and can be moved by wind and fans in greenhouses.



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Inspect plants for thrips by tapping the plants on a white sheet of paper or blowing into the flower, which will increase thrips activity. Yellow, white or blue flowers, preferred by thrips, are good spots to scout. Yellow or blue sticky cards also make great tools for monitoring thrips populations. Even low population densities can be a severe threat to crop health due to the spread of thrips-vectored virus diseases.

Control weeds, as they are an alternative habitat for thrips. Screening can also be a good cultural control if practicable. Chemical control of these insects has met with increasing resistance, and systemic insecticides don't get into the flower tissues where adult thrips feed. Systemics would be more useful on thrips feeding on the foliage. For successful control to occur, high volume chemical applications are recommended at a three to five-day interval. Thrips control is maximized when crops are of small stature compared with larger plants. Rotate insecticides every two to three weeks with a product that has a different mode of action to avoid resistance.

Biological control can be successful using predators and entomopathogenic fungi. *Stratiolaelaps scimitus*, *Neoseiulus cucumeris*, *Amblyseius swirskii*, *Dalotia coriaria*, and *Orius* spp. have been used for successful thrips control. Fungi such as *Beauveria bassiana* and *Isaria fumosoroseus* are also valuable tools, and some thrips control has been achieved with the nematode *Steinernema feltiae*.



Thrips larvae are very small, and can be difficult to see with the naked eye. *Fun fact:* the plural form of this insect's name is "thrips," while the singular form is also "thrips."



Thrips infected with the entomopathogenic fungus *Beauveria bassiana*.



Yellow sticky card traps can be a useful tool in monitoring thrips activity.



Click [here](#) to watch *A. limonicus* in action (video from Koppert Biological Systems).

https://www.youtube.com/watch?v=Zg-cKzQAG_U



Weeds growing under benches and around greenhouse perimeters can be a haven for thrips.

More recently, a new predatory mite has been made available from Koppert Biological systems: *Amblydromalus limonicus*. This predator will kill whiteflies and spider mites as well as thrips. It also offers control in the second larval phase, which other predatory mites (*A. cucumeris* and *A. swirskii*) don't do. *A. limonicus* operates at a wider temperature range than the other predatory mites giving it expanded control. *A. swirskii* can be useful at low levels of thrips, but when infestation rises, *A. limonicus* will be a wise addition.

Looking for more information about thrips? Check out these previous e-GRO alerts:

Thrips: Fight that the Living Dread: https://e-gro.org/pdf/EGRO_2_08.pdf

Come to Grips with Thrips: https://e-gro.org/pdf/2016_528.pdf

Thrips Tips: <https://e-gro.org/pdf/thrips.pdf>

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e-GRO Alert

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