

PEST ALERT: CHILLI THIRIPS ARE ON THE MOVE IN TEXAS

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Chilli thrips, *Scirtothrips dorsalis* (Hood) were first identified on landscape plants in Houston in November 2007. In the last 2 months plant specimens with the confirmed presence of chilli thrips have been collected near Bellaire, in the museum district, within a mile of the Hwy. 59 South / I-288 interchange, in the medical center and in the Galleria area. HRS members, Earl Krause and James Laperouse report finding chilli thrips-like damage on their roses. The good news for rose growers is that chilli thrips are manageable! Positive identification and action once the pest's presence is confirmed is one of the keys to control.

Chilli thrips are known to attack more than 100 different host plants. However as the geographic range of the pest expands the number of host plants will likely increased. At this time known host plants in North America are:

Asparagus	Coleus	Japanese Holly	Poinsettia
Banana	Cotton	Japanese Pepper	Rhododendron
Bean	Crape Myrtle	Japanese Persimmon	Rose
Buckwheat	Dahlia	Japanese Plum	Rubber
Camellia	Edible Fig	Levant Cotton	Scotch Bonnet Pepper
Cashew	Euonymus	Ligustrum	Snapdragon
Castor Bean	Geranium	Lisianthus	Soybean
Celosia	Gerber Daisy	Mango	Strawberry
Cherry	Ginko	Maple	Sweet Basil
Chrysanthemum	Grape	Mexican Heather	Tomato
Citrus	Habanero Pepper	Peanut	Verbena
Cleyera	Indian Hawthorn	Petunia Sweet Basil	Viburnum
Cocoa	Japanese Apricot	Pittosporum	Zinnia

This week, chilli thrips were identified from Begonia specimens taken in central Houston. The elimination of an infected or uninfected host plant from the landscape may not necessarily eliminate/prevent the pest.

Symptoms, Monitoring & Identification In Roses. Chilli thrips are so small that positive identification is only possible with specialized equipment, but their damage is unique and distinctive. They feed mainly on plant tissue. In roses they prefer young leaves, buds and tender canes, but all above ground parts of the plant may be attacked. Monitoring roses for possible infestation should begin once the plants start producing new growth in spring. This year, chilli thrips populations in Houston appear to have become pronounced in late June/early July. Common symptoms seen in roses are:

- Leaf, bud and cane bronzing (tissues turn dark in color), similar to symptoms of chemical burn.
- "Silvering" may appear on the leaf surface.
- Canes may be distorted with few or no leaves and take on an "asparagus-like" appearance.
- Damaged leaves may be distorted in size and form and may curl upward.
- Leaves may detach from the stem for no apparent reason (e.g. unexplained defoliation).
- Buds may become dry and brittle or fall off the plant.
- Bloom distortions are not uncommon and blooms can take on the appearance of a daisy or chrysanthemum.
- Leaflet sets may be distorted in size, shape and spacing along the cane and may take on a "lion's mane" appearance. This symptom mimics herbicide damage.
- Affected new maroon growth will appear to have mottled green blotches on the bottom of the leaf.
- Leaf distortions may be confused with spider mite damage, but unlike spider mite damage the distortions will appear on new growth in the upper canopy.
- Symptoms of chilli thrips damage may differ between rose classes.

Once a plant has been damaged and stops producing new growth the chilli thrips generally leave the damaged plant in search of other hosts with productive new growth. For example, Indian Hawthorn produces its new growth in spring. If infested by chilli thrips in spring, an Indian Hawthorn will typically not replace the damaged growth until the following year. For this reason, the elimination of a symptomatic plant from the landscape will not necessarily eliminate the pest.

If You Suspect Chilli Thrips in Landscape. Plants with the above symptoms should be examined closely for the presence of chilli thrips. Samples of thrips from leaves or buds of symptomatic plants should be collected and properly identified by experts. Place the sample plant material in a Ziploc bag to prevent escape of the pest. Add a dry piece of paper towel or napkin to soak up condensation that may form in the bag and seal the bag. Label the bag with following information, your name and contact information, locality where collected (address, city, state, county), date collected and specie of host plant (rose, snapdragon, etc.). Sample should be sent by overnight mail (next day delivery) to the Chilli Thrips Lab, Texas Agri-Life Extension Service, P. O. Box 38, Overton, Texas, 75684.

Control Measures. Positive identification and immediate implementation of controls is the best method of managing this pest in the landscape. While experts agree that not enough is presently known about the control of chilli thrips, the implementation of a combination of control tactics is probably the best approach. These recommendations are based on the best information that we have right now:

Cultural Controls:

- Dispose of weeds, trash or debris in and around rose beds that serve as over-wintering and shelter sites.
- Avoid purchasing plants with symptoms of chilli thrips damage
- Remove and discard infested plant parts to avoid infesting other host plants in the landscape. Do not compost plant materials suspected of harboring chilli thrips.
- Avoid heavy fertilization where chilli thrips have been identified as fertilization promotes the rapid development of new plant growth for the pest to feed on

Biological Controls:

While researchers are still evaluating organisms, some biological controls (predators) have shown potential thrips control in greenhouse studies:

- Adult minute pirate bugs (*Orius* sp.) which attack both immature and adult chilli thrips
- *Neoseiulus* sp., a predatory female adult mite that attacks immature chilli thrips
- *Amblyseius swirskii* mite. This mite has not been effective in landscape applications.
- Anthocorid and mirid bugs

Most of these biological controls are available to homeowners through mail order garden suppliers.

Chemical Controls:

Chemical controls should be applied when plants are producing active growth and chilli thrips are present. Systemic controls should be applied as foliar sprays. **Neem-based products as well as drenches and soil additive granules have proven to be ineffective controls for chilli thrips. Pyrethroids and pyrethroid-containing products (e.g. Aloft, Discuss, etc.) are toxic to natural enemies and are therefore not recommended.** Research is currently underway on the effectiveness of biorational products such as plant growth inhibitors, insecticidal soaps and oils.

While a number of insecticides are available to manage chilli thrips in the landscape, products containing spinosad (e.g. Conserve) produce the lowest impact on the environment. A complete list of control products is included in Texas A&M's Landscape Management Recommendations posted on the HRS web site.

Chilli thrips have demonstrated the ability to develop resistance to chemical controls and experts recommend a rotation of control mechanisms to avoid resistance. For instance, applications of spinosad every 3 weeks augmented with applications of insecticidal soaps and oils are one of the current recommended controls. I personally find it interesting that the roses at the Garden Center in Herman Park are devoid of chilli thrips, in an area where there is otherwise a high concentration of pest pressure. The caretaker of that garden is using insecticidal soap on a 2-week spray schedule and that appears to be keeping the pest at bay for the time being.

Photos of chilli thrips damage in roses, as well as the recent publications by Texas A&M are posted on the society's website.