Greenhouse Pest Message, June 20, 2022
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Summer Insect pests- we have been primarily seeing thrips (see pest message of June 10th) and spider mites.

Potato leafhoppers are being reported on beans, so may soon start migrating to herbaceous perennials. https://ipm.cahnr.uconn.edu/wp-content/uploads/sites/3216/2022/06/6.18.22-vegetable-pest-alert.pdf

Look for the pale green leafhopper nymphs with their characteristic crab-like walk especially on ***Alcea, Astilbe, Baptisia, Dahlia, Gaura, Hibiscus, Lupinus, and Nepeta.***

Seeing lots of natural enemies in outdoor fields.
https://www.canr.msu.edu/resources/identifying_natural_enemies_in_crops_and_landscapes_e2949

Summer Pest Spider Mites
A few growers I visited had issues with two spotted spider mites on hydrangea and am starting to see spider mites on other plants.

The two-spotted spider mite (*Tetranychus urticae*) has a wide host range and feeds on more than 300 different species of plants. Some favorite hosts include: Angel's trumpet, bee balm, catmint, butterfly bush, cordyline, crocosmia, dahlia, fleece flower, ivy geraniums, mandevilla, New Guinea impatiens, marigolds, roses, Russian sage, and verbena. Spider mites also feed upon many different herbs, such as lemon balm, lemon verbena, lemon grass and mints.

With increasing temperatures, their development from egg to adult decreases. For example, at 54F, it takes 40 days for spider mites to develop from egg to adult. At 70F, it decreases to 14 days and at 86 it is only 7 days! Two spotted spider mites lay more eggs and develops faster at lower relative humidity levels. Females can produce more than 10 eggs per day! At 77F populations can double in 3 days!

Figure 1: Spider mites on underside of hydrangea. Photo by L. Pundt

Symptoms | Spider mites feed within the leaf cells, reducing the chlorophyll and moisture content of the leaves and their ability to photosynthesize. At first, you will see a slight flecking or stippling (chlorotic spot) on the leaves. As spider mite feeding continues, leaves can turn yellow, bronzed, and drop from the plant. When high populations develop, fine webbing is extensive on plant leaves and stems.

Figure 2 & 3: Damage from spider mite feeding on beebalm (on left) with stippling and bronzing on crocosmia (on right). Photos by L. Pundt

Prevention tips

• Inspect incoming plants for signs of spider mites or their damage.
• Promptly remove unsold or "pet plants" and weeds that often "harbor" spider mites.
• Inspect plants regularly for spider mites. Pay close attention to warm and dry locations.

Spider mites develop resistance to miticides very rapidly. Use miticides with different modes of action (i.e. from different pesticide classes, plus work differently). Follow long-term rotations. Follow all label restrictions regarding the amount and frequency of use, and carefully read and follow all plant safety precautions.

Some options for spider mites include:

For knockdown: Floramite SC (20D), Shuttle O (20B), Akari (21A), Sanmite SC (21A), Sultan (25) or Suff Oil X.
For residual control: Hexygon IQ (10A), Pylon (greenhouse use only) (13), Savate (23), Notavo (10A), TetraSan (10B), and Kontos (Drench) (23).

Oil Based materials such as SuffOil X, Triact 70, Ultra Fine Oil can be used provided you follow all plant safety concerns.

If you are buying in plant material from more southern regions, it is very possible you are also buying resistant mites. If you can obtain good coverage, apply SuffOil X to knock down the spider mites before releasing predatory mites.

For more, see New England Greenhouse Management Guide online at https://greenhouseguide.cahnr.uconn.edu/

More growers are using biological controls as part of their resistance management plan. Different species of predatory mites are adapted to different environmental conditions, so work with your biological control supplier to select the best mite predator for your situation.

One of the most widely used is *Phytoseiulus persimilis* that only feeds upon two spotted spider mites, but many other predatory mite species feed on alternative prey or on flower pollen including *N. californicus, A. andersonii, and N. fallacis.* If you are using Orius spp. against thrips, this generalist predator will also feed upon spider mites.

Save the date:
August 16th for the Greenhouse Biological Control Conference in New Haven, CT. More information coming soon!

Happy Pollinators Week!

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