Greenhouse Pest Message April 5, 2024
Leanne Pundt, UConn Extension

Aphids, botrytis blight and spider mites have been challenging to deal with this spring. See previous pest messages on aphids and Botrytis Bight.

Spider Mites
• 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 areas in your greenhouse that are especially warm and dry locations, such as near greenhouses or hanging baskets. Plants grown without overhead irrigation are also more prone to spider mites.

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.

Twospotted Spider mites develop resistance to miticides very rapidly. If you are buying in plant material from more southern regions, it is very possible you are also buying in resistant spider mites.

- 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.

Unfortunately, the latest research summary I could find from the IR-4 project on spider mites was in 2019, so it's hard to determine what miticides are still effective because they develop resistance so quickly. But, as long as there are no toxic residuals and the *P. persimilis* are shipped overnight, growers tell me these predatory mites are very effective.

Some possible miticide options for spider mite knockdown:

- Pylon (13) for greenhouse use only. Contact miticide with translaminar and stomach poison activity. Active on larvae and nymphs. Do not use on dianthus, kalanchoe, roses, salvia, and zinnia.
- Akari (21A), Contact miticide. Active on all mite life stages but best on immature larvae and nymphs. Mites stop feeding quickly and die in 4 to 7 days.
- Magnus (21) Miticide active by contact and ingestion for immature and adult mites. Do not use on roses. See label.
- Sanmite SC (21A), Contact miticide with 3 to 4-week residual.
- Sultan (25) Contact miticide kills quickly with 3 to 4-week residual, compatible with many biological control agents used for mite control.

Contact miticides such as SuffOil X, EpiShield, Triact 70, are also an option, provided you can obtain good coverage and follow all plant safety precautions.

Some options for residual spider mite control:

- Avid (6) Miticide with contact and translaminar activity.
    - Sirocco (6 &30) (contains active ingredients in Floramite and Avid)
- Floramite SC (20D), Contact miticide, active against all life stages.
- Shuttle O (20B), Contact miticide, provides quick knockdown and long residual activity. Do not use on impatiens or miniature roses.
- Hexygon IQ (10A), Mite growth regulator. Contact miticide with egg killing activity. Most active on eggs and immatures.
- Savate (formerly Judo) (23), miticide with contact and translaminar activity. Do not use on geraniums, New Guinea impatiens, fuchsia and other plants. Slow acting but 2 to 3-week residual
- Notavo (10A), Contact miticide with egg killing activity. Magenta in color and may leave a residue on light colored flowers or foliage.
- TetraSan (10B), Miticide with contact and translaminar activity. Active on mite eggs and nymphs. Does not kill adults. Apply in combination with a miticide with adult activity.
    - Engulf (contains active ingredients in TetraSan and Avid or Minx)

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. One of the most widely used is *Phytoseiulus persimilis* that only feeds upon two spotted spider mites, and can effectively clean up a spider mite infestation provided that there are no toxic pesticide residuals (check with your plant supplier for what the incoming plants have been treated with). If unsure, treat with SuffOil X or microbial insecticides such as Velifer first to transition to predatory mites. For more See Biological Control of TwoSpotted Spider Mites factsheet.

Growing Vegetable Transplants Updated Online Resources for you:
New England Vegetable Management Guide – Vegetable Transplants

Selected Fungicides and Bactericides labeled for Vegetable Bedding Plants

Selected Insecticides and Miticides Labeled for Vegetable Bedding Plants

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