Greenhouse Pest Message, March 3, 2023
Leanne Pundt, UConn Extension

Continue to Watch for Aphids

With the warmer winter temperatures, **aphids** seem to be the primary pest so far. Keep an eye out on their favorite hosts such as pansies, Easter Lilies, calibrachoa, geraniums (ivy and zonal), *Ipomoea,* leafy greens, etc.
(Note: It is much harder to manage aphids especially the cool temperature loving foxglove aphids with biological control agents. Select drenches that are compatible with your other biological control agents if you are using *cucumeris* and other biological control agents).

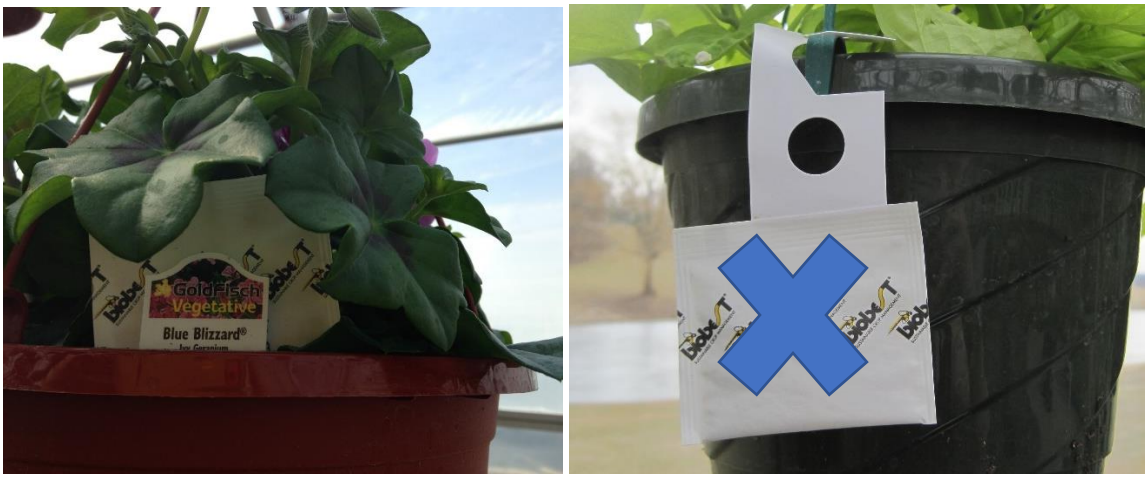
Featured Biological Control Agent: *Neoseiulus (Amblyseius*) cucumeris

Neoseilus (Amblyseius) *cucumeris* is a small, generalist predatory mite that feeds upon young 1st instar western flower thrips and onion thrips larvae. However, it is not considered effective against *Echinothrips* in greenhouse ornamentals.

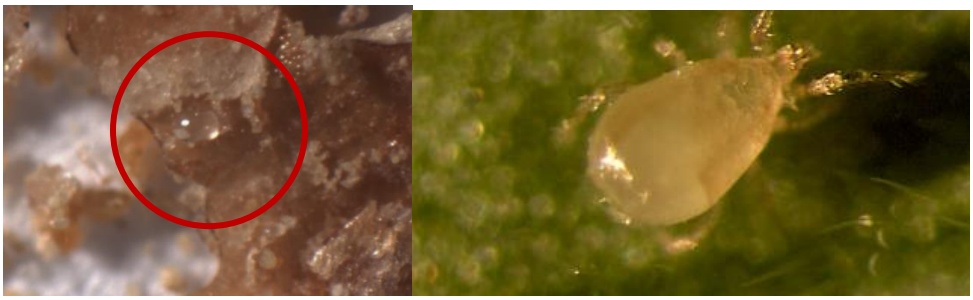
Because *N. cucumeris* only preys on the young western flower thrips larvae, it is important to start releases preventively, at planting, before thrips are detected. *N. cucumeris* also eats pollen, or they may prey upon spider mites or spider mite eggs as well as broad mites. Growers often release *cucumeris* preventively against broad mites, but do not rely upon *cucumeris* for spider mites, instead releasing *P. persimilis, or N. fallacis, or A. andersonii, or N. californicus* against spider mites.

Slow release mini-sachets consist of bran, whitish storage mites (that feed upon the bran), and *N. cucumeris* which prey upon the storage mites. Predatory mites should emerge from the sachets for 4 or so weeks unto the crop provided the sachets do not dry out. To feed the food mites, the sachets have yeasts and fungi added to the bran inside. If the humidity is too low, you will kill the yeasts and molds, starving the food mites. Your sachet would then be filled with just bran and nothing else, and the predatory mites stop reproducing.

Place mini-sachets in the plant canopy where they are protected from bright sunlight. The temperature will peak less, with higher relative humidity needed for their reproduction. Do not place the sachets so they are hanging over the edge of the hanging basket, for they will dry out. This will starve the food mites, so the predatory mites stop reproducing.



Figures 1 & 1: Mini-sachets placed in hanging baskets so they are shaded from full sun (on left). DO NOT PLACE THEM SO THEY HANG OVER THE BASKET (on right). Photos by L. Pundt



Figures 2 & 4: Whitish slow- moving food storage mite (on left). Photo by L. Pundt. Pear-shaped tan colored fast moving Cucumeris (on right). Photo by G. Kakkar. University of Florida.

Tips for Using *Neoseiulus (Amblyseius) cucumeris sachets*

- If you need to store the mini-sachets before release, open the box, and store them under a greenhouse bench, where the humidity is higher, and they will be shaded. Don't store them in the office or in a cooler.
- Check periodically for living predatory mites (N. *cucumeris* will be tan in color. The storage mites will be white).
- Place mini-sachets in the plant canopy so they are shaded.
- Place 1 mini-sachet per hanging basket, or 2 for larger hanging baskets or 1 to 4 mini-sachets per shuttle tray.

Cucumeris predatory mites can also be applied by broadcasting or using a modified leaf blower where plants are pot to pot so leaves are touching so the mites can move from plant to plant to search for the thrips larvae. Make

releases weekly and check to see how well the mites survived. Tap plants over a white paper or white tray to look for the fast-moving predatory mites.

There are additional resources on biological controls on the UConn IPM website: https://ipm.cahnr.uconn.edu/greenhouse/
Look under publications and then biological controls.

Greenhouseipm.org is also a very helpful website on biobased IPM.
http://greenhouseipm.org/biocontrol-agents/

Proper Planting, Seeding and Transplanting

How soilless growing media is handled can greatly influence the air space and available water for plant roots. The major goal is to preserve the air space or porosity to insure healthy root growth.

Add water to peat-based mixes before filling plug trays to help create more aeration. Satisfactory filling moisture is achieved if the slightest bit of visible water appears when squeezed between the fingers. Most growers work with a moisture content of 45%-55% by weight.

To prevent compaction that encourages poor root growth, lightly fill containers, and brush the excess media off the top. Once filled, avoid nesting or stacking containers on top of one another. Stacking containers causes compacted media and reduced air space.

Figure 5 & 6: Nested containers will have compacted growing media (on left), but if they are staggered, media will not be compacted (on right). Photos by L. Pundt

When dibbling seed trays, try to avoid compressing the mix; gently press to ensure a small indentation for seeds.

Train new employees on **proper planting practices** so that the young plants are not planted **too deeply**. Transplants may have elongated stems, so it is tempting to bury the stem. While tomatoes or dahlias can tolerate this, some species such as begonias will slowly die due to excessive burying of the stems.


Figure 7 & 8: Begonias (on left) and lavender planted too deeply. Photos by L. Pundt

Check newly planted material right after its first initial watering to make sure plants are not washed under or planted too deep.

The process of container filling, dibbling, planting, moving plants into the greenhouse and initial watering in varies from greenhouse to greenhouse. Take the time to walk thru your newly transplanted crops to see if any adjustments need to be made. If your plugs or liners were planted too deeply, go back thru the crop, and lift the plugs by hand. This will help you avoid serious crop losses in the future.

For more: Transplanting Plugs and Grouping Plants, UMass Extension https://ag.umass.edu/greenhouse-floriculture/fact-sheets/transplanting-plugs-grouping-plants

Impact of Transplanting Practices on Plant Establishment and Health E Gro Alert https://www.e-gro.org/pdf/2020_925.pdf

Save these dates: November 8 & 9, 2023, Northeast Greenhouse Conference, Manchester, NH https://www.negreenhouse.org/

Funding provided by USDA NIFA CPPM grant 2021-70006-35582.