Thrips and Broad Mites

We are still receiving reports of thrips and broad mites on New Guinea impatiens. The thrips were in flower buds and probably came in on plant material. It’s hard to check plants when they come in when there is such a high volume - but it is worth it to keep problems out of your operation. As the weather is warming up, thrips pressure is increasing on greenhouse crops, especially since many plants are in bloom now and there are plenty of pollen sources on which thrips can feed. Use blue sticky cards to detect adult thrips in a greenhouse. Place at least 3 – 4 cards in a 10,000 sq ft of growing area and check the cards once a week to see if the population is going up or down. Yellow sticky cards also work, but the blue ones are more attractive to the adult thrips.

Thrips Control: If your populations of thrips are still low you have several options for control. Azadirachtin (Aza-Direct, Azatin XL, Ecozin Plus, Ornizin, Neemix) works fairly well when thrips populations are still low and will help keep them suppressed. The insect growth regulator, Pedestal (Novaluron), works well on immature stages of thrips and works best when populations are relatively low. Pylon (Chlorfenapyr) at 10 -20 oz/100 gallons of water has performed well for thrips control. At this rate it can be a little pricey, but this material is translaminar and fairly effective on thrips. The spirotetramat (Kontos), an insecticide/miticide, label has increased its soil drench application rates and now includes thrips and scale crawler control. Kontos is both foliar and root absorbed. Kontos is phloem-active, meaning users can foliar-apply (spray) and be assured that the active ingredient (spirotetramat) will move down in the plant. Growers can also soil drench Kontos, and because it is xylem-active, the active ingredient will move up systemically through the roots to the growing tips.

The broad mites (tarsenomeid mites) were causing damage to New Guinea impatiens in hanging baskets. Broad mites inject a toxin from their saliva as they feed. Leaves become twisted, hardened and distorted with bronzed lower surfaces. Young terminal buds can be killed. Leaves frequently turn downward. Broad mites have a wide host range and can feed on ageratum, begonia, cyclamen, dahlia, gerbera, gloxinia, hibiscus, ivy, jasmine, impatiens, New Guinea impatiens, lantana, marigold, snapdragon, verbena, and zinnia.

Control options for broad mites include: Bifenazate (Floramite), Fenpyroximate (Akari), Chlorfenapyr (Pylon), Pyridaben (Sanmite), and Spiromesifen (Judo).
Reminder: 2\textsuperscript{nd} Greenhouse Cycle - Injector Operation Efficiency and Substrate Monitoring

By: Andrew Ristvey

The second cycle in most greenhouses is well underway. By now the new crops should be looking green and healthy. Keep them that way by making sure your fertilizer injector is mixing the correct concentrations into your irrigation system. Injectors are typically reliable, but any tool having moving parts can be prone to wear and malfunction. The easiest method for making sure your injector is functioning is to check the electrical conductivity (EC) of your mixed fertilizer water. Most soluble fertilizer bags will have a table that relates the target nitrogen concentration and injector ratio with the EC of the desired fertilizer concentration. The far right column on this sample label shows the target EC. If your fertigation water does not come close to the suggested EC, then you need to calibrate your injector so you are giving your plants the correct concentration of fertilizer. Simply adjust the injector ratio to increase or decrease the EC of the fertigation.

Take note that your EC meter may read in dS/m (deciSiemens per meter) or mS/cm (milliSiemens per centimeter), or like you see in this example label, mmhos/cm (millimhos per centimeter). The examples given above mean the same thing. That is, 1 milliSiemen is equal to 1 millimho, so long as the unit of length in the denominator is the same. If not, than conversions may be needed. However, this is probably not a concern since these interchangeable units are relatively standard on our EC meters. For instance, dS/m (deciSiemens per meter) is the same as mS/cm (milliSiemens per centimeter), which is also the same as mmhos/cm (millimhos per centimeter). There are two in particular to pay attention, and that is the conversion of mS/cm to μS/cm, where you would multiply by 1000 (1 mS/cm = 1000 μS/cm). Some EC meters may have a higher resolution and measure in μS/cm, yet their range is smaller.

Make sure you sample your substrates as well, occasionally sacrificing a few plants for measuring the pH and EC with a Saturated Media Extract. If you prefer not to sacrifice plants, then a pour-through or a container-tip a half hour after irrigation or fertigation to get a small amount of container water will do. Look for EC’s between 1 and 2. Any readings lower and you may be under-fertilizing, and around 3 you may need to leach. For questions regarding this or any other nutrient management issue, feel free to contact me at aristvey@umd.edu.

Upcoming Conferences

**Greenhouse Tour and Picnic**  
June 25, 2015  
Location: Greenstreet Growers, Lothian, MD

**Alternative Crops for Greenhouse Production Conference**  
August 5, 2015  
Location: Brookside Gardens, Wheaton, MD

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