Extreme Weather and Fungus Gnats

It has been unusually cloudy for early March, and it is taking skillful watering to prevent plants from being overwatered. Soil substrate is remaining wet for extended periods of time which encourages fungus gnat populations to thrive. Propagation houses are reporting very high numbers of fungus gnats this year. An excellent control for fungus gnat larvae is to use entomopathogenic nematodes. The nematodes thrive in moist soils so you can take advantage of the cloudy weather and moist soil conditions. Building up the nematode population early in the growing season is the best practice. One of the best entomopathogenic nematodes to use for fungus gnat control is *Steinernema feltiae*. This nematode is sold under several trade names such as NemaShield, Nemasys, Scanmask, and Entonem. All of these products are labeled as a soil drench treatment against fungus gnat larvae.

Apply nematodes with a sprayer (remove screens and filters), injector, or a hose end sprayer. If using an injector, set the dilution to 1:100. Remove all filters or screens (50 mesh or finer) in any spray lines so that the nematodes can pass through unimpeded and undamaged and spray pressure should be kept below 300 psi. Aerate the nematode solution during application to keep them in suspension. This can be done using a small battery powered submersible pump. You can also mechanically stir the solution to keep the nematode solution agitated. Some growers use a paint stirrer on the end of a regular cordless drill fastened to the side of the 5 gallon bucket (stock solution) to keep the nematodes in suspension.

Nematodes are living organisms so be sure to check for viability before making an application. Place a small amount of the product in a small, clear container or petri dish. Add a few drops of water. After a few minutes, use a hand lens or microscope to check to see if the nematodes are moving and are ‘S’ or ‘J’ shape which means they are viable. Dead nematodes will be straight and will not be moving.

There is no REI for entomopathogenic nematodes. Nematodes are compatible with a number of different pesticides. However, they are generally not compatible with organophosphates, carbamates, nematicides and hydrogen dioxide. Do not mix nematodes with your fertilizer solution.
Predators for Fungus Gnat and Shore Fly Larvae

*Atheta coriaria* (rove beetle) is an option for biological control for fungus gnat and shore fly larvae. All stages of *Atheta* actively search for prey which is mainly eggs, young larvae and pupae. Rove beetles can become established in greenhouses and be present throughout the year. Adults and larvae are hard to detect because they hide out in the cracks and crevices of the growing substrate. Rove beetles are commercially available as adults from most biological control suppliers. Rove beetles can be used with beneficial nematodes. They are not overly expensive and worthwhile to add into your greenhouse operation.

Impatiens Necrotic Spot Virus

A New Guinea impatiens sample was submitted to the UMD Plant Diagnostic Lab this week that tested positive for Impatiens Necrotic Spot Virus (INSV). The symptoms on these infected plants included stunting, mottling, and dark ring spots and blotches on the foliage. Other common hosts for this virus include pericallis (cineraria), garden impatiens, exacum, snapdragon, and gloxinia. Weeds can also serve as sources of INSV in a greenhouse.

This virus is spread plant to plant by the feeding activity of thrips, especially the western flower thrips. There is no cure for infected plants – management involves discarding symptomatic plants as soon as you see them, and keeping thrips populations under control.

Upcoming Programs

Go to http://www.extension.umd.edu/ipm/conferences
April 9, 2014 - Operator Certification (FTC) for Writing Nursery Nutrient Management Plans

Central Maryland Research and Education Center, 11975-A Homewood Road, Ellicott City, MD 21042

Nursery Operator Certification (FTC) for writing nursery nutrient management plans will be offered to growers who are interested in attaining Farmer Training Certification for writing nutrient management plans. This training program will assist you in writing a nutrient management plan for your nursery or greenhouse operation. You must write a nursery nutrient management plan if you use fertilizers and you gross $2500 of over per year in sales. With this certification, you will be able to sign-off and submit your own plan and annual implementation reports.

Each program consists of a Training Day and an Exam/Signoff Day. The Training Day consists of learning the plan-writing process. After the Training Day you have about 5 weeks to study the Nursery Nutrient Management Training Manual and develop your plan. The Exam/Signoff Day will be for taking the exam and going over your newly developed plan (or renewing your old plan). The process is relatively simple for small (low-risk) operations, so if your operation size is less than 5 acres, we would strongly encourage you to think about becoming a certified operator. If your operation is larger than 5 acres, we still encourage you to become a certified operator even though the nutrient management process may be a little more complicated. Drs. John Lea-Cox and Andrew Ristvey will be happy to help you write your nutrient management plan.

The first day of the program will be April 9, 2014 at Central Maryland Research and Education Center. We have tentatively scheduled the Exam/Signoff Day for May 12th at Maryland Department of Agriculture in Annapolis, MD (that day may change to either the 13th or 14th depending on attendee’s schedules). After passing the exam, you will be able to “sign off” on your plan and submit it.

To express your interest in taking this training, please contact Mike Webster, Maryland Department of Agriculture at (410) 841-5957. State that it is for Nursery FTC. Call Andrew Ristvey (410) 827-8056 x113 for directions to the Central Maryland Research and Education Center or for any other questions.

MGGA Field Day
June 19, 2014 (afternoon through early evening)
Location: Tidal Creek Growers, Davidsonville, MD

Greenhouse Biocontrol Conference
August 6, 2014
Location: Maritime Institute, Linthicum, MD

Stormwater Management Program
August 20 and 21, 2014

TWO Locations:
August 20 - Montgomery County Extension Office, Derwood, MD
August 21 - Robinson Nature Center, Columbia, MD

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