Pest Management on Poinsettias 2014

David Smitley
Michigan State University
July 18, 2014

Neonicotinoid insecticides
Insecticide products that contain a neonicotinoid active ingredient are marked in this bulletin by an asterisk (*) immediately after the product name.

Starting clean
When each batch of media arrives for a new crop, check it for fungus gnats by filling a 1 gal Zip-lock bag 1/2-full with moist soil. If fungus gnat adults emerge within 3 weeks, consider applying a fungus gnat treatment at planting time. Start with clean plants. If you grow your own stock plants make sure they are clean before cuttings are taken. If you buy cuttings or plugs, examine them carefully when they arrive, and set new yellow stick card traps each time a section is planted.

Scouting
Monitor fungus gnats and whiteflies with yellow sticky cards. Change cards once per week. Use at least one card per house or one per 2,000 ft^2. Record data weekly for each section and be alert for sudden increases. Potato wedges can be stuck in soil and checked 24 hours later for fungus gnat larvae.

Systemic Insecticides for Whitefly Control
The following products are absorbed by plant roots following a soil-drench application, and move throughout the plant:

Safari* or Kontos.

Because of widespread resistance problems products containing Imidacloprid[1*] have performed poorly in efficacy trials, and thiomethoxam (Flagship*) has given mixed results, varying from poor to excellent control (Osborne, Vea and Palmer 2014).

Foliar sprays for Whitefly Control
The following products or combinations performed well in efficacy trials (Osborne, Vea and Palmer 2014):

Aria, Avid, *Beauveria bassiana*[2], Distance, Enstar II, Fulcrum, Judo, Kontos, Orthene 97 + Pyrethroid[3], Preferal[2], Safari*, Sanmite, Talus, Tristar, Xxpire[4.]

Nearly all the whiteflies on poinsettia are silverleaf whitefly, but most growers have the resistant B biotype and some have the Q biotype. You may have both resistant B and Q biotype. Resistance levels are highest in Q biotype. The recommendations above are for control of the B biotype. Products that are expected to work for B biotype but not Q biotype are underlined.

Several biorational products have been used for silverleaf whitefly in some situations but are not included in the list of recommended foliar sprays because of potential phytotoxicity to poinsettia (Horticultural oil, Insecticidal soap, M-pede, Pedestal), or because of inconsistency or low rates of control in silverleaf whitefly efficacy tests (Azadarachtin, Aza-Direct, AzaGuard, Azatin O, Ornazin).

Biological Control of Whitefly

A few growers in Michigan are now using biological control for whitefly on Poinsettia. If you would like to try biological control, this UC Riverside bulletin is a good resource: http://biocontrol.ucr.edu/bemisia.html

Successful biological control programs require frequent scouting for pests and beneficials, and working closely with a biosupply company representative. Two biosupply companies that work with growers in Michigan are: Biobest and Koppert. For a more complete list see this website:
http://www.bugladyconsulting.com/Suppliers%20of%20beneficial%20insects.htm

Soil Drenches or Sprenches for Fungus gnat Control:

Azadarachtin (Aza-Direct, AzaGuard, Azatin O, Ornazin), Benefit*, Distance, Marathon*, Flagship*, Kontos, Tristar* or Safari* as a soil drench.

Literature Cited

Osborne, Vea, and Palmer. 2012. Whitefly *(Bemesia tabaci)* management program for ornamental plants. IR4 and Cooperating University Entomologists.
https://mrec.ifas.ufl.edu/lso/BEMISIA/WhiteflyManagementProgram_2011.pdf

Abstract:
Whiteflies are significant pests of ornamental horticulture crops. Three whitefly species and biotypes contribute to crop production losses in the United States: greenhouse whitefly (*Trialeurodes vaporariorum*), silverleaf whitefly B biotype (*Bemisia tabaci* B Biotype), and silverleaf whitefly Q biotype (*Bemisia tabaci* Q Biotype). From 2002 through 2009, 76 products or rotational/tank mix treatments comprised of 39 different active ingredients were tested through this screening program. In addition to research collected through the IR-4 program, this summary includes a review of experiments conducted from 2004 to 2009 on ornamental horticulture crops. The best products for Q biotype eradication, and those that should be reserved for critical situations, were Judo and Safari. However, Avid, Sanmite, and TriStar also demonstrated effective control and should be utilized routinely as part of the overall management program for Bemisia whiteflies. Mycoinsecticides under these testing conditions did not perform as well as anticipated for Q biotype whitefly management.

Footnotes

***** Indicates that this product is neonicotinoid insecticide

[1] Products containing imidacloprid include: Marathon*, Marathon II*, Benefit*, Bounty*, Discus*, Imidacloprid 2F*, Lada 2F*, Imigold*, and Mantra*.

[2]Products containing live fungal pathogens (*Beauveria bassiana* or Preferal) work best when the spray containing fungal spores comes in contact with the target insects. There is little residual activity after the spray dries. Therefore, more frequent sprays may be needed to obtain the same level of control provided by more standard insecticide products with longer residual activity.

[3]Synthetic pyrethroid products include: Astro, Bifentrhin, Talstar, Decathlon, Tame, Scimitar and Mavrick.

[4]XXpire contains spinoteram and sulfoxoflor. It is expected to be available in fall of 2014.

***NOTE: More information is available on the Wall Chart, 'Insect Controls for the Greenhouse Industry', MSU Extension Bulletin E-2696. This wall chart is also available as an App for cell phones: http://msue.anr.msu.edu/news/msu_insect_wall_chart_for_greenhouses_goes_mobile