

**Patricia D. Hastings**

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**From:** "George Hamilton" <hamilton@AESOP.RUTGERS.EDU>  
**To:** <njinpasturformental@AESOP.RUTGERS.EDU>  
**Sent:** Saturday, January 18, 2003 7:45 AM  
**Subject:** Fw: University greenhouse uses IPM/Biocontrol

----- Original Message -----

**From:** [Ed Rajotte](#)  
**To:** [Recipient List Suppressed:](#)  
**Sent:** Friday, January 17, 2003 4:14 PM  
**Subject:** University greenhouse uses IPM/Biocontrol

**Bucknell Greenhouse Celebrates Four Years of IPM**

UNIVERSITY PARK, PA -- Take a look around the Bucknell University Greenhouse and you'll be hard pressed to find any noticeable pests among the facility's 3,000-sq. ft. That's because Greenhouse Manager Flora Eyster has implemented a highly successful integrated pest management program for the last four years.

Integrated Pest Management (IPM) aims to manage pests -- such as insects, diseases, weeds and animals -- by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible

For the last four years, Eyster has been using a combination of natural enemies and reduced risk compounds (such as IGRs - insect growth regulators) to control insects. When she took over the greenhouse, it was a stressed horticulture collection overrun with high whitefly and mealybug populations and had been sprayed heavily for the past ten years. Before implementing an IPM program, she had to do three pesticide sprays in a row on a weekly basis to knock back all the pests and start from scratch. By the year 2000 she was using only spot sprays, while last year, in 2001, Eyster was able to go pesticide-free. "Not a single aphid appeared in spring of 2002; something ate them that was installed for other purposes. That beneficial did double duty, as many of them do once the initial source of food runs out," Eyster explains.

Eyster contributes the success of the program to having tolerance and patience and allowing an IPM program time to get established. "You need to be willing to live within certain thresholds, be tolerant of problems and let the biocontrols work through their reproduction stages to maturity," she states. "This way you get more bang for the bug and the beneficial population can increase tremendously."

Since the collection, which consists of tropical, sub-tropical and arid plants, is open to the school's biology department for research as well as for children's groups, garden clubs and other members of the public, it was essential an IPM program become a success. With the help of Cathy Thomas, Pennsylvania Department of Agriculture bio-control specialist, Eyster has been successfully using mealybug biological controls, beneficial nematodes for highly damaging scale, as well as thrip, whitefly and spider mite biocontrols. "You just let the insects do all the work, stay out of their way and be mindful of not introducing any chemical products that go against the program or disturb their release areas in any negative ways," Eyster explains.

According to Eyster, constant monitoring is vital with sticky cards, as is the use of experimental release point stations and hatching and feeding areas for the beneficial insects. Often when plants are initially brought into the greenhouse from outside, she'll use predators in that area. She also makes sure the temperature, lights and humidity levels of the greenhouse provide an ideal environment for the beneficials. Conditions are so optimal often times the beneficials reproduce, causing alarm to the public. "They think the beneficials in their various life stages are pests, so I'll put up signs explaining what they are," Eyster explains. "The crypt beetle larvae actually move around and look exactly like a mealy bug until you examine it under a lens."

With the conservatory open to the general public, many people are being exposed to IPM and how it can be

successfully implemented. "Several thousand people tour the facility each year, so I make sure to reference IPM in each tour and provide signs and literature to explain what they are seeing," says Eyster.

Eyster couldn't be more pleased with their program, and advisors Dr. Warren Abrahamson and Dr. Mark Spiro also actively support the IPM efforts. "With so many people touring the greenhouse each year, it's nice to not have to worry about the timing of pesticide sprays and toxicity levels," says Eyster.

For more information on the Bucknell Greenhouse, visit their Web site at <http://www.departments.bucknell.edu/biology/facilities/tour.html>. You can take a self-guided tour of the desert, wetlands, and tropical and temperate forest habitats of the greenhouse.

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and nonagricultural situations. For more information, contact the program at (814) 865-2839, or Web site <http://paipm.cas.psu.edu>.

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