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Online Training Available

<https://pmu.ifas.ufl.edu/>

<https://eces.ifas.ufl.edu/>

Additional Resources

University of Florida
Extension Publications
<http://edis.ifas.ufl.edu/>

Pest Management in and
Around Structures

<http://www.eXtension.org/>

PMU Focus - Product Rotation

By [Michael Bentley](#)

Are you ready for 2014? Hoping your year includes plans for product rotation! (Note from Faith)

Product rotation is the regular introduction of new products or chemistries into an existing treatment protocol. As simple as it may sound, this is an important IPM strategy that is often overlooked.



Fig 1 Roaches feeding on bait. Photo:
<http://lancaster.unl.edu/pest/images/cockroaches/roachesbait1.jpg>

The goal of product rotation is to reduce pesticide *resistance*. **Resistance** occurs when some pests within a population are able to survive the application of a product. Those survivors produce more resistant individuals, and a resistant population eventually develops. The key to breaking this cycle of resistance is to regularly introduce new active ingredients into a treatment protocol.

Other types of resistance

- **Bait Aversion** –When pests learn to avoid a bait because of the food matrix, not the toxicant. For example, glucose aversion in cockroaches.
- **Cross Resistance** – Resistance to one products active

ingredient leads to resistance to other products with similar chemistry.

How to avoid resistance

Product Rotation – Plan product usage ahead of time by developing a product schedule. (Fig 2)

Month	Product
Jan	Maxforce Magnum FC
Feb	Vendetta
Mar	Alpine
Apr	Maxforce FC Select
May	Advance
Jun	Advion
Jul	Invict Gold
Aug	Alpine
Sep	Maxforce Magnum FC
Oct	Advance
Nov	Maxforce FC Select •
Dec	Advion

Fig 2: Roach bait rotation chart, created by Dan Lisenko. Photo by: Faith Oi.

- Implement product rotation. Plan product usage ahead of time by developing an annual product schedule.
- Diversify active ingredients and techniques, according to labeled laws. Do not rely on one product to always do the trick.
- Understand your products chemistry. Knowing how products work allows one to develop a more efficient and effective product rotation strategy.

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Want to hear short updates from us in between newsletters? “Like” us on Facebook and “follow” us on Twitter!



Upcoming Training Opportunities

Are you ready for 2014? Termite, GHP and L&O training available!

WDO category

Jan 29-31, 2014, [Termite Foundations](#), **only 8 slots left!**

Mar 13-14, 2014, [WDO Inspections and Form 13645](#)

July 30, 2014, [Termite Basics](#)

GHP Category

Feb 26-28, [GHP Foundations](#)

July 31, 2014, [GHP Basics](#)

L&O Category

Next spring enroll in Landscape IPM: Ornamentals and Turf, and take your first steps toward getting a UF Pest Management certificate or becoming LMA certified!

A three credit/12 week course will be offered starting January 2014 at the University of Florida (UF). The course is called "[Landscape IPM: Ornamentals and Turf](#)" and is course number IPM 4254. This course will be offered for UF credit and will be available for students that are enrolled at UF or for people outside UF that are interested in the material. UF will offer the course next spring (2014) and it will be available 100% online. You must have computer and internet access to take this class. This course is for UF juniors and seniors and landscape and pest management supervisors and owners.

This course will be used as a measure for LMA Certification. The LMA will offer students who pass this class (with an A or a B) the opportunity to become LMA Certified without additional testing since they will be tested as part of the course. This course will also count towards a UF Certificate in Landscape Pest Management.

Learn more about the UF distance program, including costs and how to register-

<http://entnemdept.ufl.edu/academics/distance/>

To register for this course please complete a Nondegree Registration Request at the following website:

<http://www.isis.ufl.edu/cgi-bin/eaglec?MDASTRAN=nda-intro>

You will need to fill out some personal information on the form and the following course information:

- Select Year and Term of Registration: 2014 Spring (January)
- College: THE COLLEGE OF AGRICULTURAL AND LIFE SCIENCES – Entomology Undergrad Distance Courses
- Course Information: Prefix- IPM. Number- 4254.

If you have trouble filling out this form and registering for the course please contact Ms. Ruth Brumbaugh, Entomology and Nematology Department Student Services Coordinator. Phone: 352-273-3912 Email: brumbaugh@ufl.edu . **Let Ms. Brumbaugh know you want to register for IPM 4254 as a Nondegree seeking student.**

If you would like more information about the course please contact the course instructor Dr. Jennifer L. Gillett-Kaufman Phone: (352)273-3950 Email: gillett@ufl.edu . She cannot help you with registration and will forward all registration requests to Ms. Brumbaugh.

Learn more from IFAS



- UF/IFAS has Extension Offices in each Florida's sixty-seven counties. We also have twelve Research and Education Centers and Research and Demonstration Sites (RDSs).
- If you need help a great place to start is your local County Extension Office. With an office located in every county it has never been easier to partner with the University of Florida and your local County Government. To find the office near you please visit: <http://solutionsforyourlife.ufl.edu/ma>

