What's New/What's Next: Biologicals vs. Traditional Pest Control Methods

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So many pesticide classifications, so many pest management decisions, how do you make sense of it all and be effective?

My primary goals for this presentation are:

- Discuss what qualifies as biological and what "traditional" means.
- Examine the challenges of using biologicals in the field.
- Explore what the future holds for landscape pest management.

As someone who works with individuals and companies to adopt integrated pest management strategies, I have not only an interest, but an obligation, to make people aware of "softer" pesticides. This can be confusing since they fall into different categories based on the active ingredient – what they are derived from. Listed below are three classifications:

Biological Pesticides (Biopesticides)

- Microbials - including bacteria, fungi, viruses, and protozoa that are effective in controlling target pests.
- Biochemicals that control pests by non-toxic mechanisms (pheromones)
- Plant-incorporated protectants (BT corn)

Biorational pesticides - pose a very reduced or no risk to the environment. Products are used in small quantities and degrade rapidly, leaving little residue. They can be of natural origin or similar man-made material.

- Growth regulators
- Oils
- Soaps

Reduced risk pesticides - have a low impact on human health, low toxicity to non-target organisms, low potential for groundwater contamination, lower use rates, low pest resistance potential, and compatibility with IPM. - *EPA Definition* These products are not considered biopesticides because of their toxic mode of action.

If you have never used a biopesticide, then you have to weigh the pros and cons. **What are the advantages of using biopesticides:**

- Usually less toxic than conventional pesticides.
- Generally affect only the target pest and closely related organisms, in contrast to broad spectrum*, traditional* pesticides that may affect organisms as different as birds, insects, and mammals.
- Often are effective in very small quantities and often decompose quickly, thereby resulting in lower exposures and largely avoiding the pollution problems caused by conventional pesticides.
- When used as a component of Integrated Pest Management (IPM) programs, biopesticides can greatly decrease the use of conventional pesticides.
- To use biopesticides effectively, users need to know a great deal about managing pests.

What are the disadvantages of using a biopesticide:

- Some are slower acting than traditional pesticides
- Narrower pest range
- Some have short shelf life so storage and usage needs to planned out
- More expensive than some of the older, traditional pesticides

What is the future of landscape pest management? This topic could be debated from a number of perspectives. I see three things that can impact you. Whether this is a positive or negative, I think has yet to be determined.

1. Pest management programs vs. products. I think more and more emphasis will be placed on selling pest management programs where you are giving customers more attention either face-to-face or in writing. This replaces selling products (pesticides) as scheduled treatments. Homeowners can have their lawns certified as environmentally friendly by a number of organizations, and this interest should continue to grown.

2. National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit (PGP). This may not impact many of you, but for those of you who do mosquito and other flying insect control, weed and algae control, and forest canopy pest control, you need to make sure you obtain this new permit (from EPA if in Massachusetts or New Hampshire). This is to protect water from point source pollution and exempts most agriculture.

3. Fertilizer application laws. Many states have implement, or are in the process, new lawn fertilizer application laws, particularly phosphorous and nitrogen, to protect water quality. In New Jersey, this requires commercial applicators of lawn fertilizers to obtain a fertilizer applicators license.

Relevant Websites

Biopesticide Industry Alliance:	www.biopesticideindustryalliance.org
Bio Pesticide Data Base:	http://sitem.herts.ac.uk/aeru/bpdb/index.htm
Rise of Biopesticides:	http://riseofbiopesticides.com
IR-4 Biopesticide database:	http://ir4.rutgers.edu/biopesticides/labeldatabase/index.cfm
EPA Biopesticides:	www.epa.gov/oppbppd1/biopesticides/index.htm

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