

Green Pest Management

By Michael A. Deutsch, M.S., BCE

“Green” is the environmental buzzword du jour and it consists of more than organically grown vegetables and free-range chickens.

Today, clients and consumers want eco-friendly products and services that benefit them and the environment — and they are demanding this of the pest management industry as well.

Despite the fact that for more than 100 years pest control used to be called exterminating, commercial, institutional, and industrial clients are now requesting bio-degradable household cleaners and pesticides.

When used by caring, fully trained, experienced, and certified pest management professionals, green pest management can create the healthier environment clients desire for themselves and the world at large.

The Beginning

Green pest control has its roots in Integrated Pest Management (IPM), which came into vogue during the 1980s.

It was borrowed from agricultural pest management as a way to manage pests using non-chemical methods that include mechanical, physical, and cultural protocols.

Chemical pesticides were also used, but in greatly reduced amounts and frequency, and new chemical pesticides were developed that were effective at much lower concentrations.

These newly developed materials had very short environmental life spans, which forced the pest management industry to look at alternate chemical protocols and to strengthen and refine their non-chemical ones.

With consumer pressure building for more environmentally friendly pest management methods, industry professionals had to adopt a more organic approach.

Green Ingredients

The chemical materials used in IPM programs today have changed.

We now use bio-pesticides (BP), which are biological materials that can kill pests and are derived from animals, plants, bacteria, and certain minerals.

Canola oil and baking soda, for example, have pesticidal applications and are considered bio-pesticides.

The chemistry is somewhat complicated, but it is safe to say that these naturally occurring materials, when processed and concentrated, have the same toxic effect on pests as synthetic materials with virtually no negative impact on human health or the environment.

Using bio-pesticides in combination with the non-chemical protocols of IPM has given rise to environmentally friendly pest management.

Bio-pesticides are usually less toxic than conventional pesticides and generally affect only the target pest and closely related organisms, in contrast to conventional broad spectrum pesticides that may affect organisms as varied as birds, insects and mammals.

Bio-pesticides often are effective in very small quantities and decompose quickly, resulting in lower exposures and lack the pollution problems caused by conventional pesticides.

When used as a component of IPM programs, BP can greatly decrease the use of conventional pesticides.

To use BP effectively, however, users need to be well-versed in pest management.

In fact, Green Pest Management has become a sub-specialty within IPM.

By the end of 2001, there were approximately 195 registered bio-pesticide active ingredients and 780 products.

Bio-pesticides return to the earth and are naturally recycled.

How Bio-Pesticides Work

Insects have certain unique enzymes in their bodies.

One of these is called Octopamine and it is found in all invertebrates.

Octopamine regulates an insect's heart rate, movement, behavior and metabolism.

Disrupting the action of Octopamine causes a breakdown of the insect's nervous system.

Certain essential oils found in plants contain natural chemicals that, when properly formulated and applied, kill pests by attacking its nervous system.

For example, an essential plant oil, known as eugenol, found in clove oil, has also been found to disrupt the insect's nervous system.

Many bio-pesticides contain this plant-derived oil.

The most common plant-derived pesticide is pyrethrum.

This material is well-known to pest management professionals.

It is found in hundreds of pesticide formulations combined with synthetic components called synergists, which enhance its ability to flush and kill insect pests.

It comes from a species of chrysanthemum only grown in a few countries around the world.

Biological Management and Environmental Sanitation

Green also means using mechanical, physical, and cultural pest management tactics, such as improving environmental sanitation, pest proofing by sealing access holes, altering landscape practices around a building to be less pest friendly, and establishing a pest monitoring program to determine pest population pressures.

Mechanical trapping devices for insects and rodents are a green pest management tactic that has long-term effectiveness and low to no negative environmental impact.

Biological management of certain pests can include the introduction of, for instance, ladybugs in the garden.

These beneficial insects consume plant pests, such as aphids.

Environmental sanitation or housekeeping and cleaning practices are essential parts of a holistic program.

Green programs must consider the entire structure and the immediate exterior environment as part of the pest management program challenges.

Removal of pest resources through effective sanitation programs is paramount in providing effective green pest management programs.

Cooperation between the pest management professional and the facility management team is probably the most important factor affecting the outcome of green programs in commercial, industrial, and institutional properties.

An example of a green program would be indoor fly management in a food service facility.

First, the fly must be correctly identified so the biology, habits, and behavior can be determined.

Inspect and identify the resource areas for these flies.

Filth flies feed on decaying organic matter.

Floor drains are excellent resources for these flies.

Once the decaying organic material is removed from the drain the filth fly population will be dramatically reduced.

Using pesticides is not the answer; however, cleaning and sanitizing the floor drain is.

This green method will provide long-term fly population suppression without the use of any type of pesticide, organic or synthetic.

Certification

Finally, be sure that your pest management contractor is state certified and familiar with the parameters of Green Pest Management.

Currently, IPM Institute of North America, a nationally recognized not-for-profit organization, is now providing “Green Shield Certification” for companies providing the correct degree of green pest management services.

This program is endorsed by the Natural Resources Defense Council (NRDC) and has been referred to as the next generation of pest control.

The emphasis on green will only continue to grow.

Finding a pest management contractor that is familiar with the proper methods and ingredients is key not only for you, but for your customers as well.

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