

PROFIT FROM IPM

**New products,
equipment and
techniques make
Integrated Pest
Management a
viable, and prof-
itable, option**

One advantage to IPM is that it eliminates harmful insects while preserving beneficial ones like this ladybug.

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Pest control techniques have certainly changed over the years. Having learned from our mistakes, we no longer look for the biggest hammer to strike the pest. Integrated Pest Management (IPM) allows improvements in both pest control and environmental safety.

The change in attitude is coupled by a diversification of products and application equipment. Commitments by landscape managers as well as pesticide and equipment manufacturers have led to the development of more effective, economical and

less toxic pesticides with better ways to apply them. IPM is no longer a new way of thinking as it was in the early 1980s; it's now the standard for pest control in turf and ornamentals.

IPM defined

If you are new to the landscape maintenance business, you may not know that IPM promotes the use of multiple approaches to keep pest populations within limit. For turf and ornamentals, this involves using adapted cultivars of plant material and sound cultural practices to prevent or reduce pest problems.

The objective is to reduce our dependency on pesticides. IPM doesn't completely reject pesticides, as many situations still require their use. However, when used as a preventive measure, it encourages you to select the least toxic, most effective products and apply them in strict accordance with the label directions.

The goal of IPM is not to have more governmental regulation and interference with our system of free enterprise. IPM merely offers sensible ways to serve your clients and help you make a nice profit from the services you provide.

The pillars of IPM

The basic techniques or facets of an IPM program are:

- **Scouting.** You may have heard the phrase, "Let's give this a look-see" for new products. In landscape management, this is called scouting. Well-maintained properties should be scouted several times each



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year. This can be provided as another customer service.

Scouting can serve many purposes: inspecting your irrigation system's performance; checking thatch thickness; and determining the presence of weeds, diseases and nutrient deficiencies. Your own check-off sheet can show each item listed in columns and should have a place for your technician to record specific conditions.

■ **Sampling.** This is an in-depth version of scouting. When you notice a problem during an inspection, take samples to confirm the diagnosis. The most direct way of sampling is attempting to locate pests around the damaged or injured area.

For example, symptoms of white grub injury include browning and thinning of the turf in irregularly shaped patches, ranging from two to ten feet in size, and can often be observed in the sunny lawn areas. While grubs may be present elsewhere in the landscape, full-sun turf experiences more stress, and this is where the damage will be visible first. Another symptom is the soft spongy feel of the turf, resulting from the grubs feeding on the roots and depleting the soil-thatch interface of its organic matter.

Sod webworm injury symptoms include brown and thinned turf, but instead of occurring in irregular patches the injury tends to show up more uniformly over larger areas. Sod webworm damage often mimics the injury from the *Bipolaris* leaf spot/melting out disease.

Both scouting and sampling require appropriate tools suited to the pest. For white grubs, a sod spade, shovel or a golf course cup cutter may be used. For webworms, you will need a watering can and some lemon-scented dishwashing detergent. Scale insects require a pocketknife, a 10x magnifier and hand pruners. Root rot can

be detected by digging plants with a shovel and inspecting the roots.

To see if the turf is infected with grubs, grab a handful of turf blades and pull them up. If the sod pulls loose easily, it's likely that grubs have eaten the roots. Peel away the sod in different directions looking for large, white, C-shaped grubs, usually found just below the thatch layer or in the upper inch of soil. Use the spade, shovel or cup

cutter to sample surrounding areas to determine the infestation's extent.

Unlike white grubs, sod webworms are tough to locate due to their small size — usually only a half-inch or so in length, and color — a light green to tan hue — that camouflages them. Webworms hide down in the thatch within a silken tunnel. To coax them to the surface, mark off a square yard of turf and pour soap solution (two table-

Make scouting and sampling work

As your focus shifts from "spray and pray" to a more prescribed approach, the mindset of your customers must shift as well. The customers need to start expecting something different — more looking and less spraying. They also need to begin placing a value on the expertise and diagnostic ability of the lawn professional. In the past, common practice has been to profit from how much product you can pump onto a lawn or tree. So if you've spent time scouting or diagnosing a property, you'd better find a bug or two to recover the cost of your time.



To help your customers change their mindset, you must: 1. Change your billing and/or contract, and 2. Increase your level of communication with the customer. Here's how:

- Devise a service contract that integrates routine inspection of turf areas and ornamental specimens with traditional scheduled visits for fertilization and pest control. Calculate what it costs for your technician to travel to the site and update their skills, along with other fixed costs for doing business such as insurance and overhead. Then, make routine scouting/sampling visits to the property and invoice the customer accordingly.

- Consider issuing a customer pamphlet that outlines common lawn and landscape pests. Customers will see you as someone who cares for the landscape. If you're able to provide clear information on aeration, fertilization, pruning and mowing, you'll be viewed more as a community resource than just someone out to make a buck.

- You can also communicate with your customers in subtle ways. Letterhead and invoices should advertise college degrees, industry recognition and any affiliations you have with professional trade associations. Company vehicles and equipment should display these logos as well. In short, charge for inspection and tout your credentials!



Sweep net sampling should be done after the initial scouting of a property when a problem has been noticed.

spoons of dishwashing detergent per gallon of water) and let soak. Webworms will wiggle up to the soil surface within 10 minutes.

■ **Resistant cultivars.** As you know, relying on repeated pesticide applications is costly. To strengthen your IPM program and reduce the need for chemical treatments, take advantage of the new pest-resistant landscape plants and turfgrasses released in the market each year. Examples of resistant cultivars you can incorporate into your IPM program are:

▶ Kentucky bluegrass cultivars that are resistant to *Bipolaris* leaf spot, a devastating disease that causes thinning of leaf blades and eventually the death of plant crowns.

▶ Crabapple cultivars that resist apple scab, a fungus that can defoliate the tree completely by midsummer.

▶ Turfgrasses infected with endophytic fungi in the genus *Acremonium* that have shown enhanced resistance to insect species such as aphids, armyworms, billbugs, chinch bugs, leafhoppers and webworms (endophytes are organisms, typically bacteria or fungi, growing within a plant). Among turf species containing endophytes are cultivars of perennial rye and certain tall and fine fescues.

■ **Sound cultural practices.** Plants that are properly installed and cared for experience fewer pest problems than those that are stressed. Traditional practices such as proper siting and establishment, fertilization, aeration, irrigation, mowing, pruning, soil testing, thatch control, mulching and others discourage pest development.

Research studies have documented an interesting example of this. Shade-giving trees such as ash, maple and birch are wonderful assets to a landscape if properly sited and maintained. But if they grow where it's too hot or where their roots are curtailed, they release certain compounds that attract boring insects who prefer to attack these trees instead of nearby healthy ones.

Properly fertilized, aerated and irrigated turfgrasses develop deep, extensive root systems. These types are more likely to grow well in spite of insect feeding on the roots. A lawn with a six- to eight-inch root system will tolerate more grub injury than one with short roots.

■ **Thresholds.** The need to control a given pest depends on its threshold level, or the number of pests present per unit area that will cause unacceptable harm. In



Full-sun turf experiences more stress, and this is where grub damage will be visible first.

high maintenance landscapes, thresholds are generally low and little or no damage is acceptable. Low maintenance areas such as parks may have higher thresholds. Consider control measures when the number of pests exceeds this preestablished threshold level.

The maintenance budget also affects thresholds. Pesticide applications can add considerable expense, and the property owner may often be willing to tolerate a few dandelions or brown patches of turf to

save money. Also, public perception or the potential for pesticide exposure affects thresholds. If plants at a shopping mall are infested with a few leafhoppers, the owner might think twice about having them sprayed, whereas a homeowner may have few qualms in this regard.

■ **Timing.** Look for pests and control them at the right time. Consider the life cycle of each pest before scouting and sampling. For example, masked chafer grubs feed on turf roots only as larvae, while Japanese beetles feed on grass roots as larvae and on landscape plants as adults. Neither species causes any injury as eggs or pupae. The cooperative extension office can provide life-cycle information for local pests.

Postemergent products should be applied in fall when most perennial broadleaf weeds are storing carbohydrates and nutrients in their crowns for winter and spring. After application, the herbicide is translocated downward along with the food. Weeds that don't die outright will be weakened and become susceptible to winter kill. Fall is also the best time to treat because newly germinated plants are easier to kill than large, mature ones commonly seen in spring.

Neighbors' vegetable and annual flower gardens are less likely to be affected by a little drift in fall than they would in summer or spring. Finally, there is less likelihood of phytotoxicity from the herbicide in cooler temperatures. **LM**

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