

THE COST AND BENEFITS OF INTEGRATED PEST MANAGEMENT FOR GOLF COURSES

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Introducing Integrated Pest Management in a golf course is a bold move: it requires more technical knowledge, support from the members, different equipment and switching from long-residual to short-residual pesticides.

But, using IPM also offers rewards: the satisfaction of doing quality work, getting results, and the ability to deliver a landscape of high quality.

Since 1994, CropHealth Advising & Research has helped private companies, public agencies and nurseries make the transition from traditional pest control to an IPM approach. From our experience, the transition process can be described as follows.

I. THE COST OF USING IPM

1) The golf course must develop a start-up program.

Using traditional pest management means spraying the plants and hoping it will work. Using IPM requires more technical knowledge and the ability to evaluate results. Each golf course going into IPM must first establish the type of program that suits its needs.

- Start small.

Initiate the program on a few sites to test the procedures and allow management to become familiar with the process. When the initial problems are solved, expand to more sites.

- Have a plant inventory for each site.

The maintenance file should include an inventory of plants found on each site to help identify genus more prone to serious pest problems.

- Prepare a calendar of seasonal pest problems.

Pests that kill plants or seriously affect their appearance must be known to allow good timing of pest management activities.

- Offer training to the employees.

They must be able to identify the plants they see and understand how the golf course will approach different pest problems.

2) The golf course must develop a monitoring plan.

With traditional pest management, you walk on the site, you spray the plants, you walk out. With IPM, the pest problems must first be found and identified to justify a treatment.

- Have a dedicated “scout”.

One person should be assigned the task of plant inspection. This person, often called a “scout”, must be given enough time to tour the facility and look for plant problems. This time must be dedicated to monitoring and not mixed with other tasks such as with pruning or weeding.

- Learn to recognize “normal” from “not normal”.

Many problems first appear on the newest foliage and will cause leaves that are pierced, deformed or discoloured. Seek the observations of field supervisors: they often work in dedicated areas and notice when a pest infestation is just starting.

- Allocate the required amount of time.

A golf course growing a large variety of plants will take longer to monitor than a golf course with a smaller selection. Also, the abundance of pest problems is seasonal, and spring monitoring often takes twice as long as summer monitoring.

- Write a short report.

Management and club members interested in pest management enjoy receiving information about the work that was performed, what they can do to help, and work that will be required in the future.

3) The golf course must invest in the program.

In traditional pest management, a maintenance company will walk in a yard and spray all plants with the same product. Golf courses using IPM must have an inspection procedure that is rapid and equipment that is accurate.

- Have appropriate equipment.

The monitoring scout will require hand-held lenses of 16 magnification, a pocket knife, and sharp pruning shears to examine plants and insects in the field. A laboratory space should be available with a table, shelves, a small refrigerator, a small microscope and a library of books.

- Have many spray tanks.

Spray companies should have two or three tanks on the truck, each containing a different product. Golf courses doing their own spraying should have one large tank pulled by a tractor and two or three back-pack sprayers for spot treatments.

- Use safe procedures when applying pesticides.

The applicator should be trained in safe handling and wear appropriate protective clothing, such as boots, gloves and coveralls. After a pesticide application, the area should be restricted for 24 hours for most herbicides and fungicides, and 48 to 72 hours for many insecticides.

4) The golf course must develop a new pest management attitude.

Traditional pest management is about spraying plants. With Integrated Pest Management, many pest problems are seen as a symptom of a deeper problem.

- Work on the needs of the plant.

Many plant problems are caused by environmental factors that are not fixed by pesticides, such as a soil imbalance, a lack of fertilization, or an overgrown plant in need of pruning.

- Switch to low-toxicity pesticides.

Products such as dormant oil, *Bacillus thuringiensis* and insecticidal soap are less harmful to humans, but also have specific targets, short residual life and are more expensive.

- Verify the treatment was successful.

In many situations, a pesticide application that was not successful can be traced back to a faulty application such as plugged nozzles or poor coverage of the plant.

- Is there any way to control the problem without pesticides?

Some pest problems come back every year and the only option is to apply a pesticide at the proper time. In other cases, the practices can be modified, for example by dropping a flower susceptible to aphids or by changing the irrigation schedule to prevent leaf diseases.

II. THE BENEFITS OF USING IPM

Companies, public agencies and golf courses that use Integrated Pest Management are more successful in their pest management efforts, but they also get other unexpected benefits.

- The clients are very supportive.

Members of the public enjoy an approach they associate to “preventative medicine” and prefer to have the plants not sprayed unless there is a valid reason.

- The employees are very supportive.

They gain confidence through the training sessions and can explain the program to club members. Most employees would rather fertilize a plant than spray it with a pesticide.

- There are fewer pest problems.

A successful IPM program will reduce the number of complaints regarding pest problems. A golf course with a beautiful landscape will attract sophisticated customers willing to pay more.

- The pesticide use goes down.

With a new IPM program, it is typical to increase spraying the first season to clean-up pest problems. Afterwards, the use of pesticide falls down to between 30 and 50% of previous use.

CONCLUSION

Integrated Pest Management is an effective method to tackle pest problems on a golf course. For a successful IPM program, there must be a solid commitment from management to make it work, and the program must be results-oriented for the clients to support it.