

IPM Plan for Campus Landscape

Statement of Purpose

The purpose of this integrated pest management (IPM) plan is to guide the use of environmentally sensitive pest management strategies and using the least-toxic control methods at Washington University to enhance the health and safety of campus landscape users and protect the environment.

Goals

The goals of this IPM program at Washington University are as follows:

1. To protect human health and the surrounding environment by utilizing a range of preventative strategies and using least-toxic products for pest control and eradication.
2. Inspect and monitor pest populations to enhance or adjust control strategies.
3. Maintain the low use of the quantity and toxicity of chemicals used for pest management.
4. Keep environmental impacts low by using species-specific pesticides and targeting all application areas very carefully when needed.
5. Establishment of clear criteria for acceptable circumstances in which using a pesticide other than a least-toxic pesticide is necessary; toxic pesticides should only be used when there is a threat to public health and safety, or to prevent economic or environmental damage, and only after other alternatives have proven to be ineffective.
6. Provide campus landscape users with advanced notice of IPM activities involving use of a pesticide other than a least-toxic pesticide.

IPM Response Plan

One characteristic of an effective IPM approach is that the basic decision making process is the same for any pest problem in any location. The way the issue is addressed may change a bit, but the steps taken to decide if and when treatment is needed and which methods to use are the same each time. The Washington University IPM program is built around the following components:

- Monitoring any present pest populations and factors that are related to it.
- Identifying any pest populations as accurately as possible.
- Determining injury and action levels that may initiate treatments.
- Understanding the timing of treatments so they are most advantageous.
- Using “spot treatment” application processes rather than a blanket approach.
- Using tactics that are least disruptive to the campus community and landscapes.
- Evaluation of the treatments and processes used for future actions.

Setting Injury and Action levels

Before any course of action can be determined, it is first very important to determine the injury level. The injury level is the level of damage or pest population that creates an unacceptable injury or disruptive situation. Once the injury level has been determined, an action level can be set that makes sense. The injury level will always be higher than the action level. This means that the action should occur before the situation progresses to the unacceptable injury stage. The action level is the level of pest damage (or number of pests) that triggers treatment to prevent reaching the injury level.

Factors To Consider Regarding The Pest Location:

- Is the pest causing a health concern?
- Is the pest creating a safety issue?
- Is the pest just being a nuisance?
- Is there a unique situation that the pest has created to be concerned about?

Actions That Can Be Taken To Control The Problem:

- Monitor the pest population
- Determine injury and action level
- Remove the Pests' food and water source
- Reduce the shelter and protection that the pest has
- Treat the problem
- Follow up

The location and issue of the pest is important to assess before any action can be taken. This exemplifies very good IPM management.

Types Of Injury To Be Taken Into Consideration:

- ***Aesthetic Injury***-this would just be considered injury that makes the plant look poor without compromising it.
- ***Economic injury***-this is any pest injury that causes direct or indirect monetary loss.
- ***Medical Injury***- this is related to any health problems caused by pests in humans or animals.

Criteria for Selecting Treatment Strategies:

- Least hazardous method to human and animal health.
- Least disruptive of natural controls in landscape situations.
- Least toxic to non-target organisms other than natural controls.
- Most likely to be permanent and prevent recurrence of the pest problem.
- Easiest to carry out safely and effectively.
- Most cost effective in the short and long term.
- Most appropriate to the site and maintenance systems.

Treatment Options:

Education-This is a very cost effective strategy that can help change people's behaviors through information. Planting the right plant for the right place comes to mind here, there are pest resistant plants that can be planted for control and management.

Habitat Modification- the basic principle here is that pests need food, water, and shelter to survive. If we can eliminate or reduce the resources that pests need to flourish, the environment will support fewer pests. We must be careful to balance beneficial pest knowledge with non-beneficial pest knowledge in this situation.

Physical Controls- this is an option that many people seem to overlook and not utilize. Simply taking the time to physically remove the pests (if possible) can also be a great method of control. Removing bagworms by hand or spraying the undersides of leaves with water to remove mites are two common examples.

Biological controls- a biological control is a method that uses a pest's natural enemies to attack and control the pest. Biological control strategies include conservation (conserving the biological control application), augmentation (artificially increasing the number of biological controls in a given area) and importation (importing foreign controls).

Least toxic chemical controls-Least toxic pesticides are those with all or some of the following characteristics:

- They are effective against the target pest
- Have a low acute and chronic toxicity to mammals
- They biodegrade rapidly
- Kill a narrow range of target pests
- Have little or no impact on non-target organisms

Least toxic chemical control materials can include the following:

- Insect growth regulators
- Repellants
- Pheromones and other attractants

- Dessiccating dusts
- Some botanical pesticides such as pepper products

The following criteria should be utilized when selecting a pesticide:

- Safety
- Species specific
- Effectiveness
- Endurance
- Speed
- Repellency
- Cost

At Washington University, we definitely take IPM seriously and strive to practice the program at all times. Being proactive in our plant choices, plant location, maintenance, and irrigation are just a few example of things that we practice to help reach the IPM goals. Constantly scouting for pests and staying up to date with the current knowledge of pests, also helps to achieve the IPM goals as well. We take pride in the fact that we do not perform any blanket pesticide applications on campus and have minimized our use down significantly. We do not use any pesticides on our turf unless it is absolutely necessary. On occasion, we do use a granular insecticide around the base of a tree if it has a pest population that will kill it. We do what is best for the landscapes and the community at Washington University and understand that a solid IPM program is vital for health and longevity of our ecosystems.

The Washington University Grounds/Horticultural Manager is responsible for overseeing the implementation of the IPM plan and ensuring compliance with the landscape contractor.

The landscape contractor is also responsible for adhering and practicing this IPM program and policies.

Any employee of the landscape contractor who is applying pesticides shall have the proper applicator license and training.

