SOUTHWESTERN UNIVERSITY
Sustainability

INTEGRATED PEST MANAGEMENT

Least Toxic Integrated Pest Management Plan

Introduction

Southwestern University (SU) is committed to practices of sustainability. SU's least toxic Integrated Pest Management (IPM) plan endeavors to uphold all three pillars of sustainability: economic, environmental, and social sustainability. Economic sustainability is attempted by constantly inspecting the land in an effort to prevent major pest problems which could require corrective, and possibly expensive, action. Environmental sustainability is achieved by consistently taking a least harmful to most harmful approach to every pest problem. Finally, social sustainability is reached by providing the campus and local communities with a well-managed, non-toxic environment, with balanced and controlled pest populations.

1. Inspection

Inspection is the most important aspect of SU's IPM plan. Every day Facilities staff inspect the campus grounds in an attempt to catch problems before major management such as pesticide application is needed. Inspection is a constant, ongoing process, and is absolutely necessary for the prevention of pest problems, as well as for the prevention of harmful corrective action.

2. Preventative Action

Facilities determines what the problem is and looks for the root cause. Simple preventative action of the root cause, such as altering watering levels, then takes place in order to hopefully correct and prevent this problem in the future.

3. Monitoring

Monitoring is similar to inspection — once a problem is discovered, it is continually monitored at each and every step of the process. After any action is taken, Facilities returns to the monitoring stage; if a chemical pesticide was used, did the pesticide travel further than the problem site?

4. Overall Analysis

At this stage, if simple action has not corrected the problem, an overall analysis takes place. What is the problem? What led to the problem? What needs to be done to correct the problem that has not already been attempted? Why did previous attempts fail?

5. Reevaluation

Facilities incorporates a top-to-bottom approach for pest management action, always beginning with and moving from least harmful to most harmful. Following any action taken, work on the problem returns to the monitoring stage, followed by analysis, followed by reevaluation; if the action failed, another action is attempted, and again Facilities returns to monitoring the problem. It is a long, multistep, cyclical process, and lasts about a month in most cases.

Actions fall into four primary categories:

1. Cultural Management Practices
   - This is the first, primary line of defense against pests, and generally incorporates altering watering levels and soil quality such as through mulch or fertilizer application.
2. Mechanical Management Practices
   - This is the second line of defense against pests, and is used only when cultural practices fail to counteract the problem. These practices incorporate physical controls such as mowing, trimming, removing problem species such as weeds by hand or with tools, trapping and releasing larger species such as skunks and opossums, etc.
3. Biological Management Practices
   - This is the third line of defense against pests, and is used only when cultural and mechanical practices fail to counteract the problem. These practices can be biological, such as the use of predatory bird calls to keep grackles and other pest birds off of campus, as well as pesticidal, such as the use of Diatomaceous Earth.
4. Chemical Management Practices
   - This is the final line of defense against pests, and is *only* used as a last resort when all preceding management practices fail. The problem has almost always been corrected by this point, and chemical action is not necessary.
   - As with management practices, a top-to-bottom approach is taken with chemical use. One of the more common chemical pesticides used is Copper Sulfate, as long as the problem is not near a body of water or creek bed.
   - The most frequent use of chemical pesticides on Southwestern's campus is on weeds on sports fields, which are consistently mowed and do not attract pollinator species.

Tradeoff: Aesthetics vs. Sustainability

Very occasionally, SU is faced with a tradeoff between aesthetics and sustainability. The most prominent time this balance is shaken is during major events such as Homecoming that bring in massive amounts of revenue for the University, as well as occasionally for major Board meetings in the spring semester.

At events such as these, Southwestern may choose to utilize pesticides more heavily; for example, in preparation for Southwestern's 2019 Homecoming, the Academic Mall, the central lawn between the primary academic buildings, was treated for mosquitos, using chemicals that are non-toxic and harmless to people and pets. Widespread pesticide applications such as these are very rare and are an exception to SU's least toxic IPM principles.