Susquehanna University

Integrated Pest Management Plan

Introduction

The Integrated Pest Management Plan (IPM) at Susquehanna University (SU) establishes a sustainable methodology to manage pests through preventative measures, physical, mechanical, cultural and biological controls, and/or chemical management tools to minimize economic, health, and environmental risks of Susquehanna University's campus maintenance.

Objective

- Eliminate significant threats caused by pests to the SU campus and community (faculty, staff, students, and visitors).
- Prevent the loss or damage to property by pests.
- Protect the environmental quality of campus.

Preventative Measures

A healthy campus landscape begins with preventative measures to discourage pests wherever possible. Preventative measures may include plant selection, soil amendments, water management and diversion, and physical structures, such as walls. Native plants to our region and/or plants proven not to introduce disease, insect problems or to become invasive will be selected for campus. Plants will be selected based on specific environmental conditions of the site. This includes naturally available light, water, nutrients and protection. Soil amendments will include the use of natural materials whenever possible, including application of compost, manure and organic fertilizers. Removal of diseased plantings is important to prevent the spread of plant disease.

General preventative measures are landscaping procedures that eliminate sources of food, water, and shelter that attract pests. SU will adhere to the following methods as the first and primary means for controlling pests and preventing outbreaks:

- Use mulch and other landscaping best practices to promote soil and plant health
- Use weed-free soil amendments
- Maintain and plan landscape features to eliminate safe havens for pests and rodents
- Clean up plant debris, especially from fruit-bearing trees
- Remove invasive plants that are known to harbor or provide food for pests

Assessment Steps

Upon the discovery of a pest on campus, Facilities Management staff will take the following steps to address the concern:

1. Identify the pest
2. Monitor and assess pest numbers and potential damage
3. Consider all treatment options which may include physical, mechanical, cultural, and biological controls and/or chemical management tools
4. After action is taken, assess the results of treatment
5. Determine if measures exist to eliminate the need of future treatment

Physical/Mechanical/Cultural Controls

These controls should be considered as the first option to pest management. Physical controls include human powered pest control such as hand weeding or hand picking of pests. Mechanical controls include pest management activities that utilize machinery to aid in pest management such as traps. Cultural controls are activities that are built in to the campus landscape such as planting pest resistant crops, removing plant residue at the end of the season,

creating habitat for predator species, or fencing or other barriers. Some of these controls may coincide with preventative measures.

Biological Control

Biological controls utilize the predatory nature of certain organisms to control the population of another organism that is considered a pest. Ideally, the biological control is introduced when the pest population is low to medium density and have few side effects to humans, other plants and animals. These controls may take a while to produce results as the biological control needs time to become established.

Chemical Management Tools

After consideration of other pest control options, pesticide application is the last resort. The selection of a pesticide will consider the safest and least toxic products to humans and the environment.

When selecting a pesticide, the following should be considered:

- Safety
- Species specificity
- Effectiveness
- Endurance
- Speed
- Cost

Steps to reduce negative impacts of pesticide use include:

- The evaluation of alternative treatments to chemical treatment before application
- Spot treatment of affected areas instead of blanket coverage
- When available, granular varieties of pesticides will be used instead of liquid and spray versions
- Application occurs during the morning or evening when pollinators are least likely to be active
- Pesticides are not applied to plants with flowering buds, whenever possible
- All labeled instructions are followed
- Proper safety equipment is used at all times

Pesticide Free Zones

Of the 322 acres of SU's campus, many areas receive zero pesticides. These areas create healthy and safe habitats for native and honey producing pollinators. The 87 acres of the Center for Environmental Education and Research do not receive pesticides with exception for research projects and at the Freshwater Research Institute building's foundation. In fact, 30% of SU's grounds do not receive regular pesticide treatments and only has a treatment applied when a pest threatens the health and safety of campus or its property.

Safety and Compliance

All pesticide storage, transportation, and application will be conducted in accordance with the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code136 et seq.), Environmental Protection Agency regulations in 40 CFR, Occupational Safety and Health Administration regulations, and local ordinances.

No individual shall apply, store, or dispose of pesticides on SU managed property without a valid pesticide applicator license.