



UCI IRVINE

INTERIOR AND EXTERIOR INTEGRATED PEST MANAGEMENT PLAN

Updated January 2017

I. Statement of Purpose

The purpose of this Integrated Pest Management (IPM) plan is to guide the use of environmentally sound pest management strategies and least-toxic control methods at the University of California, Irvine (UCI) to protect the health and safety of the campus community and environment. IPM at UCI is defined as managing indoor and outdoor pests (plants, fungi, insects and/or animals) to protect human health and the surrounding environment and improves economic returns through the most effective, least-risk to humans and the environment. Core elements of IPM include:

- Prevention
- Use of least-toxic chemical pesticides
- Minimum use of chemicals
- Use of chemicals and pesticides only in targeted locations and for targeted species
- Defined decision making process
- Routine inspection and monitoring
- Proactive communication

To ensure building users are informed and empowered to care for their own health with regard to pest management activities, the plan includes procedures for notifying occupants and visitors in advance of any pesticide application other than a least-toxic pesticide.

II. Goals

The goals of the IPM program at UCI are:

1. Protect human health and the campus environment by employing a range of preventative strategies and using least-toxic products for pest control and eradication.
2. Inspect and monitor pest populations and locations to enhance control strategies.
3. Minimize the quantity and toxicity of chemicals used for pest management.
4. Minimize environmental impacts by using species-specific pesticides and targeting application areas carefully.
5. Establish clear criteria for acceptable circumstances in which using a pesticide other than a least-toxic pesticide is necessary; toxic pesticides use shall be limited to conditions which present a threat to public health and safety or pose a risk of economic or environmental damage, and only after other alternatives have been implemented and are shown to be ineffective.
6. Provide building occupants and visitors with advanced notice of IPM activities involving use of a pesticide other than a least-toxic pesticide.

III. Strategy

IPM strategies shall be used in all land areas and facilities under the management of the UCI campus and will be implemented to the maximum extent possible. IPM promotes the use of a range of preventative and non-chemical approaches to suppress pest populations and infestations. If an infestation with unacceptable impacts occurs, thereby warranting additional treatment, IPM then favors the use of least-toxic and effective pesticides. The targeted application of a toxic pesticide is used only after all other reasonable non-toxic options are evaluated or exhausted. This plan outlines preventative best practices and management strategies approved for use on site. Provisions for the use of least-toxic pesticides, and toxic chemicals when necessary, are outlined should a pest infestation occur.

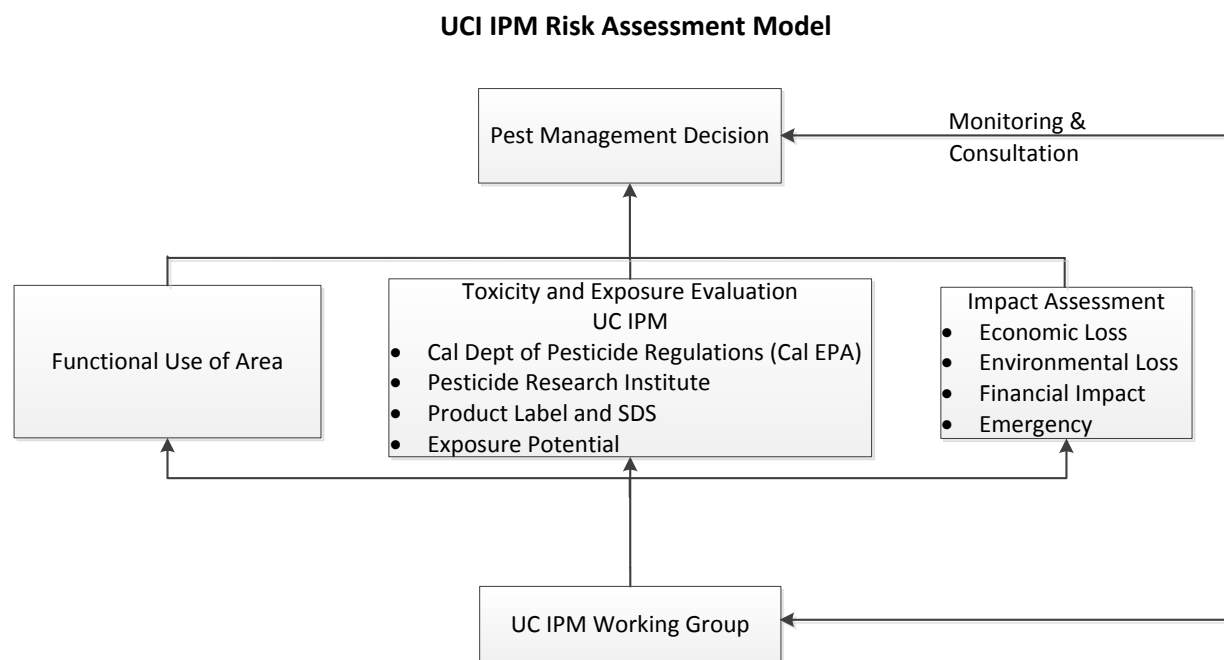


Figure 1

As described in Figure 1, decisions on pesticide selection and application will be determined by evaluation of several factors: the functional use classification of the affected area, the toxicity and exposure evaluation of the materials to be used, and impact to people, property, or significant environmental or economic damage. UCI staff will make decisions on materials and application rates based on review of the University of California IPM, US Environmental Protection Agency's (EPA) pesticide classification identified through the California Department of Pesticide Regulation (Cal EPA) database, the Pesticide Research Institute database, product label and the Safety Data Sheet (SDS), and exposure potential.

IV. Scope

This IPM plan applies to the building interior and grounds for UCI. The plan includes approved IPM strategies for managing and eradicating pests that are common to the campus, and provides resources to facilitate learning about new and emerging IPM strategies. This plan is applicable at all times at UCI.

V. Definitions

Emergency – A pest outbreak that poses a threat to public health, safety, or will cause significant economic or environmental damage. California Department of Pesticide Regulation states “any circumstances in which the school facility designee deems it necessary to protect the health and safety of pupils, staff, other persons, or the facility [Education Code §17609(c)]

Least-toxic pesticide – Any pesticide product that meets the standard of low (caution) hazard, and considered a least-toxic pesticide based on the “EPA Acute Toxicity Signal Words” criteria described below. Least toxic products are the next line of defense against pests after preventative measures are evaluated or exhausted.

Pesticide – Any substance, or mixture of substances, used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may be detrimental to vegetation, humans, or animals.

Material Classification – UCI will rely on a tiered classification system for selection of materials based on review of the following resources:

- UC IPM Database
- California EPA’s pesticide classification systems based on hazard potential
- Pesticide Research Institute Database

Products will be evaluated against comprehensive list of hazard criteria including carcinogenicity, reproductive toxicity, endocrine disruption, acute toxicity, hazard to birds/fish/bees/wildlife, persistence, and soil mobility, and are placed within the Tier structure based on the best available scientific information.

1. Danger (EPA Toxicity Category I)
2. Warning (EPA Toxicity Category II)
3. Caution (EPA Toxicity Category III)

And, the Pesticide Research Institute

1. Tier 1 High Hazard
2. Tier 2 Moderate Hazard
3. Tier 3 Low Hazard

VI. Record Keeping

Monitoring the effectiveness of the IPM plan over time requires the tracking of: pest populations and locations; management strategies employed; quantities and types of chemicals and products used; and the outcome of pest management activities. The Co-Chairs of the UCI IPM Stakeholder group shall maintain records that include the information below.

1. Target pest
2. Prevention and other non-chemical methods of control used
3. Type and quantity of pesticide used
4. Location of the pesticide application
5. Date of pesticide application
6. Name of the pesticide applicators
7. Application equipment used
8. Summary of results

VII. Performance Measurements and QA/QC

The environmental performance of the IPM program shall be compiled from IPM records and analyzed on a semi-annual basis. An IPM report identifying the types of pest problems encountered at the building and the types and quantities of all pesticides used shall be generated by UCI IPM Staff and presented to UCI IPM Stakeholders for review. The following metrics shall be tracked throughout the year and documented in the report to evaluate the IPM plan at UCI over time:

1. The location of all major pest infestations
2. The amount of each pesticide product used

VIII. Responsible Parties

The UCI IPM Stakeholders Group Co-Chairs are responsible for the implementing the IPM plan and providing guidance and resources to the organization.

The UCI IPM Stakeholders Group Co-Chairs are responsible for record keeping and performance measurement. These positions shall measure and track performance over time, and are responsible for compiling and synthesizing the annual IPM report on metrics.

The UCI IPM Stakeholders Group Co-Chairs are responsible for quality assurance/quality control processes. This position shall verify that the plan is being implemented consistently and correctly, that performance persists over time, and that performance measurement methods truly reflect actual outcomes.

Contact Information:

UC Irvine IPM Stakeholder Group Co-Chairs
Facilities Management – (949) 824-5444
Environmental Health & Safety – (949) 824-6200

IX. Pest Control Contractors

When UCI enters into a new pest control contract or extends the terms of an existing contract that authorizes a contractor to apply pesticides in the building interior or grounds, the contract shall require that the contractor comply with this IPM plan. The contract documents shall also require the contracted company to maintain records in accordance with the IPM plan and submit this information to UCI IPM Stakeholder Group Co-Chairs when requested.

X. Building User Notification

Notifying building users of pesticide applications other than a least-toxic pesticide or a bait formulation that is in a bait station, such as ant bait, is a critical component of the IPM plan. Providing building occupants and visitors with the appropriate information at the appropriate time enables individuals to take precautions as they see necessary to protect their personal health. At UCI, a 24-hour advance notice to building occupants is required for the application of any pesticide other than a least-toxic pesticide. Advance notice procedures shall take the following form:

1. Posting a written notice at all building entry locations and/or communication notification 24-hours before application of the pesticide product, and reentry time if indicated on the product label.
2. Each communication must contain the following information:
 - a. The location
 - b. The name and active ingredient of the pesticide product
 - c. The targeted pest
 - d. The application date
 - e. The signal word indicating the toxicity category of the pesticide product
 - f. The name and contact information of an individual that is responsible for fielding questions regarding the application.
3. Copies of the notice or email shall be retained for record keeping purposes for one year.
4. Pesticides applied to non-contiguous areas of less than 10ft² and less than 10% of the entire site will not need posting/notification (e.g., incidental spraying of weeds in cracks or small patches of weeds in a field). Where pesticides are applied in a larger area or otherwise applied as a broadcast, then posting/notification will be required.

XI. Functional Use Classification

Pest Management decisions will be guided by the functional use of the affected area. The following functional use categories and restrictions will be used:

Functional Use Classification	Included Facilities	Restrictions
1. Occupied Buildings	Any occupied structure	Restricted to least toxic except emergencies
2. Recreational or	Parks, recreational	Least toxic priority with

Functional Use Classification	Included Facilities	Restrictions
Public Space	playfields, and playgrounds, public plazas, seating areas, outdoor dining areas, and other public gathering spaces	additional tiers available based on risk assessment and functional needs
3. Athletic Facilities	Baseball Park, Soccer Stadium, ARC, and other facilities used for NCAA athletic competition and training.	Least toxic priority with additional tiers available based on risk assessment and functional needs
4. Non-Recreational Open Space	Greenbelts, slopes, shrub and groundcover planting areas with low risk of public contact, roadway medians and parkways, parking lot islands and perimeter, bike and pedestrian trails.	Least toxic priority with additional tiers available based on risk assessment
5. Habitat Areas	Upland and wetland habitat areas	Based on risk assessment in consultation with faculty biologists
6. Research Projects	Indoor or outdoor research projects or plots.	Based on risk assessment in consultation with investigator

XII. Risk Assessment for Outbreaks

Pesticide management decisions will include a risk assessment to determine if a pest outbreak is considered an emergency that poses a threat to public health or safety, or if it poses a risk of significant economic or environmental damage. Structural emergency pesticide applications require notification within 24 hours after application to building users. Emergency work will be performed after normal business hours whenever feasible.

XIII. General Preventative Practices

General preventative practices are housekeeping and landscaping procedures that eliminate sources of food, water and shelter that attract pests to the building grounds and interior. UCI shall use the following methods to control pests and prevent outbreaks:

Landscaping and Site

Use mulch and other landscaping best practices to promote soil and plant health.

1. Use weed-free soil amendments.
2. Maintain and plan landscape features to eliminate safe habitats for pests and rodents.

3. Keep vegetation trimmed near the building and fill area with stones or similar material to prevent nesting.
4. Clean up plant debris, especially from fruit-bearing trees.
5. Avoid using plants that are known to harbor or provide food for pests.

Buildings

1. Maintain the building envelope by weather-stripping around windows and doors, installing door sweeps, screens or other barriers, any food should be stored in pest resistant containers, and sealing cracks and crevices to prevent pests from entering the building.
2. Remove hiding places by cleaning up clutter such as cardboard boxes, crates, used tires, and wood piles.
3. Manage trash receptacles and dumpster areas for clutter and cleanliness to minimize food sources and hiding places. Garbage containers should be clean, free of odors and covered, where feasible.
4. Eliminate water sources by fixing leaky pipes, cleaning out drains and rain gutters, and preventing water from pooling on concrete or soil after irrigating landscape.

Inspections

Visual inspections of campus buildings and grounds shall be performed on a quarterly basis. Written observations, recommendations and descriptions of IPM activities will follow each quarterly inspection. The overall IPM program will be reviewed on an annual basis as part of contract renewal procedures.

XIV. Approved Pesticides

IPM as a pest management strategy that focuses on long-term prevention or suppression of pest problems through a combination of techniques such as monitoring for pest presence and establishing treatment threshold levels, using non-chemical practices such as improving sanitation, and using mechanical and physical controls. Pesticides that pose the least possible hazard and are effective in a manner that minimizes risks to people, property, and the environment are used only after careful monitoring indicates they are needed.

When a pesticide is necessary, UCI uses a tiered system for selection of materials based on review of the University of California IPM, EPA pesticide classification identified through the California Department of Pesticide Regulation, the Pesticide Research Institute, product labels and SDS and potential for exposure.

XV. Pests & Treatment

In order to ensure that UCI is implementing best practices in all pest treatment applications, UCI will implement the methods and procedures for each target pest based on the current criteria provided in the University of California Integrated Pest Management Program Online (<http://www.ipm.ucdavis.edu/index.html>)

XVI. Training

All UCI staff and contract pest service providers at UCI are required to:

- a. Maintain licensing requirements with the California Department of Pesticide Regulation and/or California Structural Pest Control Board including all requirements for ongoing continuing education as provided by the Board
- b. Participate in monthly training sessions focused on pest management techniques, procedures and protocols
- c. Attend appropriate vendor and service provider trainings related to product use and health & safety procedures for working with pest products.

XVII. Resources

1. University of California Agriculture & Natural Resources Statewide Integrated Pest Management Program
<http://www.ipm.ucanr.edu/>
2. California Department of Pesticide Regulation (Cal EPA)
www.cdpr.ca.gov
3. Pesticide Research Institute
<http://www.pesticideresearch.com/site/evaluator/>