DIVISION OF
STUDENT AFFAIRS
RESIDENTIAL FACILITIES

University of Maryland, Department of Residential Facilities
Integrated Pest Management Program

Statement of Purpose

This document outlines the Department of Residential Facilities (DRF) existing in-house Integrated Pest Management (IPM) program for the residence hall program at the University of Maryland, College Park. The department's in-house IPM program is designed to reduce use of pesticides and other potentially harmful chemicals while emphasizing use of non-pesticide techniques and strategies. The overall program objective is to minimize the environmental impacts of the department's pest management operations and help protect the health of both employees and building occupants.

Included in this document are the department's existing chemical and supply purchasing standards, as well as, the approach and work methods currently employed in support of the overall program objectives.

Recognition and Certification

In 2005, the department's integrated pest management and housekeeping programs were accepted into the US Environmental Protection Agency's Pesticide Environmental Stewardship Program (PESP). This voluntary program forms partnerships with pesticide users to reduce health and environmental risks associated with pesticide use and implement pollution prevention strategies. By joining, organizations pledge that environmental stewardship is an integral part of pest control and they commit to working towards pesticide practices that reduce risk to humans and the environment. Members take a strategic approach to risk reduction and undertake specific, measurable activities toward achieving their risk reduction goals. This partnership represented the first of its kind between the EPA and a housing program in higher education.

In October 2008, the department's Housekeeping and Urban Biology programs were awarded the Cleaning Industry Management Standards – Green Building Certification (CIMS – GB). Residential Facilities was the first university program certified under the CIMS – GB designation.

The GB designation is tailored to address LEED-related requirements and recognizes the green/environmental practices of Residential Facilities' existing IPM and green cleaning programs.

Campus Facilities Serviced by DRF

The Integrated Pest Management program outlined in this document applies to the following residential and recreational facilities serviced by the department.

Ellicott Community – Ellicott Hall, Hagerstown Hall, LaPlata Hall

Denton Community – Denton Hall, Easton Hall, Elkton Hall, Oakland Hall

Cambridge Community – Bel Air Hall, Cambridge Hall, Centerville Hall, Chestertown Hall, Cumberland Hall, Cambridge Community Center

Heritage Community – Pyon-Chen, Johnson-Widdle

Campus Recreation Services – Eppley Recreation Center, Golf Course Clubhouse, Ritchie Coliseum

North Hill Community – Anne Arundel Hall, Caroline Hall, Carroll Hall, Dorchester Hall, Queen Anne's Hall, Somerset Hall, St. Mary's Hall, Worcester Hall, Wicomico Hall, Prince Frederick Hall

South Hill Community – Allegany Hall, Annapolis Hall, Baltimore Hall, Calvert Hall, Cecil Hall, Charles Hall, Frederick Hall, Garrett Hall, Harford Hall, Howard Hall, Kent Hall, Montgomery Hall, New Leonardtown, Prince George's Hall, Talbot Hall, Washington Hall

Program Description and Approach

Monitoring and Inspection: Since 1980, Residential Facilities' in-house program has employed Integrated Pest Management as the working philosophy for pest management in the campus' residence hall facilities. Central to this philosophy is the use of regular inspections to identify pest problems and building or behavioral conditions that are potentially contributory.

Each building receives evaluation on an inspection cycle designed to meet the special needs of that building. Regular and well timed building inspections allow program staff the opportunity to detect problems before they become large and entrenched or even noticed by building occupants; by catching problems while they are still small, corrective actions can be tailored to match, often eliminating the need for any pesticide use. Further, inspections allow program staff opportunities to evaluate and fine-tune previous corrective actions, interact and receive input and observations from our residents and staff and detect health and safety issues unrelated to pest management.

Each inspection is designed to determine if the building envelope and utility systems are intact and able to repel insect and animal entry. Sanitation levels are assessed to identify human behaviors or environmental factors that may contribute to pest presence or success. A three-dimensional array of insect monitors is placed to objectively determine the presence, identity, relative density and population demographics of pest and non-pest animals. Program staff also performs a flashlight inspection to detect biological evidence such as live or dead animals, feces, eggs, gnaw and rub marks, odors and sounds.

Routinely, these inspections include interviewing of building staff and/or residents to learn about pest-related events that occurred since the last inspection and to gain insight into current problems under investigation. At the conclusion of the inspection, identified building deficiencies are documented and reported to the appropriate campus agency for follow-up and/or correction. Records of each inspection and the actions taken are maintained in a building specific central file for future use/reference.

Public Communication and Involvement: As noted above and as part of the department's investigation of any reported or identified pest problem, building residents are interviewed. During the interview, causative factors and proposed corrective strategies are. Where appropriate, the building may be posted with signs to inform the public of an existing problem or to reinforce the actions residents may take to help address the problem.

Prevention, Exclusion, and Pesticide Reduction: The department's IPM program seeks to reduce our overall pesticide use whenever possible. The most direct approach is to prevent animal entry into the buildings, thereby eliminating the need to use pesticides remedially. Assisted by other maintenance shops, the program staff use standard and innovative approaches to reduce the permeability of the building membrane with respect to animal entry. These non-pesticide techniques include use of brush-type and vinyl door sweeps, foam weather strips and insect screens, expanding foam insulation, caulk, concrete patch, aluminum coil stock and 1/8th inch hardware cloth to seal pest-sized openings at doors, windows, weep holes, vents, rooflines and utility penetrations.

When insects or animals are detected in or on the residence halls, program staff first attempt to reduce or eliminate animals using mechanical means prior to application of pesticides. Nets, vacuums and sticky traps are frequently used to remove wasps, cockroaches, fruit flies, crickets, and bedbugs; rodent traps and live-traps are used to catch mice, rats, squirrels and other vertebrates. When appropriate, one-way doors are used to allow bats and squirrels to self-eliminate.

Additionally, significant effort is expended to maintain and improve the condition of the sanitary sewer system and its interface with the residence halls. This system serves as the primary reservoir for American Cockroaches on the College Park campus. Deficiencies in the

system due to age (deteriorated pipes) or environmental conditions (evaporation or pressure evacuation of water traps) allow cockroach entry into the buildings. Pipe integrity is examined, water traps are routinely monitored and recharged, problematic floor and shower drains are screened or Trap Guard devices (one way sleeve) are installed to maintain physical separation between the sewer and the buildings.

The program also seeks to reduce animal immigration by maintaining adequate separation between buildings and surrounding site vegetation. Contractors, university grounds staff and the IPM program staff prune trees and shrubs, eliminate weeds and make recommendations regarding plantings.

Selection and Application of Pesticides: Indoor application of pesticides, while infrequent in a well designed and executed IPM program, occur from time to time. Circumstances where this may occur include those where an overabundance of insects exists to where the resident is no longer able to occupy the space. Examples include, but are not limited to, the presence of biting insects (e.g., fleas, bedbugs) or typically non-hazardous animals in great numbers (e.g., Ant Swarm).

To maintain the best possible indoor air quality, considerations of each pesticide's active ingredient, formulation, location and timing of application are made. For example, ant control may be accomplished using bait products, applied to the exterior foundation and during spring break when building occupancy is low. The least-toxic choice of pesticides and least-hazardous method of application is sought in all cases. These materials are typically baits, Insect Growth Regulators or dessicant dusts.

Use of materials in this group do not require public notification, however, when these materials are placed in occupied rooms, verbal notification is recommended.

Refer to the attachment for a list of least-hazardous pesticides utilized by the program

TRADE NAME	FORMULATION	EPA REG. NO.	ACTIVE INGREDIENT	%
ADVION Ant Bait	station	352-664	indoxicarb	0.1
ADVION Ant Gel	gel	100-1498	indoxicarb	0.05
ADVION Evolution	gel	100-1484	indoxicarb	0.6
CONCERN	dust	73729-1-50932	diatomaceous earth	85
DRIONE	dust	432-992	silica gel, pyrethrins	40, 1
GENTROL Aerosol	aerosol	2724-484	hydroprene	0.36
GENTROL Point Source	device	2724-469	hydroprene	90.6
MAX FORCE Ants	bait station	64248-10	fipronil	0.01
MAX FORCE FC Roach (small)	bait station	432-1257	fipronil	0.05
PHANTON 2	aerosol	7969-285	chlorfenapyr	0.5
PREMISE	foam	432-1391	imidicloprid	0.05

PT ADVANCE: Carp Ant Bait	granular	499-370	abamectin	0.011
PT ADVANCE Cockroach Bait	gel	499-507	dinotefuran	0.5
PT AVERT PT310	flowable	499-294	abamectin	0.05
PT P.I.	aerosol	499-444	pyrethrins, PBO	0.5, 4.0
STERIFAB	ready to use spray	397-13	isopropyl alcohol et. al.	60
TALSTAR PL	granular	279-3168	bifenthrin	0.2
TEMPO 1%	dust	432-1373	cyfluthrin	1
TERMIDOR FOAM	aerosol	499-563	fipronil	0.005
TERRO PCO	liquid	149-8-64405	Na+ Tetraborate	5.4

Application of Pesticides Other Than Least Toxic: While building treatments are typically scheduled during no-occupancy periods (summer, winter break, spring break), infrequent emergency indoor application of pesticides may occur from time to time. Circumstances where this may occur include those where a hazard to building occupants exists or where the resident is no longer able to occupy the space. Examples include, but are not limited to, the presence of biting or stinging insects (e.g. wasps, fleas, bedbugs) or typically non-hazardous animals in great numbers (e.g. cockroaches).

In the event it proves necessary to apply a pesticide *other than the least-hazardous*, building occupants, residents and visitors are notified by RF program staff as follows:

- Emergency Application in Occupied Buildings
  When a pesticide other than the least-hazardous must be applied in an assigned and occupied living space (traditional dorm room, apartment, or suite), RF program staff will attempt to contact and verbally notify each occupant of the space prior to application. If unable to notify verbally, written notification, typically in the form of a posted letter, is given 24 hours prior to the scheduled occupancy (application?) to allow time for any occupant questions or concerns to be resolved.

  When a pesticide must be applied to a public area (hall, lobby, lounge, stair, etc.) in an occupied building, written notification is posted in the space at least 24 hours prior to the application.

  In either case, the building's assigned live-in Resident Director is also notified by phone, email or in-person prior to the application.

- Emergency Application in Unoccupied Buildings
  During summer months when residence halls may be unoccupied, written notification is posted at the building entrance at least 24 hours prior to the application.

Whenever a pesticide application other than the least-hazardous must be made within a service area (mechanical room, electric room, storage area, etc.) during any period of time, written notification is made by posting signage 24 hours prior to the application.

In each case outlined above, written notification and related posted signage will include the phrase *Pesticide Application*, the date and time of application and the name and phone number of the department representative (typically section manager or the certified applicator) responsible for the planned application. Once posted, notification will remain in place through the completion of the application to include drying or ventilation time, if applicable.

Refer to the attachment for a list of other pesticides utilized by the program

Documentation and Recordkeeping: In compliance with the Maryland Department of Agriculture and Maryland's Pesticide Applicator's Law, the program staff maintain a pesticide application log that includes the date of application, pesticide name and EPA registration number, type of application and equipment used, amount of pesticide, time of application, location of application and the technician's identity.

Further, documentation of identified problems and actions taken is maintained at both the department and program level. At the department level, the Service Request System includes a digital database of pest control related reports by occupants or staff and a summary of the follow up actions taken in response to each report. At the section level, a separate file is maintained for each facility showing inspection dates, inspection findings, and actions taken.

Urban Biology Pesticides In Use: 2024

TRADE NAME	FORMULATION	EPA REG. NO.	ACTIVE INGREDIENT	%
ADVION Ant Bait	station	352-664	indoxicarb	0.1
ADVION Ant Gel	gel	100-1498	indoxicarb	0.05
ADVION Evolution	gel	100-1484	indoxicarb	0.6
ADVION FIRE ANT BAIT	granular	100-1481	indoxicarb	0.045
ARILON	SP	352-776	indoxicarb	20
CONCERN	dust	73729-1-50932	diatomaceous earth	85
DITRAC	tracking powder	12455-56	diphacinone	0.2
DRIONE	dust	432-992	silica gel, pyrethrins	40, 1
GENTROL	EC	2724-351	hydroprene	9
GENTROL Aerosol	aerosol	2724-484	hydroprene	0.36
GENTROL Point Source	device	2724-469	hydroprene	90.6
MAX FORCE Ants	bait station	64248-10	fipronil	0.01
MAX FORCE FC Roach (small)	bait station	432-1257	fipronil	0.05
NUVAN Pro Strips	strips	5481-553	dichlorvos	20
NUVAN Pro Strips Plus	strips	5481-554	dichlorvos	20
NYGUARD	EC	1021-1603	pyriproxyfen	10
PETCOR Flea spray	aerosol	2724-404	methoprene, pyrethrins	0.27 / 0.20
PHANTON 2	aerosol	7969-285	chlorfenapyr	0.5
PRECOR 5E	EC	2724-386-50809	methoprene	65.7
PRECOR 2000 PLUS	aerosol	2724-490	methoprene	0.085
PREMISE	foam	432-1391	imidicloprid	0.05
PT ADVANCE: Carp Ant Bait	granular	499-370	abamectin	0.011
PT ADVANCE Cockroach Bait	gel	499-507	dinotefuran	0.5
PT AVERT PT310	flowable	499-294	abamectin	0.05
PT P.I.	aerosol	499-444	pyrethrins, PBO	0.5, 4.0
PT Wasp Freeze II	aerosol	499-550	prallethrin	0..1
SAWYERS Insect Repellant	aerosol	50404-3-58188	permethrin	0.5
STERIFAB	ready to use spray	397-13	isopropyl alcohol et. al.	60
TALSTAR PL	granular	279-3168	bifenthrin	0.2
TEMPO 1%	dust	432-1373	cyfluthrin	1
TERMIDOR SC	SC	7969-210	fipronil	9.1
TERMIDOR FOAM	aerosol	499-563	fipronil	0.005
TERRO PCO	liquid	149-8-64405	Na+ Tetraborate	5.4
TIMBOR	soluble powder	1624-39	boric acid	98
WEATHERBLOK XT	bait block	100-1055	brodifacuom	0.005

*Not all products listed are kept in stock

**Refer to product cut sheets for specific information