

Robert C. Byrd Biotechnology Science Center
1700 3rd Avenue, Huntington WV 25701
Integrated Pest Management (IPM)
Revised December 19 2019

Pest control is an important part of managing a research facility. Many pests, such as flies and cockroaches, can transmit disease pathogens and compromise the research environment. Even the presence of innocuous insects can contribute to the perception of unsanitary and uncontrolled conditions. We will control pests (rodents, insects, etc.) in the Robert C. Byrd Biotechnology Science Center (BBSC) by using a comprehensive program that integrates housekeeping, maintenance, and pest control services. The main objectives of this Pest Management Plan are to:

- (1) Manage pests that may interfere with teaching, research and service or that may transmit infectious disease or recombinant DNA
- (2) Protect the health of and eliminate possible injury to building occupants,
- (3) Preserve the integrity of the BBSC building.

The major elements of this plan include: (1) Facility Design, (2) Monitoring and Record Keeping, (3) Sanitation and Facility Maintenance, (4) Communication, (5), Non-pesticidal Pest Control, (6) Pest Control with Pesticides and (7) Program Evaluation and Quality Assurance.

(1) **Facility Design:** The inclusion of pest management issues and requirements in a facility's planning, design, and construction provides an opportunity to incorporate features that help to exclude pests, minimize pest habitat, and promote proper sanitation. This can help to reduce the need for future corrective pest management services that can be disruptive to research operations.

During construction, an exterminating company treated the ground for termites before the concrete slab was put down. A professional exterminator was called to deal with ants on the premises. Airflow in the common spaces, such as the lobbies, is positive to the outside when the doors to the outside are opened. This means that air is moving from the common spaces in the building to the outside. This was done to keep the hot or cold outside air from coming into the building and may prevent entry by flying insects.

All doors to the building are normally kept closed. Loading dock doors and the dock garage door are opened frequently to allow for receipt of shipments. The double doors between the BBSC receiving area and the corridor should be kept closed.

(2) **Monitoring and Record Keeping:** A surveillance trapping program for rodents and insects is in place in critical locations within the BBSC. After the initial inspection has been conducted and those areas prone to pest infestation have been identified, monitoring for pests will begin in these pest-prone areas. Sticky traps designed for cockroaches and other crawling insects will be placed along floor junctions, on vertical surfaces, behind appliances, in closets, cabinets and on shelves in pest-prone areas of the building.

A floor plan of the facility showing the number and location of each trap will be kept on file in the IBC office. An IPM log book will be kept at the security desk near the BBSC's entrance. The traps will be inspected monthly and the following information will be recorded on a Pest Surveillance Data Sheet: (1) the date checked, (2) the trap number and location, (3) the condition of the trap, (4) the number and kinds insects trapped, (5) other evidence of pests or pest damage, and (6) if pest control is required. Traps will be replaced when the adhesive is no longer tacky or when the trap is full, whichever comes first. Any trapped insects will be removed and disposed

of after their numbers are recorded and their identification is confirmed. This will prevent the counting of specimens more than once and will also prevent their use as food by other insects or rodents. Ultra Exterminating will advise building occupants in reducing potential pest habitats and consult in cases of refractory infestations. Pest management personnel shall be licensed and certified through examination by the appropriate regulatory agency.

In the BBSC Animal Resource Facility, we will monitor insects by the use of "sticky" traps located in various areas in the facility. All of the animal room doors have seals on the bottoms to keep out wild rodents. Faculty, students and staff members will report pest activity and any conditions that may foster pest activity to the IBC Chair.

(3) **Sanitation and Facility Maintenance:** Waste bins in offices and labs will be emptied by building housekeepers every evening into the building dumpster. Dumpster waste will be picked up every Monday Wednesday and Friday by Republic Services. Many pest problems can be prevented or corrected by using proper sanitation, reducing clutter and pest habitat, and by performing repairs that exclude pests and reduce pest habitat. University maintenance personnel and building housekeeping staff will identify and report structural deficiencies and housekeeping conditions that may require corrective actions.

(4) **Communication:** The University Biological Safety Officer will meet with pest management personnel to assist in resolving facility issues that impact on pest management. Information on pest activity, and recommendations on personnel practices and facility conditions that impact pest management, will be relayed verbally and in writing to that person. Training on subjects such as pest identification, biology, and sanitation will also be employed to promote understanding and cooperation with the goals of the IPM program.

(5) **Non-pesticidal Pest Control:** Pest control methods such as trapping, exclusion, caulking, washing, and freezing will be applied safely and effectively when used in conjunction with proper sanitation and structural repair.

(6) **Pest Control with Pesticides:** Preventive applications of pesticides will not be used. Rather, we will request application of pesticides to specific areas or other remedies when pest activity exceeds Action Thresholds given below. When pesticides are applied, the least toxic product(s) available will be used and will be applied such that human exposure is minimized and such that biomedical research is not jeopardized. When pesticide treatment is required, the IBC chair or Biological Safety Officer will contact the MU Physical Plant to arrange for licensed professional treatment (currently Ultra Pest Control).

(7) **Training:** Ultra Exterminating will provide training to the BBSC custodial staff so that the integrated pest management program will be implemented effectively. This training will include: (a) the basic purpose of the integrated pest management program, (b) how this program will be implemented and monitored, (c) how the behavior of the staff can affect pest problems, and (d) the staff's role in the program.

(8) **Program Evaluation and Quality Assurance:** Quality assurance and program review will be performed by the Institutional Biosafety Committee to provide an objective, ongoing evaluation of IPM activities and effectiveness for entire building and the Animal Resource Facility. This is to ensure that the program is controlling pests and meeting the specific needs of the facility program(s) and its occupants. Based upon this review, current pest management protocols can be modified and new procedures implemented.

(9) **Animal Facility animal areas:** According to *The Guide for The Care and Use of Laboratory Animals, 8th edition, National Research Council*, pesticides are not to be used inside animal facilities. Such facilities are required through accreditation standards to minimize penetration of insects and feral rodents. Floor drains are placed only where necessary. Ceilings, walls and floors are constructed with impervious materials and sanitizable coatings. Surfaces, tools and room furnishings must be nonporous and sanitizable. Wall penetrations must be sealed. Light fixtures are sealed. Doors seal when closed. Vermin and pests are monitored with sticky traps. If vermin or pests of concern are found, Environmental health and Safety is notified. Areas surrounding the animal facility can be treated with pesticides, but only detergents, bactericidal and virucidal agents that can be wiped clean are to be used within the animal facility.

BBSC Action Thresholds (per month basis)

Pest	Classrooms	Research labs	Maintenance	Offices
Ants, common species	5/room	5/room	5/room	5/room
Carpenter ants	5/room	5/room	5/room	5/room
Bees	1/room	1/room	1/room	1/room
Oriental, American Cockroaches	2/room	2/room	2/room	2/room
German Cockroaches	1/room	1/room	1/room	1/room
Crickets	3/room	3/room	3/room	3/room
Silverfish	2/room	2/room	2/room	2/room
Spiders, poisonous	1/room	1/room	1/room	1/room
Spiders, non-poisonous	3/room	3/room	3/room	3/room
Mice/Rats	1/room	1/room	1/room	1/room