FESHM 8042: INTEGRATED PEST MANAGEMENT

Revision History

Author	Description of Change	Revision Date
Katie Swanson	Added applicability statement for leased spaces	January 2018
Katie Kosirog	• Added permit responsibility for ESH&Q. • Added definition of and requirements for using Restricted Use Pesticides.	April 2017
Teri Dykhuis	Added FESHM Chapter formatting template and applicability to sub-contracted services	May 2012

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1.0 INTRODUCTION

This chapter contains guidance pertinent to the application and handling of pesticides, including fungicides, herbicides, rodenticides and insecticides. At Fermilab, the application of regulated pesticides is done by FESS personnel who have obtained the appropriate level of licensing from the state of Illinois, or by properly licensed subcontractors managed by FESS. Fermilab adheres to the principles of Integrated Pest Management to minimize pollution and adverse environmental impacts. This chapter is not applicable to household products that do not require a license to apply, e.g., Raid™, Cutters™, or any such products generally available through the Fermilab stockroom or in a retail store.

This chapter only applies to the Fermilab site. Leased spaces will follow the rules and regulations set forth by the partnering institute and/or state or local codes and standards.

2.0 DEFINITIONS

Integrated Pest Management (IPM) - An ecological approach to pest management that combines understanding the causes of pest outbreaks, manipulating the crop ecosystem for pest control, and monitoring pest populations and their life cycles to determine if and when to use of pesticides.

Licensed applicator - The responsible person in charge of all pesticide application. Also, the licensed applicator supervises the application of pesticides performed by licensed operators.

Licensed operator - A person trained and licensed in the application of pesticides under the supervision of a licensed applicator.

Pesticides - A general term which includes fungicides, herbicides, rodenticides and insecticides.

Restricted Use Pesticides (RUP) – RUPs have the potential to cause unreasonable adverse effects to the environment and injury to applicators or bystanders without added restrictions. RUPs must be used by a licensed applicator or under that applicator's direct supervision. RUPs are not available for purchase by the general public.

3.0 RESPONSIBILITIES

3.1 Chief Safety Officer

The Chief Safety Officer acts as the liaison with all government agencies, DOE and Fermilab, and provides assistance and guidance as required, including the renewal of the National Pollutant Discharge Elimination System Permit for Pesticide Application Point Source Discharges every five years.

3.2 Environment, Safety, Health, and Quality (ESH&Q) Section

The ESH&Q Section shall assist and arrange for the disposal of pesticides that are determined to be waste material. The ESH&Q Section will conduct fit testing and issue respirators to licensed operators and applicators as required.

3.3 Facilities Engineering Services Section (FESS)

FESS is responsible for assuring compliance with applicable codes, regulations, and permits governing the application, use and storage of pesticides applied at Fermilab. This includes pesticides applied by either Lab personnel or subcontractors. FESS shall ensure that only EPA-registered pesticides are used on the site. FESS shall ensure all Fermilab personnel, subcontractors, or volunteers that apply pesticides are properly trained and licensed and subcontractors have the proper approvals or permits, if necessary.

4.0 PROGRAM DESCRIPTION

This chapter pertains to all areas of the Laboratory where there is, or could be, pesticide application. Fermilab adheres to an Integrated Pest Management philosophy. Integrated pest management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.

The following principles should be used by Fermilab personnel, subcontractors and volunteers to select an appropriate course of action that is effective, yet minimizes waste and protects health:

1. Understand the pest that you are controlling.
    a. Identify the specific pest to be controlled, either because it is present or is likely to be present based on history, science, and other relevant evidence.
    b. Understand the ecology of the pest so that the most vulnerable life cycle stage(s) can be engaged efficiently.
    c. Understand the magnitude of the infestation. How many pests are there? Over what area? How long is the infestation expected to persist?
2. Establish an action threshold. Make a rational decision about how severe an infestation of the pest cannot be tolerated. As a first step, evaluate the economic cost of the control mechanism against the expected loss due to the pest. Additionally, less tangible costs should also be considered, e.g., health implications of pesticides, pollution of surrounding environments (including non-target species), aesthetics, etc.
3. Consider the full range of available control technologies, and the costs and benefits of each. While chemical pesticides may appear to be the most efficient, in many cases natural substances, biocontrols, or non-chemical means may be available and may be preferable when the full cost is considered.
4. Consider a combination of controls. In some cases, combining more than one control is much more effective than one alone. For example, minimal use of traps or toxins may be effectively combined with physical removal.
5. For every pest control action, the end result should be evaluated for effectiveness, cost, and efficiency.

Restricted Use Pesticides (RUP) are not categorically prohibited at Fermilab, although their use is discouraged and should be rigorously subjected to the above IPM process. RUP use, as with all pesticide application, must strictly follow all label requirements. Use of an RUP by a sub-contractor (e.g., Agricultural Sub-contractor) must be proposed in writing and approved by the Contract Manager prior to use. The Contract Manager shall consult with Fermilab's Ecologist and the ESH&Q Section before granting approval. The proposal must include the following elements:

1. Identification of the licensed applicator who would be in charge,
2. A point-by-point explanation of how each of the five elements of the IPM have been applied and satisfied,
3. A specific plan for storage and mixing of the RUP, including the location of these activities,
4. A detailed description of the area(s) to which the RUP is to be applied,
5. Copies of the Safety Data Sheet and USEPA label for the specific RUP to be used,
6. A schedule for application, and,
7. Area specific application rate(s).

Fermilab reserves the right to reject any application for RUP use on the site.

5.0 REFERENCES

Illinois Administrative Code (IAC) Title 8, Agriculture and Animals, Part 250, Illinois Pesticide Act.

40 CFR 165, Regulations for the Acceptance of Certain Pesticides and Recommended Procedures for the Disposal and Storage of Pesticides and Pesticides Containers.

Fermilab ES&H Manual Chapter 8021, "Chemical and Radioactive Waste Management."

Fermilab ES&H Manual Chapter 4150, "Respiratory Protection."