



THE UNIVERSITY OF MAINE
WORKER PROTECTION FOR PESTICIDE EXPOSURE

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Appendices	
A.	US EPA 40 CFR Part 170 Worker Protection for Pesticide Exposure

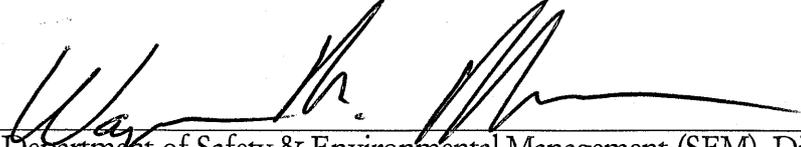
1. Purpose & Background

The University of Maine ("UMaine") designed this program to address compliance to the Environmental Protection Agency's (EPA's) worker protection for pesticide exposure standard, 40 CFR Part 170. This program establishes a Standard Operating Procedure (SOP) designed to educate and protect employees from pesticide exposures, which may occur during the daily performance of their jobs. EPA's worker protection standard requires that work place practices be designed to reduce or eliminate exposures to pesticides. This is accomplished through training, informational postings, work restrictions, work practices and the proper use of personal protective equipment (PPE). The information presented in this SOP in no way takes precedence over the information provided on the individual pesticide containers. The intent of this document is to provide a minimum standard of practice. If there is a conflict between the information presented in this document and that presented on the pesticide label, the most stringent or protective requirements will be followed.

2. University of Maine Approval

This program establishes the minimum requirements that UMaine workers must follow in order to perform tasks relating to pesticide application. This SOP covers those individuals who, during the course of performing employment related tasks, may come into contact with, or otherwise be exposed to, pesticides. These individuals include, but are not limited to, farm employees (i.e., applicators and handlers), researchers, Cooperative Extension agents, students and full or part-time employees associated with research programs. This SOP is not limited to agriculturally related work, but may include activities such as forestry, entomology or other fields in which pesticides (i.e., insecticides, fungicides, herbicides, or rodenticides) may be in use. It is important to note that it also covers employees who may come in contact with pesticides indirectly (i.e. laboratory researchers) while performing normal work routines. Departments may utilize their own Worker Protection for Pesticide Exposure program only if their program is equal to, or exceeds the minimum requirements set forth by this program.

This program has been reviewed and approved by:


Department of Safety & Environmental Management (SEM), Director

9/12/08
Date


SEM Industrial Hygienist, Morris Lee

9/11/2008
Date

3. Exceptions

The following activities or conditions involving the application of pesticides are not covered by the requirements of this program:

- Uses that are not directly related to agricultural production (i.e., bee and wasp sprays, structural pest control, control of vegetation along right of ways and other non-crop areas and pasture and range land use);
- Mosquito abatement or similar wide-area public pest control programs sponsored by a government entity;
- Use on livestock or other animals, or in or around animal premises;
- Use on plants grown for other than commercial or research purposes, which may include plants in habitations, home fruit and vegetable gardens and home greenhouses;
- Use on plants that are in ornamental gardens, parks and public or private lawns and grounds that are only intended for aesthetic purposes or climatic modification;
- Injection directly into agricultural plants;
- For control of vertebrate pests;
- Attractants or repellants in traps;
- On harvested agricultural plants or timber;
- For research uses of unregistered pesticides; and
- Other experimental protocols, specifically approved by appropriate department review processes, which are in compliance with current pesticide regulations.

4. Program Requirements

4.1 Program Requirements for Non-University Managed Property

Each research unit or remote site shall write a unit or site specific worker protection program, which, at a minimum, includes the following:

- Employee Training;
- Informational Postings;
- Pesticide Application Posting;
- Waiting Period / Restricted Entry Interval (REI);
- PPE Use; and
- Entry Restrictions.

4.2 Program Requirements for Non-University Managed Property

For activities occurring on non-University managed property (i.e., Cooperative Extension), a unit specific program shall be written which includes procedures for investigating and confirming types and dates of pesticide applications in areas of planned entry. Procedures for conducting work in defined areas of pesticide application need to

be included in the unit specific plan. This SOP will provide guidance for writing site and unit specific plans which meet the EPA's requirements for worker protection.

5. Employee Training

UMaine shall provide training to all affected employees if they will be on UMaine premises or, if, as part of their employment they visit a UMaine site where pesticides are applied. This training will be provided to graduate students, researchers and student workers regardless of whether they are regular, temporary or part-time employees. Cooperative Extension employees who visit privately owned farms, as a requirement of their employment will also be trained.

Handlers and workers must be trained every five (5) years unless they are certified applicators. Training programs established by the individual workstations shall be divided into two sections: 1.) training designed specifically for workers in pesticide application areas and training designed for pesticide handlers and; 2.) training for workers shall be further divided into training for those employees entering the treated work areas for period of five (5) days or less and training for those employees entering the treated work areas more than five (5) days.

5.1 Pesticide Worker Training

UMaine will provide specific pesticide safety information to an employee before he/she enters any area of an agricultural work place where a pesticide has been applied within the last 30 days or where the restricted entry interval for the specific pesticide has been in effect. At a minimum, the pesticide safety information will include the following:

- 1) Pesticides may be present on or in plants, soil, and irrigation water or can drift from nearby applications.
- 2) Pesticides can be prevented from entering your body by:
 - Following directions and/or signs about keeping out of treated or restricted areas;
 - Reading and understanding the product label;
 - Washing before eating, drinking, using chewing gum or tobacco or using the toilet;
 - Wearing work clothing that protects the body from pesticide residues;
 - Washing/showering with soap and water, shampoo hair and put on clean clothes after work;
 - Washing work clothes separately from other clothes before wearing them again; and,
 - Washing immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible after a spill the employee must shower, shampoo and change into clean clothes.
- 3) Further training will be provided within five (5) days.

Employees shall sign a training form which acknowledges that they have received and understood the pesticide safety information described above.

Before the sixth (6th) day of employee entry into areas where a pesticide has been applied or a restricted entry interval has been in effect the employee must be provided with additional training. At a minimum, this level of training shall include:

- Where and in what form pesticides may be encountered during work activities;
- Hazards of pesticides resulting from toxicity and exposure; including information on acute and chronic effects, delayed effects and sensitization;
- Routes through which pesticides can enter the body;
- Signs and symptoms of common types of pesticide poisoning;
- Emergency first aid for pesticide injuries or poisonings;
- How to obtain emergency medical care;
- Routine and emergency decontamination procedures, including emergency eye flushing techniques;
- Hazards from drift and application via irrigation systems;
- Hazards from pesticide residues on clothing;
- Warnings about taking pesticides or pesticide containers home;
- Engineering and administrative controls; PPE selection and use; and
- Information on reducing the risks of illness or injury resulting from occupational exposure to pesticides.

Each employee will be presented with an EPA approved training certificate upon successful completion of this training.

5.2 Pesticide Safety Training for Handlers

Before any handler performs tasks involving contact or potential contact with specified pesticides, the handler must have been trained in accordance with the EPA Worker Protection Standard requirements for pesticide handlers during the last five (5) years. At a minimum the training shall include:

- 1) Format and meaning of information contained on pesticide labels and in labeling; including safety information such as precautionary statements about human health;
- 2) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects and sensitization;
- 3) Routes by which pesticides can enter the body;
- 4) Signs and symptoms of common types of pesticide poisoning;
- 5) Emergency first aid for pesticide injuries or poisonings;
- 6) How to obtain emergency medical care;
- 7) Routine and emergency decontamination procedures;
- 8) Need for and appropriate use of PPE;
- 9) Prevention, recognition and first aid treatment of heat-related illnesses;

- 10) Safety requirements for handling, transporting, storing and disposing of pesticides, including general procedures for spill cleanup;
- 11) Environmental concerns such as drift, runoff and wildlife hazards;
- 12) Warnings about taking pesticides or pesticide containers home; and
- 13) Engineering and administrative controls, PPE; and
- 14) Information designed to reduce the risks of illness or injury resulting from occupational exposure to pesticides.

Each employee successfully completing this training will be provided with an EPA-approved Worker Protection Standard handler-training certificate.

Persons conducting the worker and handler training must be:

- Currently certified as an applicator of restricted use pesticides;
- Be a trainer of certified applicators or pesticide handlers; or
- Have completed a pesticide safety train-the-trainer program.

All information presented in the training course must be presented in a manner that can be understood by the participants. The trainer shall also respond to the participant's questions. The employee's supervisor shall maintain a training records file for inspection purposes.

6. Pesticide Safety Information

The employer is responsible for displaying pesticide safety information if a pesticide has been applied within the last 30 days, or a restricted entry interval is in effect. This information consists of a "Pesticide Safety Poster" and emergency medical care information.

6.1 Pesticide Safety Poster

A pesticide safety poster must be displayed that provides, at a minimum, the following information:

- 1) Methods to keep pesticides from entering the body. This includes:
 - Avoid getting on your skin or into your body, any pesticides that may be on plants and soil, in irrigation water, or drifting from nearby applications;
 - Wash before eating, drinking, using chewing gum or tobacco, or using the toilet;
 - Wear work clothing that protect the body from pesticide residues (long sleeved shirts, long pants, shoes and socks and a hat or scarf;
 - Wash/shower with soap and water, shampoo hair and put on clean clothes after work;
 - Wash work clothes separately from other clothes before wearing them again;
 - Wash immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible, shower, shampoo and change into clean clothes; and
 - Follow directions about keeping out of restricted or treated areas.
- 2) The existence of Federal rules to protect employees and handlers and a mandatory requirement for safety training. (See Appendix A.)

6.2 Emergency Medical Care Information

The name, address and telephone number of the nearest emergency medical care facility shall be on the safety poster or displayed close to the safety poster. The employer shall inform all employees immediately of any changes to the information regarding the emergency medical care facilities.

This information shall be displayed in a central location on the farm or in the nursery or greenhouse where it can readily be seen and read by the employees. For forests, or other similar locations, the information shall be displayed in a location where it can be readily seen and read by the employees and where the employees are likely to congregate or pass by. All employees shall be informed of the location of the information and shall be allowed access to it.

6.3 Informational Posting

The employer shall display information about specific pesticides which have been applied within the last 30 days on any agricultural establishment. This information is to be placed in the location specified for the pesticide safety poster and should be accessible and legible. If warning signs are posted for a treated area before application of the pesticide, the specific application shall also be posted. If employees will be on site during the application of a pesticide, specific information will be posted before starting. For other situations the information shall be posted at the beginning of the employees first work period.

All pesticide information shall be displayed for at least 30 days after the end of the restricted entry interval or for 30 days after the end of the application, whichever is greater.

Posted information shall include:

- The location and description of the treated area;
- The product name, EPA registration number and active ingredient(s) of the pesticide;
- The time and date the pesticide is to be applied; and
- The restricted entry interval for the pesticide.

6.4 Pesticide Application Posting

Requirements for pesticide application posting of various treatment situations vary with the location of the application and the type of pesticide applied. For greenhouses and unless otherwise specified on the pesticide container(s), the employer shall post warning signs and provide oral notification to impacted employees. For employees working in other areas (i.e., farms, nurseries, or forests) the employer shall give notice of application to employees either orally or through the use of posted warning signs.

6.5 Oral Warnings

The employer shall provide oral warnings to workers in a manner that they can easily understand. Warnings shall be given before the application takes place to workers on the premises. Warnings will also be given to employees who start their first work period after the application of pesticides. The oral warning shall include:

- The location and description of the treated area;
- The time during which entry is restricted; and
- Instructions provided to not enter the treated area until the restricted entry interval (REI) has expired.

6.6 Posted Warning Signs

Warning signs used for informing employees of pesticide applications shall contain the information provided in Section 170.120, paragraph (c)(1) of the EPA's Worker Protection Standard. The warning signs shall be posted as follows:

- In greenhouses, the signs shall be posted so that they are visible from all usual points of worker entry to the treated area. This includes each aisle, door or other walking route that enters the treated area. The signs shall be located such that they are visible to employees before they enter the greenhouses. If there are no usual points of employee entry to the treated area, signs shall be posted in the corners of the treated area or in any other location affording maximum visibility; and
- On farms, forests and nurseries, the signs shall be visible from all usual points of worker entry to the treated areas. When there are no usual points of employee entry, signs shall be posted in the corners of the treated area or in any other location affording maximum visibility.

The signs shall be posted no sooner than 24 hours before the scheduled application of the pesticide and shall remain posted throughout the application and any restricted entry interval. The signs shall be removed within three (3) days after the restricted entry interval has expired.

7. Restricted Entry Interval (REI)

In accordance with the information provided on the label of the pesticide container, the employer shall establish a restricted entry interval for those areas where pesticides will be, or have been, applied. When two or more pesticides are applied at the same time, the restricted entry interval shall be the longest of the two applicable intervals. During this interval, employees shall be restricted from entry into the application area unless appropriate controls (ventilation) and precautions (PPE, available decontamination facility) are in place and in use.

8. Personal Protective Equipment (PPE) Use

Based on the label of the pesticide container, the employer shall determine the appropriate PPE to be donned by the employee who has to enter an area where a pesticide hazard may exist.

Prior to selection and donning of PPE, the employer shall ensure that all employees using PPE have been trained in the use, limitations and care of the equipment. They must also be trained in how to don and remove the PPE properly. The employer shall provide the employee with any required PPE other than normal work clothes required for daily use.

9. Entry Restrictions

Following the requirements and recommendations noted on the label of the pesticide container, UMaine shall establish entry restrictions appropriate for the application method. UMaine will ensure that employees required to perform early entry tasks are adequately informed and protected from exposure or potential exposure to the applied pesticides or associated pesticide residues.

10. Special Conditions

UMaine will not allow handlers to apply pesticides so that it contacts, directly or through drift, anyone other than trained and PPE-equipped handlers.

Sight or voice contact shall be maintained, by the employer, at least every two (2) hours with anyone handling pesticides labeled with a “skull and crossbones” or the words “DANGER-POISON.”

11. Medical Monitoring

UMaine will provide medical evaluations at no cost to the employee as follows:

- Employees who mix, handle or apply pesticides or who by the nature of their work/research are required to be in an application area during the restricted entry interval are required to undergo a medical evaluation;
- Medical evaluations will be performed as part of the pre-employment requirements for new hires whose jobs involve handling of pesticides or potential exposures to pesticides or pesticide residues;
- Medical evaluations will be performed on all employees whose jobs involve handling of pesticides or potential exposures to pesticides or pesticide residues. Evaluations will occur prior to the start of the growing season or research project and at the end of growing season or research project when the potential for pesticide exposures is reduced;
- Routine medical evaluations shall include a general physical examination performed by a physician or physician assistants (PA). In addition a pulmonary function test (PFT) and cholinesterase laboratory testing will be conducted;

- UMaine's medical record keeping office shall inform the supervisor or research project director that medical testing has been completed on a particular employee and that their observed cholinesterase level is within acceptable parameters to work with pesticides. This notification shall be made in writing;
- When medical evaluation determines that an employee has an observed cholinesterase level below the safe or recommended level, the employee/student will be removed from all activities that may result in exposure, or potential exposure, to pesticides or pesticide residues including handling, mixing, application and early entry into a restricted entry area;
- Employees and students who do not handle pesticides or enter the posted application area during the restricted entry interval are exempt from the medical evaluation program except in the event of accidental exposure;
- Accidental exposure shall be reported to a supervisor and to the Safety & Environmental Management (SEM) office by fax (581-4085). A first report of injury shall also be filed with that office by the employee's supervisor;
- UMaine's medical record keeping office shall inform the Human Resources Department in writing if the employee has been determined, by a physician or PA, to be medically fit to be respirator fit tested. The farm supervisor or research project director shall be responsible for scheduling annual respirator fit tests for each employee/student required to use respiratory protection to perform required work related activities; and
- Copies of individual medical records or test results shall be available to the employee from the universities medical record keeping office upon request.

All medical evaluations will be performed by a medical facility or provider that has been approved by UMaine.

12. Emergency Assistance

In the event that an UMaine employee/student has been poisoned or injured by exposure to pesticides the University shall ensure that employee is treated promptly. This treatment will occur either at a medical facility previously designated by UMaine or at the nearest appropriate medical facility. The Supervisor is responsible for providing the medical facility with the following information:

- The product name, EPA regulation numbers and active ingredients of any product the employee may have been exposed to;
- The prescribed antidote, first aid and other medical information provided on the product label;
- The circumstance of handling the product or pesticide; and
- The circumstances of exposure to the product or pesticide.

13. Decontamination Procedures

UMaine shall provide decontamination supplies for washing off pesticides and their residues under the following conditions; 1.) during any pesticide handling activity, or, 2.) accidental exposure during the 30 day period following pesticide application.

Requirements for decontamination supplies are as follows:

- Water in sufficient quantities (1 gallon per person onsite) for routine washing, emergency eye flushing and for washing the entire body in case of an emergency;
- Emergency eye flush water must be immediately available if the label of the pesticide in use requires protective eyewear;
- Provide soap and single use towels. In addition, one clean change of clothing shall be provided for use in an emergency;
- The decontamination supplies shall be located together, reasonably accessible and not more than 1/4 mile from employee/student worker during pesticide handling/applying tasks or other activities which may cause contact with pesticides or pesticide residues;
- Decontamination supplies shall be located in a fixed site such as in mixing shed, a vehicle at the field site or in back pack carried by an employee/student;
- The employee may be permitted to use clean water from springs, streams, and lakes at remote sites for decontamination; and
- When UMaine pilots or employees/student passengers participate in aerial application of pesticides, decontamination supplies shall be stored in the aircraft or at the aircraft-landing site and readily available for use.

For early entry activities, employees/students must be provided with soap, clean towels and a sufficient amount of water (1 gallon) so they may wash thoroughly. These supplies shall be located at a site, outside the restricted entry area where the worker removes PPE, and not more than 1/4 mile from where the work occurs. Decontamination supplies must be made available to employees/students performing activities in an area where pesticides have been applied or where a restricted entry interval (REI) has been in effect within the last 30 days or when the worker comes in contact with anything that has been treated with pesticides (e.g.; water, soil, plants). The only exceptions to the 30-day rule are if the only pesticides used in the application site are products with a restricted entry interval of four (4) hours or less. When employees are in such areas, decontamination supplies shall be provided for not less than seven (7) days following the expiration of the restricted entry interval.

14. Recordkeeping

UMaine shall maintain the following records each pesticide worker and maintain those records for 30 years after the termination date for each employee: The types of records that shall be maintained are medical records, training records and pesticide application records.

14.1 Medical Records

UMaine shall maintain and preserve an accurate record of occupational pesticide medical testing and exposure for each employee who may potentially be exposed. These records shall include the following information:

- The employee's name and social security number;
- The employee's baseline testing results, the dates of evaluation and medical records;

- The results of medical testing for pre and post exposure evaluations; and
- A copy of information provided to health care facility/practitioner.

UMaine's medical record keeping office will receive and manage these records informing the supervisor or research project director of the employee medical ability to work with pesticides. All medical records shall be kept confidential and maintained for at least the duration of the employee/students employment plus 30 years.

A copy of all medical records must be made available to the employee or to an employee's representative upon written authorization from the employee.

14.2 Training Records

UMaine will maintain and preserve accurate records of training for five years which include the following:

- Training dates;
- Content or summary of training;
- Name(s) and qualification of trainer(s) and their EPA or Maine Board of Pesticide Control (MBPC) Certified Pesticide Applicator License certification number;
- Names, job title and social security number of trainee(s); and
- Information listing those employees/students who enter a field five (5) days or more per work period.

Training records shall be maintained by the supervisor or research project director. Notification of training and individuals successfully completing the training program shall be forwarded in writing to Safety & Environmental Management (SEM).

14.3 Pesticide Application Records

UMaine shall maintain and preserve an accurate record of pesticide application(s) which includes the following:

- The applicator/handler(s) name and social security number;
- The date(s) of application, handling, and duration of process;
- The specific site location;
- Name(s) of pesticides applied, handled;
- Method of application, handling (e.g., aerial, ground machine, hand spraying);
- PPE used;
- Engineering controls utilized; and
- Length of posting before re-entry to site per pesticide manufacturers standards on label.

Appendix A

US EPA 40 CFR Part 170 Worker Protection for Pesticide Exposure