

# Pesticide Use

## Description

### Pesticide Users Medical Monitoring Program

**OBJECTIVE** The objective of the Medical Monitoring Program for Pesticide Users is to provide a system of insuring the health, safety and wellness of students, staff and faculty of the University of Florida who come in contact with pesticides, either by mixing, loading, applying, or otherwise handling pesticides, except in original, unopened containers, as a part of their affiliation with the University. Any prospective employee who is predisposed to abnormal cholinesterase activity, or who is unable to demonstrate acceptable liver function or immune response through medical diagnostic procedures shall be excluded from such pesticide-related duties. The Program also provides for exit interview testing of employees leaving the University to ensure no work-related health effects have occurred due to pesticide exposure.

**AUTHORITY** The authority for implementation of this program is derived from the general University responsibility to provide a safe working environment for its students, staff and faculty. The University recognizes the actions and policies established through the Worker Protection Standards for Agricultural Pesticides and the Federal Insecticide, Fungicide, and Rodenticide Act as amended (FIFRA) and has taken additional steps as outlined in this policy to protect individuals involved with pesticide use.

**POLICY** All users of Toxicity Class I and/or cholinesterase-inhibiting pesticides shall participate in the Medical Monitoring Program for Pesticide Users.

- “Use” is defined as mixing, loading, applying or otherwise handling (except in original, unopened, containers) those materials with a frequency of more than 4 days per calendar month (any part of a day counting as one day) and a volume of more than one pint (16 fl. oz) of mixed solution or one pound of dry material at any single use.
- A Class I pesticide indicates that the pesticide is highly toxic and carries the signal word, DANGER or DANGER-POISON, on its label with a skull and crossbones symbol. This is based on an oral LD50 of a trace to 50 mg/kg (a few drops to a teaspoonful), dermal LD50 of a trace to 200 mg/kg, or inhalation LC50 of a trace to 0.2 mg/l.
- A cholinesterase-inhibiting pesticide is a pesticide that has potential to significantly lower the cholinesterase level resulting in nervous system malfunction. This type of pesticide will be identified as a cholinesterase inhibitor on the product label.

**RESPONSIBILITIES** Provisions for the Employee The University of Florida provides a health assessment for all individuals who will fill a vacant position and will use pesticides for the University of Florida.

The deans, directors and department heads where an employee uses pesticides for the University of Florida provide the following.

- mandatory pre-exposure blood test data when not included in a preplacement health assessment;
- mandatory periodic medical monitoring;
- incident-related monitoring;
- exit blood tests;
- personal protective equipment (PPE);
- documentation of safety training to pesticide users.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Diagnostic Laboratory "] Individual off-campus stations (outside Alachua County) shall work with local health care providers for taking blood samples and have all samples sent to the laboratory specified by the University for analysis.

Employees within Alachua County shall use the Student Health Care Center (SHCC) for taking blood samples. Individual operational units shall be financially responsible for tests of their employees.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Medical Reports and Records "] The UF Occupational Medicine Clinic shall review and maintain all medical reports and records. The UF OCCMED Clinic shall notify EH&S and the supervisor or employee of any abnormal blood test results.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Problem Inquiry "] EH&S shall, upon notification from the UF OCCMED Clinic, begin an inquiry of any causes of abnormal results and serve as liaison between the UF OCCMED Clinic and the affected department in helping to identify and rectify conditions found to be causing abnormal results.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Personal Protective Equipment "] It shall be the responsibility of any person using pesticides to observe all label instructions regarding Personal Protective Equipment (PPE). It shall also be the responsibility of the supervisor to monitor the use and maintenance of PPE for all employees under his/her supervision, and document any failure to use PPE as required by label instructions. Documentation should be included in the employee's personnel files and if there is evidence to suspect an exposure, the supervisor may direct the employee to have an "incident-related" test. The employee and the supervisor shall comply with directives resulting from EH&S inquiries regarding pesticide exposures and corrective actions specified.

[/\_su\_spoiler] [/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" HEALTH ASSESSMENTS "] A health assessment shall be provided to each individual who has the newly assigned duties of using pesticides for the University of Florida. For those individuals in Alachua County, the health assessment shall be performed at the UF OCCMED Clinic. For those individuals who are unable to travel to Gainesville, their department may have the health assessment done by a local physician licensed to practice medicine in the State of Florida. The local physician shall follow the same procedures as those done at the UF OCCMED Clinic including detailing the medical record on the UF OCCMED Clinic Examination form. The medical record generated from that health assessment should be forwarded to the UF OCCMED Clinic for review and filing.

**The health assessment shall consist of the following.**

- **Physical examination**
- **Medical history**
- **Immunization: Tetanus immunization within 10 years**
- **Labs**
  - Comprehensive Metabolic Panel
  - Baseline cholinesterase RBC/Plasma tests (for those using cholinesterase-inhibiting

- pesticides)
- Pulmonary function test (for those required to wear a respirator)

Prior to the blood tests, exposure to all pesticides must be avoided for a minimum of 30 days. New employees and current employees who have the newly assigned duties of using pesticides for the University of Florida shall have their blood chemistry profile and cholinesterase baselines established during their preplacement health assessment and prior to exposure to any pesticides. If new employees were exposed in previous employment, a 30-day non-exposure period must have occurred prior to having the first blood tests for UF. Current employees who have been promoted must also have a 30- day non-exposure period before their first UF blood test.

The comprehensive metabolic panel will be used to determine deficiencies in kidney and liver functions, both of which may be consequences of pesticide exposure. The UF OCCMED Clinic may recommend an employee be excluded from tasks that may expose him/her to pesticides when liver enzyme test results indicate inadequate liver function.

Cholinesterase baselines should reflect normal levels of plasma and RBC cholinesterase, thereby allowing medical personnel to monitor recovery from exposure to cholinesterase-inhibiting pesticides. Baseline cholinesterase exams shall be a minimum of 48 hours apart and no more than 14 days apart. The maximum variation between baseline exam results shall be 25%. If variation exceeds 25%, a third exam shall be submitted between 48 hours and 14 days of the second exam. The two closest results shall be averaged for the baseline.

The UF OCCMED Clinic may recommend an employee be excluded from tasks that may expose him/her to pesticides in the following situations:

1. in the event of abnormally low levels of cholinesterase activity (as indicated on the report), which occurs naturally in a small segment of the population;
2. in cases where there is excessive variation in baseline test results (as determined by the UF OCCMED Clinic) indicating a lack of predictability.

Medical conditions other than exposure to pesticides such as illnesses, prescription or over-the-counter medications that may affect a participant's baseline shall be evaluated by the OF OCCMED Clinic. A new baseline may be established if medically justified.

EH&S may require the establishment of new baselines if a more appropriate method of analysis becomes available.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Medical Monitoring "] [Health Questionnaire](#)

- every year
- upon suspected exposure
- upon termination

Comprehensive Metabolic Panel

- every other year
- upon suspected exposure
- upon termination of employment with UF

Cholinesterase test (for those using cholinesterase-inhibiting pesticides)

- every other year
- upon suspected exposure
- upon termination

The UF OCCMED Clinic shall notify EH&S of any abnormal conditions requiring further inquiry or testing.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Incident-Related Monitoring "] In the event of an accidental or suspected exposure, such as a spill, failure to use or malfunction of PPE, EH&S shall be notified and blood testing shall be promptly initiated and reviewed by the UF OCCMED Clinic. Blood testing will include a blood chemistry profile, a cholinesterase test (plasma and RBC) if the exposure was from a cholinesterase-inhibiting pesticide, and any other tests as seen appropriate by the attending physician. At this time, a medical questionnaire shall be completed documenting changes in medical history, patterns of pesticide and PPE use, and a description of the exposure. This will be reviewed by the SHCC.

[/\_su\_spoiler] [\_su\_spoiler style="fancy" icon="chevron" title=" Exit Tests "] Exit tests consisting of a comprehensive metabolic panel and a cholinesterase test (for those using cholinesterase inhibitors) should be conducted upon termination of employment and reviewed by the UF OCCMED Clinic. This exit testing is intended to ensure that no work-related health effects have occurred due to pesticide exposure and should be coordinated with the employee's exit interview.

[/\_su\_spoiler] [/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" SAFETY TRAINING "] Annual safety training is mandatory for all pesticide users. It shall include the hazards associated with pesticide use, the methods of pesticide exposure, the use and care of all PPE required by the pesticide label, and the provisions of the Medical Monitoring Program for Pesticide Users. The department shall provide EH&S documentation of this training.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" CORRECTIVE PROCEDURES "] Upon receipt of unacceptable blood profile test results, the UF OCCMED Clinic shall notify EH&S, the supervisor and/or the employee. EH&S shall notify the UF OCCMED Clinic, the supervisor and/or the employee of unacceptable cholinesterase blood test results. EH&S shall conduct an inquiry to determine possible causes and make recommendations to rectify any deficiencies in safety equipment use or other conditions allowing exposure to occur.

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