

PESTICIDE POLICY & PROCEDURES HANDBOOK



The University of Georgia
College of Agricultural and Environmental Sciences

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Emergency Phone Numbers

■ Emergency Numbers ■

Poison Control Center (Human or Animal)
(800) 282-5846

Physician _____

Ambulance _____

Fires, Spills, Leaks, Etc.

Georgia DNR Environmental Protection Division Response Team (pesticide fires, spills, leaks) **(800) 241-4113**

Chemtrec (technical assistance 24 hrs. a day for fires, spills, and medical emergency) **(800) 424-9300**

SARA Title III, Right-to-Know Emergency Operations Center **(404) 635-7215 or 7216**

County Police or Sheriff _____ City Police _____

Georgia Highway Patrol Post _____ Fire Department _____
(*GSP for mobile phones)

Endangerment of Game or Fish

Georgia Department of Natural Resources (Non game endangered species)
(912) 994-1438

U.S. Fish and Wildlife Service **(912) 265-9336**

Preface

It is important that our College serve as a model for environmental stewardship. Likewise, it is essential that we comply with both the intent and spirit of the laws, rules, and regulations dealing with pesticides. This manual defines current policies and procedures to ensure compliance with state and federal laws, University policies, and good management practices in pesticide research and use throughout the College of Agricultural and Environmental Sciences.

Our objectives are simple: to take every reasonable precaution to ensure the safety of our employees whose job responsibilities involve the handling or use of pesticides; and to support and maintain a model pesticide program so that we project the proper image to our clientele.

This manual should give all employees a clearer understanding of their responsibilities when working with or around pesticides, and it should give supervisors a better understanding of their responsibilities in providing the resources and environment necessary for safe pesticide use.

Laws governing pesticides are fluid. This manual will require periodic additions, modifications, and deletions. Your questions and concerns regarding pesticide policies and procedures should be directed to Dr. Paul Guillebeau, Pesticide Coordinator, CAES, Hoke Smith Building, Athens.

Lastly, I express my appreciation to the members of the Pesticide Policy Committee for preparing this manual and to the State Department of Agriculture (Entomology and Pesticide Division), the University Public Safety Division, and the University Office of Legal Affairs for their critical review of this document.

Gale A. Buchanan

Dean and Director

Introduction

This manual is designed to make available in one document the pesticide policies and procedures that, if followed, will keep you and CAES in compliance with the law and in accord with accepted safety standards. Obviously, this manual is too detailed to be memorized, yet insufficiently comprehensive to cover all possible contingencies. It should be used as a resource whenever you have questions. Any relevant questions not answered here should be directed to your supervisor.

Benefits to be derived from adherence to these policies include:

- ▶ a clear understanding of pesticide policies by CAES employees;
- ▶ protection for employees and prevention of pesticide misuse;
- ▶ reduction of the potential for pesticide accidents;
- ▶ public acknowledgment that the CAES promotes and practices environmental stewardship.

General Policy Statements

1. It is the responsibility of supervisors to ensure that all employees, students, and student-employees read and follow the policies set forth in this publication. After reading this handbook, each employee, student, and student-employee must sign a copy of the attached document (Appendix A) to show that they understand these policies. In order to monitor compliance, supervisors must annually review pesticide licensing, certification, and/or training of the people under their management and complete a copy of Appendix B. This review may be part of the annual performance appraisal.
2. It is unlawful for any person to use or dispose of any pesticide or pesticide container in any manner other than according to instructions stated on the label or as specified by the Georgia Department of Agriculture.
3. Nothing in this manual should be considered or interpreted as less restrictive federal or state law or University policy. If University policy is discovered to be less restrictive than federal or state law, the supervisor should be notified immediately.
4. To all CAES employees, students, and their supervisors who handle, load, mix and/or apply pesticides, the unit leader shall provide a copy of this manual. It shall be the responsibility of the supervisor to ensure that all employees become familiar with and informed of the contents of this manual.
5. No CAES employee should knowingly advise, instruct, or order other employees to violate any known pesticide law, rule, or regulation. Likewise, no employee should violate such laws, rules, or regulations even if instructed to do so.
6. CAES faculty must know the identity of any experimental pesticide they evaluate and must have appropriate labels or technical data sheets, including safety in handling. Otherwise, such compounds may not be in their possession or utilized.
7. County extension personnel may test or evaluate numbered compounds only in cooperation with a state faculty member. Numbered compounds should only be tested on

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University property. Any employee conducting demonstration trials for clientele involving IR-4 or experimental use permit (EUP) programs on private or public property must follow provisions established for such activities.

Definitions

1. *Employee* refers to all administrators, faculty members, support personnel, students, and any others working for CAES, with or without compensation.
2. *Pesticide* includes any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, bacteria, fungi, weeds, or other forms of plant or animal life or viruses—except viruses, bacteria, or fungi on or in living man or other animals—that have been declared to be a pest, and any substance or substances intended for use as a plant regulator, defoliant, or desiccant.
3. *Experimental Pesticides* are any pesticides or potential pesticides being researched for any purpose. This includes numbered materials, restricted-use and general use pesticides. An experimental use permit may be granted for a pesticide not state or federally registered, or for a non-registered use of a registered pesticide. Experimental use of such non-registered (compounds) pesticides in small plot studies are exempt from such permitting requirements provided the following criteria are met:
 - a. The cumulative area treated per site, per crop, per experimental compound is less than 10 terrestrial acres (up to 250 acres for pheromones) or one surface aquatic acre per year.
 - b. The State Department of Agriculture will be notified of experimental trials exceeding these limits.
 - c. All food or feed derived from the experimental use will be destroyed or fed only to experimental animals for testing purposes, unless a tolerance has been specifically granted.
 - d. Excess experimental compound will be used only in accordance with the federal and state registered use, if any—or, if not registered, returned to the manufacturer.

Other definitions and explanations are described in the final chapter of this manual, “Federal and State Pesticide Regulations.”

Personnel

Hiring and Reassigning

1. Each position announcement that is written to recruit and hire an individual who, in carrying out his or her duties and responsibilities, will be expected to apply, mix, load or otherwise handle TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides, will include the following statement:

“Successful candidate must be able to meet minimal health requirements and be trained and licensed as a pesticide applicator and be certified in the appropriate commercial or public applicator categories before working with EXPERIMENTAL and/or RESTRICTED-USE pesticides.”

2. Each newly hired or reassigned employee who, in the carrying out of his duties and responsibilities, is expected to apply, mix, load or otherwise handle TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides and is certified as a pesticide applicator, will have the following statement included in the individual position description:

“Applies, mixes, loads, and otherwise handles pesticides and is trained and licensed as a pesticide applicator and is certified in the appropriate commercial or public applicator categories.”

3. Individuals who are currently employees and who apply, mix, load, or otherwise handle TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides—but who cannot pass the pesticide applicator licensing examination after three attempts—will either be reassigned to duties and responsibilities not involving these types of pesticides or be allowed to apply, mix, load, or otherwise handle these pesticides only “under the direct supervision of a licensed pesticide applicator”—as defined above, under no. 2—who is certified in the appropriate commercial or public applicator categories.
4. Employees who are not qualified to handle pesticides—or those who should not be exposed to pesticides because they do not meet the standards of the University or for other medical reasons, as certified by a licensed physician—shall not be assigned to applying, mixing, loading, or otherwise handling these materials.

Training

1. Each current faculty member and staff member applying, mixing, loading, or otherwise handling TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides will be trained and licensed as a pesticide applicator and certified in the appropriate commercial or public applicator categories and have the following statement included in his or her individual position description:

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“Applies, mixes, loads, or otherwise handles pesticides or supervises those activities, and is trained and licensed as a pesticide applicator and is certified in the appropriate commercial or public applicator categories.”

2. Each faculty member and staff member applying, mixing, loading, or otherwise handling TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides, as a pesticide applicator and certified in the appropriate commercial or public applicator categories, will be expected to maintain his or her certification by obtaining the required number of recertification credits. Supervisors will give opportunities to staff members so that they may attend meetings that offer recertification credits.
3. Each supervisor will have the responsibility of assuring that all of his/her employees who apply, mix, load, or otherwise handle TOXICITY CATEGORY I, EXPERIMENTAL and/or RESTRICTED-USE pesticides will be duly trained and licensed as a pesticide applicator and certified in the appropriate commercial or public categories, or will work under the direct supervision of a certified applicator.
4. It will be the responsibility of the licensee to maintain current records of his/her status regarding certification and compliance with the provisions of the above.

Worker Protection Standard

The U.S. EPA Worker Protection Standard (WPS) requires agricultural employers (including UGA) to provide basic protections for their employees. These requirements apply to *all* employees in agricultural situations, even if they do not handle or apply pesticides. There are four basic requirements:

1. *Training:* Employees must receive pesticide safety training. Basic training must be given before the employee begins work. Training must be completed within five days. Employees who will handle pesticides or enter fields before the expiration of the pesticide re-entry interval must be completely trained before they start work. Training videos are available from the Pesticide Coordinator. *Employees who have received a pesticide license to purchase/apply restricted use pesticides do not need additional training.*
2. Information concerning pesticides applied in the work area must be posted in a central location.
3. Employees must be excluded from treated areas or provided proper training and safety equipment if they may be exposed to pesticides.
4. Employers must supply decontamination sites (soap, water, etc.) for workers.

Emergency assistance must be available for any employee injured by pesticides. For details, refer to the *EPA Reference Guide for EPA's Worker Protection Standard for Agricultural Pesticides—How to Comply* (available from the Cooperative Extension Service). Additional information is available from the Georgia Dept. of Agriculture (404-656-4958) or the University of Georgia Cooperative Extension Service (706-542-3687).

Non-Compliance, Disciplinary Action, and Handling Worker Complaints

1. Violations of Georgia Pesticide Law and Rules by an employee will make that employee liable for disciplinary action provided therein as administered by the University of Georgia, and to further action in the form of oral or written reprimand, or in the case of willful violations, more severe action as determined by a duly constituted review board and in accord with the rules of due process.
2. Supervisory personnel who fail to discipline employees who violate Georgia Pesticide Law and Rules will be subject to verbal or written reprimand, or more severe discipline if—upon a properly conducted review under due process—such discipline is deemed merited.
3. Workers who believe they have a legitimate complaint concerning pesticide use or misuse are to report the complaint, preferably in writing, to their supervisor and Unit Administrator. Should this complaint not receive acceptable action, approved grievance procedures are available.
4. Written verification of any disciplinary action taken as a result of pesticide misuse will be forwarded by the Unit Administrator to the appropriate departmental chairperson or appropriate associate dean. A copy will be placed in the employee's personnel file and all steps taken will be in compliance with normal personnel procedures on employee discipline.

Certification and Licensing

1. Under FS 487.161(3) and FAC 5E-9.07(12) (b), personnel of governmental, university, or industrial research agencies are exempt from the certification and licensing provisions of FS 487.155 and FAC 5E-9 when doing research with pesticides within a laboratory.
2. Individuals who clean pesticide equipment within a laboratory shall follow the procedures in the *Laboratory Safety Manual* available from the Department of Environmental Safety Services.
3. Employees who do research with or otherwise use only general-use pesticides are exempt from the certification and licensing requirements of Georgia Pesticide Law and Rules. Such uncertified employees would be unqualified under this policy, however, to be primarily responsible for field research on unregistered experimental compounds. In the interest of professionalism, researchers and extension specialists who are routinely engaged in pesticide research and demonstration are strongly urged to become certified as applicators of restricted-use pesticides.
4. UGA faculty who do not apply, mix, load, or handle TOXICITY CATEGORY I and/or RESTRICTED-USE pesticides, but *only* make recommendations on their use, still must be trained and licensed as a pesticide applicator and be certified in the appropriate public applicator categories.
5. Licensing and certification costs associated with the fulfillment of the requirements of this section will be paid by the office of the appropriate associate dean.

Health Maintenance And Care

This policy is designed to provide a safe working environment for UGA-CAES employees who mix, load, apply, or otherwise are exposed to pesticides. Much of this policy is based on common sense, but scientific data, when available, have guided the formulation of health maintenance and care policy. Since our knowledge of the health effects of pesticides is changing constantly, these policies are subject to continued revision.

General Conditions

The supervisor shall assure that:

1. No pesticide is applied in a manner that directly or through drift exposes any employee—except those certified pesticide applicators who are knowingly involved in the application of the pesticide and are wearing appropriate personal protective equipment—or unlicensed workers who have been duly informed and trained as provided in the Georgia Pesticide Use and Application Act of 1976.
2. Unprotected persons are required to leave the area being treated and remain out of the area until it is safe to reenter, as indicated by the pesticide labeling.
3. Prior to application, the applicator must know what pesticide is to be applied, its risks to the applicator and others, and measures to be taken to prevent injury.
4. Clean, appropriate, undamaged, and decontaminated personal protective equipment is provided as required by this policy, by the product label, or is otherwise required pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act as amended and the Georgia Pesticide Use and Application Act of 1976.

Emergency Medical Care

1. Any unit using pesticides for any purpose must have established emergency procedures (see “Emergency Action” below). A copy of these procedures must be posted at each pesticide storage facility, and in each work vehicle used for pesticide transportation or application.
2. Minimal requirements for emergency procedures to be arranged by the Unit Administrator are as follows:
 - a. Written procedures posted (in workplace or with appropriate vehicles).
 - b. Preplanned *local* help and nearest emergency facilities.
 - c. Telephone number of local poison control centers and physicians who, by prior agreement, have agreed to attend pesticide poisoning cases.
 - d. Chemical company and EPA/DNR emergency response telephone numbers for every chemical in use.
 - e. Antidote/treatment information per the label for pesticide being used at the time.
3. When reasonable grounds exist to suspect that an employee has been poisoned or injured by a pesticide, or when an exposure to a pesticide has occurred that might be

expected to lead to a worker's poisoning or injury, prescribed first aid procedures should be followed, and the employee should be transported immediately to an appropriate medical facility.

4. Supervisors are responsible for knowing or having access to the brand, common, and chemical names of the pesticide; safety data sheets; LD50 data; poisoning symptoms; safety measures; first aid; statement of practical treatment; and antidote information listed on the label or labeling of any pesticide use. This information must be made available to employees prior to pesticide use, to employees alleging exposure, and to medical personnel treating employees.
5. For effective emergency response, the employees must know the symptoms of poisoning and treatment for each pesticide being applied. The employees must also know where to seek help. Symptoms of poisoning by the pesticide in use must be explained clearly to the employees.
6. Employees subject to medical disorders with symptoms similar to those associated with pesticide exposure or conditions that might exacerbate pesticide injury must provide this personal medical information to supervisors and co-workers.

In-absentia Supervision

1. Licensed supervisors must meet the training and warning provisions of the Georgia Pesticide Use and Application Act of 1976 when assigning unlicensed employee(s) to work with RESTRICTED-USE, EXPERIMENTAL or TOXICITY CATEGORY I pesticides and must provide for ready contact with such employee(s) if the licensed supervisor is to be physically absent from the site of operations, as provided in the definition of "under direct supervision."
2. Unlicensed employees must not be assigned to work alone with RESTRICTED-USE, EXPERIMENTAL or TOXICITY CATEGORY I pesticides at sites remote from the base of operations, or that otherwise are not in view of other employees.
3. An unlicensed employee applying a fumigant in an enclosed structure must be in direct line of sight of another person at all times. The observer must have immediate access to all personal protective equipment required for the applicator of the fumigant.
4. When two or more unlicensed applicators are in the same area or greenhouse, no additional individual is needed if visual contact is maintained at all times.
5. An adequate supply of clean water, soap, and disposable towels must be provided at the work site to allow for emergency decontamination and for routine washing of hands and face before eating, drinking, toileting, or using tobacco. This water shall be stored separately from that used for mixing pesticides.

All Locations

1. An emergency medical and evacuation plan for all employees at a unit shall be developed.

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2. The name, address, and telephone number of the nearest physician(s), clinic(s), EMT, and hospital emergency room(s) providing care must be fixed near all telephones and in all vehicles. A road map shall be provided that details the nearest physician(s), clinic(s), EMT, and hospital emergency room(s) providing care.
3. Employees must be contacted regularly by their supervisor when mixing, loading, or applying EXPERIMENTAL, RESTRICTED-USE or TOXICITY CATEGORY I pesticides.

Medical Testing

1. Persons shall be exempted from applying, mixing, loading, or handling pesticides upon presentation of medical evidence verifying their health conditions (including pregnancy). The University may require that their problems be verified by medical authorities of its choice. Women of child-bearing age shall be informed of potential health risks associated with pesticide application. Women who are pregnant or plan to become pregnant should inform their supervisor.
2. All employees who handle, apply, mix, and load EXPERIMENTAL, RESTRICTED USE or TOXICITY CATEGORY I pesticides must be given a medical examination prior to employment. This examination includes a cholinesterase test, a CBC blood test, a hematocrit, and a SMAX-25 or its equivalent. Results of the medical examination will be mailed to the University unit and identified as documentation for the cholinesterase testing program. Repeat cholinesterase testing will be done regularly as advised by a physician. Women of child-bearing age should inform the consulting physician if they are pregnant or plan to become pregnant.

Employees who already have been handling organophosphate or carbamate pesticides should be assigned to non-pesticide tasks for 30 days prior to testing.

3. A copy of the test results will be provided to the supervisor and employee.
4. Abnormal baseline cholinesterase readings on employees will be referred within two working days to the Unit Administrator and the employee.
5. In case of abnormal test results, the Unit Administrator will notify the employee concerning further pesticide exposure, pending additional blood tests and follow-up investigation. If the person's cholinesterase is significantly depressed (as judged by a physician), the employee will be assigned responsibilities in which he or she will not be exposed to organophosphate/carbamate pesticides. If the employee is unable to work because of cholinesterase depression, he/she will be eligible for workers' compensation.
6. Costs incurred for these tests will be borne by the unit of the individual involved.

Personal Protective Equipment and Work Practices

1. Consult the label and/or technical sheets for hazards, precautions, and personal protection before handling the pesticide.

2. All employees working with pesticides must be instructed in the use of protective clothing and equipment and shall wear protective clothing and use equipment as prescribed on the pesticide label.
3. When climatic conditions are such that prolonged wearing of protective clothing and other protective equipment would impose undue heat stress on an employee, work schedules and duration of uninterrupted activity should be adjusted to avoid such stress.
4. Employees must not be permitted to use protective equipment that has become contaminated with a pesticide or has become ineffective due to a tear or leak.
5. There must be at least one new, uncontaminated, or freshly decontaminated protective suit readily available at the work site (mixing, loading, application) to replace contaminated protective gear.
6. Respirator cartridges and canisters must be replaced in accord with the specifications for such devices in order to avoid exceeding their life expectancy under the specific conditions of use. Check for fit and cartridge effectiveness with the use of a test vapor, such as amyl acetate. The University Department of Environmental Safety Services will provide respirator fit testing and training.
7. Store cartridges within a desiccator to impede moisture uptake.
8. A pesticide-free environment must be provided in which employees can change into appropriate personal protective equipment at the start of each day's exposure period. Time shall be provided at the end of the pesticide activity so that employees can wash with hot water and soap and change into clean clothing.
9. A pesticide-free environment must be provided in which employees can eat lunch or dinner and store personal clothing not in use.
10. Emergency showers and eye wash stations must be provided at each pesticide storage and mixing facility. Remote locations are covered in another section.
11. All pesticide equipment must be handled properly when making repairs in order to prevent unnecessary pesticide exposure.
12. Employees must wash hands and forearms with soap and water prior to smoking, eating, drinking or toileting.
13. Employees must not wear or take pesticide-contaminated clothing home.
14. Disposable items, such as coveralls, hats, and respirator filters, must be disposed of properly. They may be collected into a fiber drum for disposal through the University Hazardous Waste Program.
15. Daily or after each use, reusable cotton coveralls and other clothing exposed to pesticides should be washed separately in hot water with a heavy-duty, phosphate-based detergent. If the clothing is supplied by the College, the College will have the responsibility for washing the clothing. If the clothing belongs to the employee, the employee is responsible.

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16. After each use, boots, gloves, goggles, face shields, and respirators must be washed in hot soapy water, then rinsed in clean water. These items should be air-dried in a pesticide-free environment.

Reporting Accidents

1. Damage or injury to property, animals, or persons from application of pesticides must be reported by the licensed applicator concerned as prescribed in the Georgia Pesticide Use and Application Act of 1976 and the Georgia Pesticide Control Act of 1976.
2. Incidents (spills, injuries, property damage, etc.) must be reported to the Georgia Department of Agriculture, Entomology and Pesticide Division (404-656-4958) and to the Unit Administrator. An incident reporting form must be submitted within 24 hours of the incident.

Application Procedure

Pesticide applicators must apply the following procedures:

1. Calibrate the spray equipment properly.
2. Ensure uniform and accurate applications.
3. Ensure that spray drift is minimized. Normally, spray operations should cease if wind speeds reach seven mph.
4. Ensure that pesticides are mixed/loaded safely.
5. Follow anti-syphon requirements for chemigation systems or as required by the 1985 Well Water Standards Act, as amended, to prevent contamination of surface and groundwater.

Emergency Action

If a person is seriously injured or ill:

Take the person to _____

or call _____, then call _____

If a person has a minor injury or becomes ill:

Take the person to _____

or call _____, then call _____

If a person is poisoned, call _____, then call _____

If there is a fire, call _____, then call _____

If there is a property damage accident (on injury), call _____

then call _____

If there is any criminal action, call _____, then call _____

Always stay on the telephone to give/receive information.

Within four working hours of any emergency action, complete emergency action reports.

The supervisor must ensure that a copy of these procedures is posted at each pesticide storage facility and in each work vehicle used for pesticide transportation or application.

Symptoms of Pesticide Poisoning and First Aid Treatment

Poison Control Center (Human or Animal)

(800) 282-5846

The symptoms of pesticide poisoning are quite variable and, unfortunately, may mimic other types of illness. Common symptoms include nausea, vomiting, diarrhea, stomach cramps, headache, dizziness, weakness, confusion, excessive sweating, chills, thirst, chest pains, breathing difficulty, muscle aches, or cramps. These symptoms are common with many illnesses or with overindulgence in food or drink. If these symptoms occur during or after pesticide activities, pesticide poisoning should be suspected. Some pesticides are toxic in very small amounts. Co-workers should monitor one another closely; it is common for a victim to be confused. Victims may not realize that they have been poisoned

If pesticide poisoning is suspected, get medical help immediately. Do not leave the victim alone. When taking the patient to the doctor or hospital, take the pesticide label or the entire container along. Take the Material Data Safety Sheet if it is readily available. Do not carry the pesticide container in the passenger space of a car or truck.

Plan for a poisoning emergency. Be sure that all employees involved in pesticide activities can communicate quickly if they need assistance. A portable phone or two-way radio may prevent a tragedy. Ensure that everyone knows emergency phone numbers. Seconds count in an emergency.

Employees should be familiar with the pesticides they use. Anyone using a TOXICITY I pesticide should be properly trained and *very* responsible. Within seconds, pesticides in this category can kill or cause irreversible injury. No one should mix/load TOXICITY I pesticides alone. Children and pets are even more susceptible because of their smaller body size. Make sure that everyone understands the first aid instructions on the pesticide label. It can be dangerous to induce vomiting after the ingestion of some pesticides.

First Aid for Poisoning

1. Protect yourself and stop the pesticide exposure as quickly as possible.
2. If the victim is not breathing, administer artificial respiration at once.
3. Consult the pesticide labeling if possible. Directions for first aid will be on the front panel.
4. Otherwise, follow these guidelines:

Pesticide on skin: Drench skin as quickly as possible with plenty of water. Any moderately clean water can be used if not contaminated with pesticides. Remove contaminated clothing. Wash with soap if available. Dry victim and treat for shock. If skin is burned, cover with clean, loose bandage or cloth. Do not apply ointments to burned skin.

Pesticide in eye: Wash eye quickly but gently with clean water for 15 minutes.

Inhaled pesticide: Move victim to fresh air. Warn other nearby people. Loosen clothing that restricts breathing. Administer artificial respiration if necessary.

Pesticide in mouth or swallowed: Rinse mouth with plenty of water. Give large amounts of water or milk (up to one quart) to drink. Consult the label before vomiting is induced. Do not give liquids or induce vomiting to anyone who is unconscious or convulsive.

First Aid for Heat Stress

Heat stress occurs when someone is exposed to more heat than his/her body can stand. It is not caused by pesticide exposure, but protective equipment required for pesticide application may increase the risk of heat stress. Mild heat stress will make the victim feel ill and weak; severe heat stress (heat stroke) is *very* dangerous. One-third of victims die, and more suffer permanent brain damage.

As summer approaches, acclimate to the heat slowly, drink plenty of liquids, take frequent breaks, and plan strenuous activities for the cooler parts of the day. Be familiar with the symptoms of heat stress. Many of them are similar to symptoms of pesticide poisoning, including sweating, headache, nausea, confusion, and loss of coordination. *A Guide to Heat Stress in Agriculture* from the U.S. EPA is available through the local extension office.

The symptoms in this table can help differentiate between pesticide poisoning and heat stress:

Heat Stress	Organophosphate/Carbamate Poisoning
Dry mouth, no tears, no spit	Salivation, tears, spit present
Fast pulse (if victim has fainted)	Slow pulse
Nausea	Nausea and diarrhea
Dilated pupils	Pupils may be small
Fainting (prompt recovery)	Coma (cannot awaken)

First Aid for Heat Stress

1. Move the victim to a cooler area immediately.
 2. Cool the victim as quickly as possible by splashing cool water on him/her or by immersing the victim in cool water. Do not immerse anyone who is unconscious, convulsive, or confused.
 3. Remove all protective equipment or clothing that is keeping the victim too warm.
 4. If the victim is conscious, have him/her drink as much cool water as possible.
 5. Keep the victim quiet, and transport to medical facility.
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Acquisition, Inventory, Records, and Files

Federal and Georgia statutes require that records be maintained for hazardous materials, including many pesticides. Private and commercial applicators must keep records of restricted-use pesticides. All employers are required to maintain an inventory of all hazardous materials to which employees may be exposed. Finally, every establishment must report threshold levels of hazardous materials to the local fire department, the local emergency planning committee, and the Georgia right-to-know program.

These laws establish a framework for providing important information about pesticides. Additionally, the University of Georgia has also established the following policy to direct University personnel who handle pesticides.

Acquisition of Pesticides

1. *Copy of the manifest.* The employee responsible for ordering/receiving pesticides shall maintain a file of the manifest that accompanies each shipment of restricted-use and experimental pesticides.
2. *Shelf life.* Order pesticides in amounts that can be used before expiration of the useful life of the material. The shelf life of pesticides depends on the particular compound and the storage conditions. Few manufacturers will guarantee the performance of their pesticides for more than two years after purchase. Information concerning the shelf life of particular pesticides can be obtained from the pesticide manufacturer or local pesticide dealer.
3. *Experimental compounds.* Make prior agreement with the supplier to accept any left-over materials.
4. *Transfer of pesticides to another employee.* An original manifest or a copy shall accompany any total or partial transfer of pesticides. The manifest should specify the amount of material transferred and should be maintained in the recipient's file.

Local Purchase and Pick up of Pesticides.

Pesticides should be transported in original containers with labeling intact. The employee receiving the pesticide should obtain an original or copy of the bill of sale that specifies the pesticide and the quantity. If the pesticide is transferred to another employee, a proper record should be maintained.

Inventory

1. Each unit that uses pesticides should maintain the following information:
 - a. Pesticide containers should be marked with the date the container was received.
 - b. Records should be maintained for every pesticide application, including restricted-use pesticides, experimental compounds, and pesticide situations that are subject to the EPA Worker Protection Standard.

- c. An inventory of all pesticides, including pesticide receipts for restricted-use and experimental compounds, should be kept current, adding new pesticides within 24 hours and deleting exhausted pesticides within 48 hours.
2. *Copies of inventories.* Copies should be kept in the pesticide storage area and in the central file for the unit.
3. *Computerized inventories.* All inventories should be computerized whenever possible to facilitate storage and retrieval.

Pesticide Use Records

1. *Experimental, restricted-use, and TOXICITY I pesticides.* Individual researchers and/or the unit shall maintain the following information about applications of these pesticides. Records must be maintained for two years.
 - a. Date/time of application.
 - b. Certified applicator in charge and name of actual applicator, if different.
 - c. Plot location.
 - d. Crop/target area and total area/units treated.
 - e. Target pest.
 - f. Pesticide name, active ingredient, and EPA registration number.
 - g. Rate of application and total amount applied.

Note: Applications of restricted-use pesticides that cover less than 0.1 acre may be recorded as spot treatments. See USDA record-keeping regulations for details.

2. *Pesticides subject to Worker Protection Standards.* Records must be maintained for all pesticides (general and restricted-use) used in production of agricultural plants on farms, forests, greenhouses, and nurseries. Unregistered pesticides are not subject to WPS. The unit and/or the individual researcher must maintain the listed information. Records must be kept for 30 days after the restricted-entry interval for the pesticide expires. It is recommended, however, that pesticide records be maintained in computer files indefinitely.
 - a. Location/description of the area to be treated.
 - b. Pesticide name, active ingredient, and EPA registration number.
 - c. Time/date of application.
 - d. Restricted-entry interval for the pesticide.
3. *Record-keeping forms.* There are no official forms that must be used to record the required information. The attached form can be used to record all information required for RESTRICTED-USE, EXPERIMENTAL, TOXICITY I, and WPS materials. It is recommended that pesticide records be maintained in computer files indefinitely.

Label Files/Networking

1. *Label/MSDS file.* Each unit shall maintain an active file with labels and material data safety sheets for all pesticides used at that unit. The file should be located in a central location, available to all employees.
2. *File for storage area.* A file similar to one described in the previous paragraph should be maintained in or near the storage facility for the pesticides stored there.
3. *Pesticide bulletin board.* The Pesticide Coordinator (Dr. Paul Guillebeau, 706-542-3687) shall maintain a bulletin board that lists all usable pesticides in storage that are no longer needed by a particular unit. Other units can consult this bulletin board for pesticides they need. Pesticides also may be transferred informally among units, if proper records are maintained.
2. *Transfer of unneeded pesticides to other units.* Any exchange of pesticides must follow rules governing transfer and transportation of pesticides.

Pesticide Research on University and Non-University Property

This section concerns the handling and use of pesticides, both labeled and unlabeled, on University and non-University land. It addresses both research/demonstration use and maintenance use of pesticides. In general, the rules and policies of the Georgia Department of Agriculture concerning handling and use of pesticides should be followed.

Pesticide Preparation for Transport to Non-University Sites

1. If pesticides are to be remeasured for transportation and use within 24 hours to a site, they should be placed in appropriate containers (depending on pesticide, normally a polyethylene or polypropylene container resistant to organic solvents) and properly labeled. Otherwise, transport pesticides in their original containers.
2. When measuring pesticides, proper safety procedures for health maintenance and care should be followed. The pesticide handler should read and follow all label directions closely.

Transportation of Pesticides to Non-University Sites

1. When pesticides are being transported to a site away from a UGA unit, they must be kept in original containers with the appropriate labels, or—if remeasured—be transported in a suitable container that has been properly labeled.
2. When pesticides are being transported to a site away from a UGA unit, all emergency and safety procedures must be followed. Refer to the *Georgia Pest Control Handbook*, pesticide labeling, and MSDS for details concerning proper transportation and storage procedures.
3. Personnel must have in their possession copies of the manufacturer's label and/or technical data sheets in the case of unlabeled compounds. Anyone using any pesticide must have access to the associated MSDS, though it is not necessary to keep possession of them at all times.

Pesticide Testing on Non-UGA Property

The property owner or other responsible party must be given copies of field trial or demonstration plans and must be made aware of possible hazards, crop destruction requirements, residue, or carryover issues, as well as other liabilities associated with the field trial or demonstration. Numbered compounds that are not registered for any use site should not be tested on non-UGA property.

Experimental Use Permits

1. If a pesticide has a federal Experimental Use Permit, use of the pesticide must be consistent with the Experimental Use Permit.

2. Experimental use of pesticides in small plot replicated studies are exempt from Experimental Use Permits if the cumulative area treated per site, per crop, and per experimental compound is less than ten acres per year (250 acres for pheromones).
3. If required by the EUP, all food or feed derived from the experimental use must be destroyed or fed only to experimental animals for testing purposes.
4. Excess experimental pesticides must be used in accordance with the federal and state registered label or, if not registered, returned to the manufacturer.

Implementation

This policy must be followed by all UGA College of Agricultural and Environmental Sciences faculty, staff, and students who use pesticides in the conduct of their research, teaching, or extension activities.

Responsibility

The associated UGA faculty member or other supervising UGA CAES individual(s) are responsible for compliance with this policy.

Re-Entry Intervals Following Pesticide Applications

The following re-entry restrictions are based on EPA guidelines, Sections 170.110 (restriction associated with pesticide applications), 170.112 (entry restrictions), and 170.120 (notice of applications) of the *Worker Protection Standard for Agricultural Pesticides* (WPS) (40 CFR part 170). There have been changes in these guidelines since enactment, and there will be constant monitoring of the law to make further changes as necessary.

Any person involved in the application of pesticides in any agricultural situation is protected under the U.S. EPA Worker Protection Standard for Agricultural Pesticides (40 CFR part 170). All supervisors of pesticide handlers or agriculture workers should be familiar with the EPA publication, *The Worker Protection Standard for Agricultural Pesticides—How to Comply*. Copies of this manual are available at no charge from Dr. Paul Guillebeau (706-542-3687).

The Worker Protection Standard defines two groups of agricultural employees: agricultural workers and pesticide handlers. Agricultural workers may not handle pesticides or enter treated areas during the re-entry interval, except under narrow exceptions. Pesticide handlers are trained to handle and apply pesticides.

Restrictions During Applications

1. *All areas:* Allow entry only to appropriately trained and equipped handlers during pesticide applications.
2. *Nurseries:* Exclusion distances for nursery workers depends on the type of application. See “Nurseries” below.
3. *Greenhouse:* Allow only handlers during pesticide application or until labeling-listed air concentration level is met. If no such level is established, exclude workers until after two hours of ventilation with fans.

Application Restrictions and Monitoring

1. Do not allow handlers to apply a pesticide so that it contacts, directly or through drift, anyone other than trained and PPE-equipped handlers.
2. Make sight or voice contact at least every two hours with anyone handling pesticides that are labeled with a skull and crossbones.
3. Make sure a trained handler equipped with labeling-specified PPE maintains constant voice or visual contact with any handler in a greenhouse who is doing fumigant-related tasks, such as application or air-level monitoring.

Restricted-entry Intervals (REIs)

During any REI, do not allow agricultural workers to enter a treated area, unless the situation meets the criteria for early entry under Section E below.

1. The restricted-entry interval is the time immediately after a pesticide application when entry into the treated area is limited.

2. The duration of REIs ranges from four hours to several days. Some pesticides have one REI, such as 12 hours, for all crops and uses. Other products have different REIs, depending on the crop or method of application.
3. When two or more pesticides are applied at the same time and have different REIs, the longer interval must be followed.
4. Some pesticide uses are not covered by the WPS, even when the Agriculture Use Requirements section is on the labeling. WPS does *not* cover research uses of unregistered pesticides or pesticides applied to pastures or animals. Additional exclusions are listed in the *WPS How to Comply* manual. These situations, however, should include re-entry restrictions based on REIs of similar pesticide use situations.

Location of REIs on Labeling

The restricted-entry interval is listed on the pesticide labeling under the heading “Agricultural Use Requirements” in the “Directions for Use” section of the pesticide labeling, or next to the crop or application method to which it applies.

Warnings: Posted Signs and Oral Notification

The employer must notify workers of any pesticide application in accordance with WPS. The warnings serve to inform workers of areas treated with pesticides and of the length of the REI.

- a. *Oral Notification and Posting.* Some pesticide labels require that workers be notified *both* orally and with signs posted at entrances to the treated area. If both types of notification are required, the following statement will appear under the heading Agricultural Use Requirements: “*Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.*” Otherwise, either oral notification or posting may be used to notify workers about treated areas. Workers should be told which method is in effect.
- b. *Oral Notification.* Notification must take place before application or before employees begin work, including location and description of treated area, length of REI, and instructions not to enter.
- c. *Posting.* Post legible 14 in. × 16 in. WPS-design signs (smaller signs may be used in some situations; check latest WPS revisions) no more than 24 hours before application; keep posted during REI; remove within three days after the end of the REI. Worker entry (except early entry) is prohibited while signs are posted.

Post signs so they can be seen at all entrances to treated areas, including access roads, each border adjacent to fields where workers may be working, and established walking routes that enter the treated fields. If there are no usual points of entry, post at corners or places where signs will be easily seen. Post all greenhouse applications.

- d. *Communication with other applicators.* Researchers and other personnel should exchange details concerning pesticide applications on the facility with farm managers/supervisors.

Nurseries and Enclosed Structures Reentry

The WPS requires additional restrictions during some pesticide applications in nurseries and greenhouses.

Nurseries

Keep workers out of the treated areas (areas to which the pesticide was directed) and the surrounding areas during application as described below, but workers may be allowed in the buffer areas just outside the treated area following application.

1. If the pesticide is applied aurally, or in an upward direction, or using a spray pressure greater than 150 PSI, as a fumigant, smoke, mist, fog, or aerosol, then workers are prohibited in an area 100 feet outside the treated area in all directions.
2. If the pesticide is applied downward from a height of greater than 12 inches from the planting medium, a fine spray, or spray pressure greater than 40 PSI but less than 150 PSI, then workers are prohibited in an area 25 feet outside the treated area in all directions.
3. With any other type of application, workers and others are excluded from the pesticide-treated area.

Greenhouses

After the application of pesticides, a minimum duration of adequate ventilation must occur before workers are allowed to enter the treated areas or, depending on the method of application, other areas of the greenhouse. With many pesticides, the REI is much longer than the minimum duration of ventilation. Re-entry is not permitted during the REI.

Ventilation is defined as 10 air exchanges, two hours of using mechanical ventilation (fans), four hours of venting (windows or other passive ventilation), 11 hours with no ventilation followed by one hour of fans, 11 hours with no ventilation followed by two hours of passive, or 24 hours with no ventilation.

REI Areas When Pesticides Are Applied As:

1. *A fumigant*—The entire greenhouse plus any adjacent structures that cannot be sealed off from the treated area, until ventilation is complete, then no entry restrictions.
2. *A smoke, mist, fog, or aerosol*—The REI affects the entire enclosed area in which the application was made.
3. *For other applications in which a respirator is required by the labeling (other than numbers 1 and 2 above)*—After ventilation criteria are met, the REI only applies to the treated area.

4. *In applications not requiring a respirator*—Workers are prohibited in the pesticide-treated area plus 25 feet in all directions within the enclosed area until application is complete. After application, the REI applies only to the treated area.

Early Entry

The WPS allows worker entry into a treated area that remains under an REI only in a few narrowly defined work situations. When early entry is permitted, special instructions and protections must be given to the early-entry workers. Refer to *WPS How to Comply* for details.

The early entry criteria do not apply to pesticide handlers. Equipped with the proper protective equipment, pesticide handlers may enter fields at any time during or after pesticide applications.

No-Contact Early Entry

Workers may enter treated areas during the REI if they will have no contact with anything that has been treated with the pesticide. This entry can be permitted only when the application is finished and after any inhalation exposure level listed on the product labeling has been reached or any WPS ventilation criteria have been met. Workers permitted into a treated area during an REI *must not touch or be touched by any pesticide residues* on plants, on the soil, in water, or pesticides that may be suspended in the air.

Wearing protective clothing does *not* permit no-contact early entry. Examples of no-contact include workers traveling in an enclosed cab, walking on paths where they will not come in contact with any pesticide-treated soil, leaves, water, etc., or traveling in an open cab where plants cannot brush against workers.

Early Entry Involving Contact with Treated Surfaces

Early entry involving contact with treated surfaces is permitted in only three work situations: short-term tasks, emergency tasks, and exceptions approved by the EPA. No early entry is permitted for agricultural workers for any reason if the pesticide requires both oral notification of workers and posting. For all other pesticides, early entry workers must wait at least four hours after pesticide application and until any inhalation exposure level listed on the product labeling has been reached or any WPS ventilation criteria are met.

Short-term tasks. If properly instructed and equipped, workers may perform tasks that do not involve hand labor for up to eight hours out of a 24-hour period. Hand labor includes harvesting, detasseling, thinning, weeding, etc. Short-term tasks that are not considered hand labor include operating, moving, or repairing irrigation equipment not used to apply pesticides. Refer to the *WPS How to Comply* manual for a complete description of hand labor.

Agricultural emergencies. Emergencies must meet all of the following criteria: The emergency could not be anticipated when the pesticide was applied. The circumstances could not be controlled. Early entry is the only practice to mitigate substantial economic loss. The anticipated loss of profit is greater than normal fluctuation.

Circumstances constituting a WPS emergency are expected to be rare in University situations.

EPA-approved exceptions. The EPA has granted an exception for some early entry requirements to the greenhouse rose industry. The EPA is very reluctant to grant additional exceptions; it is unlikely that the University would qualify for any exception. However, additional exemptions may be requested through the EPA regional office.

Handling and Disposal of Pesticides

The handling and disposal of pesticides, rinsates, excess spray materials, and empty containers are difficult tasks. Good solutions are not always available, and the available solution may be costly. University of Georgia CAES intends to continue research to find solutions to disposal problems, and will seek clarification from federal and state agencies so that improved legal disposal methods can be found.

Handling

1. Do not purchase or accept excessive amounts of pesticides or other hazardous materials.
2. All unused experimental pesticides or numbered compounds should be returned to the manufacturer. Provisions for returning unused pesticides should be arranged before the manufacturer sends the pesticide to UGA personnel.
3. Keep all pesticides in original containers with the labels intact. Transfer pesticides to other containers *only* when the original container becomes a danger to safe storage and handling. Attach the original label to the substitute container.
4. Under special research conditions, pesticides can be measured into small containers and labeled for safe handling and transportation. (See "Pesticide Research on University and Non-University Property.")
5. When a hazardous material is rendered unusable, declared unneeded, or when its usage is revoked, it becomes waste and should be disposed of as soon as it can be properly done. There are legal methods of disposal for every identifiable pesticide.
6. Before declaring an unneeded amount of a legal and usable material as hazardous waste, its availability to other units should be advertised informally or through a bulletin board maintained by the pesticide coordinator.

Disposal

1. Athens units should contact the UGA Public Safety Division (542-5845) for disposal of *all* hazardous materials, including pesticides and pesticide materials.
2. Presently, off-campus units must handle disposal of their hazardous materials.
3. The Public Safety Division will help off-campus centers with waste disposal problems in the following ways. They will:
 - a. categorize waste inventories for packaging and advise personnel on packing and labeling requirements;
 - b. estimate the number of drums and the amount of packing material required, based on the submitted waste inventory;
 - c. provide the drums at cost; and
 - d. advise on methods of disposal (transporters, disposal sites, etc.).

4. Many laboratory chemicals also are considered hazardous wastes. To dispose of them properly, the chemical name is needed. Keep pesticides and other hazardous wastes labeled. Some chemical wastes, including unknown wastes, have no legal method for disposal at present. Identification of unknown wastes is the responsibility of the unit generating the wastes.
5. *Do not* dispose of pesticides or diluted pesticide materials into septic tanks and sump systems. Collect and dispose in an approved manner.
6. For help in categorizing hazardous wastes, or if other questions arise, contact:

Public Safety Division

Environmental Safety Services Department

University of Georgia

Athens, GA 30602

Phone: 706-542-0113

Handling Rinsate and Excess Spray Mixture

1. Mix only the amount of spray needed. Calculate and measure *carefully*.
2. When possible, use a designated sprayer for applying only one pesticide or similar compatible pesticides. This will reduce or eliminate rinsing between applications.
3. Rinsate from either containers or spray tanks should be applied on an approved crop in accordance with label instructions. When using numbered pesticides, it will be necessary to include additional replicates for rinsate disposal. *No exceptions*.

Disposal of Pesticide Containers

1. Triple rinse (or equivalent) metal, glass, and plastic containers (add rinsate to spray mixture), render useless, and discard in an approved sanitary landfill or in a manner approved by local ordinance.
2. *Empty* paper and cardboard containers can be discarded in an approved sanitary landfill.

Degradation Tanks

Instructions for construction and use of degradation tanks for disposal of pesticides are being developed and will be provided at a later date. *Do not build or use* such a facility until these instructions are received. The Department of Environmental Safety Services advises against the use of degradation tanks. Pesticide wastes should be disposed of through the hazardous waste program.

Pesticide Storage and Handling Facilities

Pesticide storage and handling facilities are necessary for proper storage, mixing, and loading of chemicals. The CAES Pesticide Storage and Handling Facilities section is developed as a comprehensive and workable policy based on federal and state legislation.

Implementation

1. Equipment and facilities for storage of pesticides must meet all federal and state requirements. The Georgia Department of Agriculture enforces storage requirements that appear on the pesticide label.
2. For new buildings, choose the location carefully. Ensure drainage away from the storage building, but minimize runoff to sensitive areas. Where necessary, use containment facilities, such as earthen dikes. Check the prevailing winds. If possible, locate downwind and be isolated from nearby residences. Choose an area separate from livestock, forage and feed storage, and other fire hazards. The site should be in a location not subject to flooding and away from water sources. Refer to *Extension Engineering Bulletin on Pesticide Storage and Mixing Facilities*, B-1095, for more detailed information on construction and site location.
3. A properly designed ventilation system is required for exposure control.
4. General fire protection must comply with applicable National Fire Protection Association (NFPA) standards.
5. Keep fire extinguishers mounted in the storage facility, and mark their locations clearly with signs.
6. To avoid spills and fire, store no chemicals above shoulder height of the shortest employee. Shelves must be well anchored and painted with chemical resistant paint or chemical resistant coating. Shelves should have at least a ½" containment lip on the outer edge. Do not overload shelves.
7. A safety shower must be located within 100 feet of any point in a pesticide facility.
8. The chemical storage area must be posted with signs both inside and outside, stating "DANGER: PESTICIDES," "KEEP OUT," "NO SMOKING AREA," or other appropriate signs.
9. Lock pesticides and related materials in a cabinet, room, or separate building designed solely for storage of these materials.
10. Store all pesticide materials with labels intact, and maintain in a proper manner to insure safety of employees, the public, and the environment.
11. All employees should be familiar with the labeling before using any pesticide. They should also know where to obtain the associated Material Safety Data Sheet (MSDS). Employers must ensure that in all cases the required information located on the MSDS is provided for each hazardous chemical and is readily accessible. Pesticide applicators should be familiar with all pesticide labeling before application.
12. Storage information can be found on the MSDS and the chemical label.

13. Store compatible pesticides together. Store by reactive class (flammables with flammables, oxidizers with oxidizers). The University of Georgia has requirements for safe storage of chemicals for five chemical classifications, including acids, bases, flammables, peroxide-forming chemicals, water-reactive chemicals, oxidizers, and toxic compounds.
14. Chemical color coding is used for storage purposes. The National Fire Protection Association (NFPA) uses a diamond-shaped emblem for coding hazardous chemicals. A red diamond indicates a fire hazard. A blue diamond indicates a health hazard. A yellow diamond contains reactivity data. A white diamond includes special information or specific hazards.
15. Store toxic chemicals in well-controlled areas separated from incompatible chemicals.
16. Some chemicals require special precautions in storage to prevent fire or explosion. Contact fire safety officers for information on storing flammables. The UGA Department of Environmental Safety Services will also provide assistance.
17. Train personnel about safety practices, proper chemical storage, and personal protective equipment (PPE). Know what PPE is needed to perform the job safely, and use it when needed. If PPE is to be effective, it must be used properly. Know how to use PPE, and maintain it according to manufacturers' instructions.
18. The Right to Know Act (RTK) requires that hazardous chemicals be labeled. Proper labeling is very important. Unknowns can be created in several ways, including a spill or accident. *Label everything*. Unknowns also occur when labels become unreadable, old, or faded.
19. Maintain a current inventory of all materials in storage. Date and identify all pesticides when they are placed in storage. Establish a policy of first-in, first-used, so that pesticides are less likely to become outdated.
20. Make sure gas cylinders have labels. Use gas cylinder straps or chains to secure cylinders. Replace caps on completely empty cylinders. The UGA policy on handling cylinders is included in the University Safety Manual.
21. Do not store pesticides in the same facility with fertilizer.
22. Purchase smaller containers of pesticide to minimize liability and to reduce the physical area needed for safe storage.
23. Test the safety shower annually.
24. Test eye wash stations weekly.
25. Remove oral medications from first aid kits.
26. Keep emergency numbers posted.
27. Dispose of all outdated and unneeded toxic compounds. Keep a list of unwanted materials, and send copies to the UGA Public Safety Coordinator and the UGA-CAES RTK Deputy Coordinator.

28. Know the hazards associated with toxic chemicals and protect yourself. Be familiar with the terminology associated with toxic chemicals.
29. Practice good hygiene. Don't eat, drink, or apply cosmetics in areas where toxic compounds are used or stored.
30. Do not spread contamination by opening doors or operating equipment using contaminated hands or gloves.
31. Never siphon pesticides by mouth.
32. Never pour pesticides above chest-height.
33. File reports of spills with the Department of Environmental Safety Services. File reports of incidents involving employee poisoning with "The University of Georgia Incident/Accident Report" and the "Georgia State Board of Worker's Compensation Employer's First Report of Injury of Occupational Disease."
34. Inform the local fire and police department of location and layout of pesticide storage, types of materials stored, and hazards involved. Arrange for nonworking hours contact, including an emergency phone number for the person responsible for storage.
35. Inform local hospitals and poison control centers of potential hazards.
36. Every facility that stores or uses hazardous chemicals should have a written emergency plan, including person responsible, emergency phone numbers, evacuation, procedures, spill response, remediation, first aid, and safety equipment. The Department of Environmental Safety Services will review plans upon request.
37. Refer to the emergency response section on MSDS sheets for information about fire-extinguishing media and information on leaks, spills, and disposal requirements.
38. Remember: Exposure potential increases if the chemical is spilled.
39. Decontaminate surfaces and clean up minor spills immediately. It is important to have a spill kit on hand to clean up minor spills. Mitigate only those spills that can be safely controlled. Do not clean up chemical spills if more than one pound or one quart in volume, if an appropriate spill absorbent is not available, or if the chemical is unknown. A generic spill kit is simple and inexpensive.
40. For a larger spill, *contact the Department of Environmental Safety Services immediately*. During off-hours, call the UGA Police Dispatch to contact the ESS person on call. Keep other people away from the area until the proper authorities arrive. If anyone is injured, contact emergency medical personnel.
41. Inspect pesticide containers regularly for leaks. Transfer pesticides to other labeled containers only if the original containers become dangerous for safe storage.
42. A preparation room for weighing and mixing pesticides should be available adjacent or close to the pesticide storage facility. Balances, glassware, and PPE should be provided at every location. Adequate ventilation must be maintained.
43. Signs listing the names and phone numbers of emergency agencies to contact in case of accidents should be posted at all storage and mixing sites.

Spills and Releases into the Environment

1. *Spill clean-up/containment supplies.* Each unit or individual researcher must maintain the following supplies (or their equivalents) to contain and clean up pesticide spills. The supplies should be readily available to the areas where spills may occur.
 - a. Soap, water, eyewash, and single-use towels for personal cleanup.
 - b. Material readily available for spill containment, such as sand, soil, dike hoses, etc.
 - c. Sodium hypochlorite (bleach) and hydrated lime.
 - d. Absorptive materials, such as kitty litter, sawdust, vermiculite, etc.
 - e. Bucket, broom, shovel, sprinkling can, and containers for disposal of wastes.
 - f. Personal protective equipment necessary to handle the most toxic pesticide in the inventory.
2. *Emergency procedures.* In the event of an emergency, follow these procedures. Become familiar with these steps before an emergency occurs.
 - a. Assure public and personal safety. Clear all unauthorized personnel from the area.
 - b. Put on appropriate protective equipment.
 - c. Stop the source of the spill.
 - d. Contain the spill with a physical barrier. Protect wells and waterways.
 - e. If the pesticide is a solid formulation, scoop up as much as possible. It may be used if not overly contaminated.
 - f. Sprinkle spill with a 1:1 mixture of sodium hypochlorite (bleach) and water followed by a liberal application of hydrated lime. Let stand for one hour.
 - g. Spread absorptive material over any liquid spills. Collect absorptive material and dispose of as a hazardous material.
 - h. Dispose of any heavily contaminated materials (e.g., clothing, absorptive materials, etc.) as hazardous wastes.
 - i. Inform the Unit Administrator of the spill as soon as possible, especially if the spill is on soil or threatens a water supply.
3. *Emergency phone numbers.* Post emergency numbers near all telephones. Contact them immediately in the event of any significant or reportable spill (as listed in 40 CFR, Part 260 for restricted-use pesticides). A significant spill is any spill that requires external resources for control or cleanup. Contact CHEMTREC (1-800-424-9300) and the supplier for information concerning pesticide emergencies. Contact the Georgia Environmental Protection Division (1-800-241-4113). These phone numbers are staffed 24 hours a day. Also contact the University Hazardous Materials unit at 706-542-5801.

4. *Emergency response.* Be sure that all responding units (fire department, emergency medical, etc.) are given all pertinent information.
5. *Information files.* Information concerning all pesticides in a facility should be maintained by the employees responsible for the use and storage of pesticides. The information should be readily available.
6. *Local emergency units.* Local medical units, fire departments, and other emergency offices should be kept updated on the quantities and characteristics of pesticides in storage.
7. *Chain of command.* Establish a chain of command and individual assignments for each unit in the event of a pesticide emergency. An individual should be designated as the press spokesperson.

Responsibility

The supervisor shall ensure that these instructions are followed.

Shipping Hazardous Materials

This section provides *information, guidelines, and instructions* for all CAES personnel engaged in, or who expect to be engaged in, shipping by common or commercial carrier or transporter of any hazardous materials or substance treated with or containing hazardous material. This includes shipments made by motor vehicle, rail car, aircraft, or boat.

Description

This policy applies to all CAES employees and any other individual working with or under the supervision of CAES personnel. Personnel involved in any way with hazardous materials will be familiar with and adhere to appropriate rules and regulations of the Hazardous Materials Transportation Act (HMT Act). Copies of the *Hazardous Materials Compliance Pocketbook* must be available and maintained in the administration offices of the respective unit.

It is the responsibility of each faculty member to become familiar with the appropriate HMT rules and regulations prior to the shipment of any chemicals or hazardous materials via commercial transporter. Further, it is the responsibility of each faculty member to instruct all classified personnel who are under his or her supervision accordingly.

Implementation

College of Agricultural and Environmental Sciences personnel engaged in teaching, research, or extension activities that in any way involve shipment of hazardous materials or a substance containing hazardous materials must complete the “Request for Approval to Ship Hazardous Materials” form (Appendix C). It should be signed by the first level of supervision of the individual making the shipment and by a Hazardous Materials Coordinator. A copy of the completed form should be maintained by the individual shipping the hazardous material and by the supervisor.

Responsibility

While the initial responsibility for shipping hazardous materials resides with the individual making the shipment, the final authority for making the shipment resides with the appropriate Hazardous Materials Coordinator signing the form. A trained HMC shall be designated for Athens, Griffin, and Tifton.

How to Identify Hazardous Materials

Hazardous materials fall into the following categories (materials may fall into more than one category):

- a. *Class 1 (explosives)*—**Do not ship explosives under any circumstances.**
- b. *Class 2 (gases)*—Three divisions as follows:

Division 2.1—gases that are flammable; *Division 2.2*—gases that are non-flammable and compressed; and *Division 2.3*—gases that are poisonous.

- c. *Class 3 (flammable and combustible liquids)*—A flammable liquid has a flash point of not more than 60.5°C (141°F). A combustible liquid *has a flash point* above 60.5°C (141°F) and below 93°C (200°F).
- d. *Class 4 (flammable solids)*—Three divisions as follows:
 - Division 4.1*—solids that are flammable; *Division 4.2*—material that is spontaneously combustible; and *Division 4.3*—material that is dangerous when wet.
- e. *Class 5 (oxidizers and organic peroxides)*—Two divisions as follows:
 - Division 5.1*—oxidizer and *Division 5.2*—organic peroxide.
- f. *Class 6 (poisons)*—Two divisions as follows:
 - Division 6.1*—material that is poisonous (All pesticides are 6.1. If contained in flammable liquid, may also be Class 3); and *Division 6.2*—material that is an infectious substance (etiologic agent) (*Division 6.2* includes bacteria, fungi, viruses, insects, and other infectious substances).
- g. *Class 7 (radioactive materials)*—Any material having a specific radioactive activity greater than 0.002 microcuries per gram.
- h. *Class 8 (corrosives)*—A material, liquid or solid, that causes visible destruction or irreversible alteration to human skin or a liquid that has a severe corrosion rate on steel or aluminum.
- i. *Class 9 (miscellaneous)*—A material which presents a hazard during transport, but which is not included in any other hazard class (such as a hazardous substance or a hazardous waste). Do not ship anything in this category.
- j. *ORM-D (other regulated material)*—A material which, although otherwise subject to the regulations, presents a limited hazard during transportation due to its form, quantity, and packaging (consumer commodities). This includes dry ice.

Shipping Papers Will Be Required

1. If the material contains hazardous substances, the letters “RQ” and the hazard class must appear either before or after the basic entry on the bill of lading.
2. For all materials meeting the “poisonous by inhalation” criteria, the words “Poison-Inhalation Hazard” and “Zone A” or “Zone B” for liquids, as appropriate, must be added on the shipping paper immediately following the shipping description.
3. The fact that a material is an elevated temperature material must be indicated in the shipping name or the word “HOT” must immediately precede the proper shipping name.
4. If a material is a marine pollutant, the words “Marine Pollutant” must be entered in association with the basic shipping description only when shipped by vessel..
5. All hazardous material shipments must have emergency response information on or in association with the shipping paper. If the information is in association with the

shipping paper, it may be in the form of the Emergency Response Guidebook, a Material Safety Data Sheet, or any other appropriate form.

6. A 24-hour emergency response phone number for the Hazardous Materials Coordinator must be entered on the shipping papers.

Labels

When hazard warning labels are required on packages, the shipper must affix the labels before offering the shipment.

The Hazardous Material Table and a ready reference to the labels required for each proper shipping name are provided in the *Hazardous Materials Compliance Pocketbook*.

If more than one label is indicated, the first one listed is the primary label and any others are subsidiary labels. Primary labels have a class or division number in their lower corner and subsidiary labels do not.

Package Markings

All non-bulk packaging (119 gallons or less) *must be marked with the proper shipping* and the four digit Un/NA identification number as shown in the Hazardous Materials Table. Most n.o.s. and other generic proper shipping names must also have the technical name(s) entered in parentheses in association with the proper shipping name. In addition, other markings may be required, such as package orientation arrows. Two very important markings, however, may also be required. First, if the package contains the reportable quantity of a hazardous substance, the letters "RQ" must be marked in association with the proper name. Second, for materials meeting the poisonous by inhalation criteria, the words "Inhalation Hazard" must appear in association with the hazard warning labels or shipping name required.

Non-Emergency Pesticide Information

General Information

National Pesticide Telecommunications Network (NPTN), Oregon State University—General information on toxicology, environmental hazards, etc.

(M–F, 9:30am–7:30pm EST) **800-858-7378**

Pesticide Manufacturer—Look for telephone number on the pesticide label.

American Crop Protection Association—General information about the pesticide industry. M–F, 9:00am–5:00pm EST) **202-296-1585**

Chemtrec Referral Center—Refers caller to the company responsible for the pesticide. M–F, 9:00am–6:00pm EST) **800-262-8200**

National Response Center—Refers caller to proper government agency for hazardous materials. **800-424-8802**

Pesticide Disposal

Hazardous Waste Division, GA EPD **404-657-8831** (agricultural) or

404-362-2537 (household)

EPA Hazardous Waste Hotline (Superfund) **800-424-9346**

Sara Title III, Right-to-Know

Georgia DNR **404-656-6905**

Hazard Communication

OSHA **404-347-3573**

Georgia Institute of Technology **404-894-8090**

EPA Safe Drinking Water Hotline

Interprets residue data and gives EPA drinking water regulations. **800-426-4791**

Local Health Department or Sanitarian. County _____ City _____

Enforcement of Pesticide Laws

Georgia Dept. of Agriculture, Entomology & Pesticides Division **404-656-4958**

EPA Region IV Pesticides Branch 404-347-3222

Applicator certification to use restricted-use pesticides **800-282-5852 or 404-656-4958**

Structural pest control certification **404-656-3641 or 800-282-5852**

Safety/Training/Information—Paul Guillebeau (UGA Cooperative Extension Service)
706-542-3687

Web Sites with Pesticide Information

The Georgia Pest Management Newsletter:

<http://www.ces.uga.edu/wwwroot/ces/wnews.html>

The University of Georgia Cooperative Extension Home Page:

<http://www.ces.uga.edu>



Applying Pesticides Correctly—The National PAT Core Manual:

<http://ianrwww.unl.edu/ianr/pat/pat.htm>

Pesticide Action Network North America: <http://www.panna.org/panna>

American Crop Protection Association: <http://www.acpa.org>

EPA Pesticide Product Information: <http://www.cdpr.ca.gov/docs/epa/epamenu.htm>

EPA List of Restricted-Use Pesticides: <http://www.epa.gov/docs/RestProd>

Extension Toxicology Network: <http://ace.orst.edu/info/extoxnet>

U.S. Fish & Wildlife Service—Endangered Species: <http://www.fws.gov/index.html>

National IPM Network: <http://ipmwww.ncsu.edu/nipmn/states/National.html>

Federal and State Pesticide Regulations

The production, transportation, distribution, sale, use, application, and storage of pesticides, and the disposal of excess pesticides and containers in Georgia are regulated primarily under one federal and two Georgia laws: The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended by the Federal Environmental Pesticide Control Act of 1972 (Public Law 92–516), (Public Law 94–140), and the Federal Pesticide Act of 1978 (Public Law 95–396); The Georgia Pesticide Use and Application Act of 1976; and the Georgia Pesticide Control Act of 1976. FIFRA as amended is administered by the Administrator of the Environmental Protection Agency (EPA). The two Georgia laws are administered by the Commissioner of Agriculture through the Entomology and Pesticides Division of the Georgia Department of Agriculture.

Many features of the two Georgia laws are necessary to comply with FIFRA as amended and requirements laid down by EPA. Without this compliance, the Georgia Department of Agriculture could not perform valuable functions that benefit the pesticide industry, the pesticide user, and the consumer. Because of this close compliance, most of the discussion will be aimed at FIFRA as amended and the manner in which it is administered by EPA.

Posting Requirements for Pesticide Applications in Public Buildings

Public building owners/operators must post a *conspicuous* notice to alert anyone entering a building in which a pesticide sold solely for commercial applicator use and restricted to uses other than household use is applied.

The 1996 legislation requiring posting and notification of public buildings (state or local government facilities) stipulates the following procedures for compliance:

1. *The Building Operator* must post a sign (size not specified) in a conspicuous place so that anyone entering the building will know that pesticides have been applied.
2. The sign must remain for 24 hours following the application—no advance posting is required. It must include the following information:
 - a. Location and hours during which any person may obtain information concerning the pesticides and may review the MSDS sheets.*
 - b. Phone numbers for the *building operator*, from whom emergency information concerning the pesticides applied may be obtained at any time of the day or night and on any day of the year.
 - c. MSDS sheets will be provided by the pest control operator to the building operator at the time the contract for service is entered or renewed, if the agency utilized an outside applicator to provide pest control service.
3. If application is made on regular basis by the building operator or pest control operator under contract to the agency, a permanent sign may be used. It must indicate the days or dates on which such pesticides are usually applied. If other applications are made, additional posting must be made.

4. The *building operator* must provide upon request and within a reasonable period of time the name of any pesticide used and a copy of the material safety data sheet.
5. The *building operator* must retain all MSDS sheets and other documents relative to MSDS for five years. Statements of information must be maintained for two years. University personnel should keep these records on computer indefinitely.
6. Posting is *not* the responsibility of the pest control operator. As required in this legislation, all posting *must be done* by the *building operator*.
7. Information relative to compliance with these regulations is available in the UGA Environmental Safety Services (ESS) Department. Hazard information and MSDS sheets on pesticides used on campus are also available in the ESS Department. The ESS general phone number is 542-5801.

Use Inconsistent with Labeling

Pesticides that are shipped, distributed, or sold in this country must be registered with EPA and bear the proper label. In Georgia they must also be registered with the Entomology and Pesticides Division of the Georgia Department of Agriculture. Section 12 (a) (2) (G) of the amended FIFRA makes it unlawful to “use any registered pesticide in a manner inconsistent with its labeling.” Section 6 (2) © of the Georgia Pesticide Control Act of 1976 makes it unlawful “For any person to use or cause to be used any pesticide in a manner inconsistent with its labeling . . .” This and certain implications within FIFRA seem to make it unlawful to make any suggestion for a pesticide use that is not on the label.

Section 12 (a) (2) (G) refers to the particular product that the pesticide user is applying and not merely to the active ingredient or the type of formulation. Even though a particular pesticide formulation—e.g., 15% parathion WP—is labeled for a certain use, it is unlawful to use a brand of that pesticide formulation for that use if it is not on the label.

Most of the troubles with Section 12 (a) (2) (G) have been caused by the manner in which it has been interpreted by the EPA. The EPA insisted on defining “inconsistent” to mean “failure to be precisely the same.” When Congress amended FIFRA by passing the Federal Pesticide Act of 1978, it recognized the need to qualify Section 12 (a) (2) (G) by enacting certain exemptions. Inconsistent with the labeling no longer includes:

1. Applying a pesticide at any dosage, concentration, or frequency less than specified on the labeling.
2. Applying a pesticide against any pest not specified on the labeling if the rate and crop, animal, or site are listed and if the labeling does not prohibit such a use.
3. Using any application method not prohibited by the labeling; e.g., aerial application.
4. Mixing a pesticide with fertilizer if not prohibited by the labeling.
5. Pesticide uses in conformance with FIFRA Sections 5 (Experimental Use Permits), 18 (Emergency Exemptions for Governmental Agencies), and 24 (Special Local Needs Registration).

6. Uses that the Administrator of EPA determines to be consistent with the purposes of FIFRA.

According to EPA's earlier interpretation of FIFRA Section 12 (a) 1 (B), employees of pesticide companies or anyone involved in the distribution or sale of a pesticide could not legally utilize the above exemptions when making recommendations. This restriction was removed by a 1981 FIFRA Enforcement Policy Statement from EPA.

Restricted Use Pesticides

FIFRA requires that each pesticide product be classified for general use or restricted use at the time of registration or reregistration. It was originally required that all pesticides be reregistered and classified by October 21, 1976. Congress delayed the deadline until October 21, 1977, largely because EPA needed more time. Because of the difficulties encountered in reregistering pesticides, it is now planned that pesticides will be classified prior to reregistration. It is unlawful to advertise a restricted-use pesticide without indicating that it is for restricted use. In Georgia restricted-use pesticide dealers must be licensed by the state.

In order to purchase or apply a restricted-use pesticide, an applicator (or the applicator's supervisor) must be licensed through the Georgia Department of Agriculture. All University employees or their supervisors must have a commercial pesticide applicator's license in order to purchase or apply restricted-use pesticides.

Certification and Licensing

The Entomology and Pesticides Division of the Georgia Department of Agriculture is responsible for certification and licensing. To be certified, everyone must pass a test on the general principles of pesticide use and a test in a specific pesticide use category (e.g., Plant Agriculture or Ornamental and Turf).

The Georgia Cooperative Extension Service develops training materials and offers training necessary to qualify applicators for certification. Training materials and test schedules may be obtained from the Pesticide Coordinator.

After receiving a license, an applicator must obtain from six to 20 hours of recertification credits every five years to maintain certification. Otherwise, the applicator will be required to take the test again. The Georgia Department of Agriculture will send an annual list of recertification opportunities to all certified applicators, or anyone may request one from the Pesticide Coordinator.

Applying Pesticides and Other Chemicals Through Irrigation Systems

Regulations of the Georgia Department of Agriculture that are administered through the Entomology and Pesticides Division require that any irrigation system used to apply fertilizers, pesticides, or other chemicals be equipped with a functional check valve and a low pressure drain that includes a vacuum relief valve. All parts must be constructed, installed, and maintained according to Georgia Department of Agriculture regulations. Violators of these regulations are subject to a maximum penalty of \$1,000. Anyone

planning to apply pesticides or any other chemicals through an irrigation system should contact the Entomology and Pesticides Division of the Georgia Department of Agriculture, 19 Martin Luther King, Jr. Drive, SW, Atlanta, Georgia 30334 (telephone 404-656-4958).

Recent EPA regulations state that a product cannot be applied through an irrigation system unless the label allows it and gives specific instructions. Equipment requirements are more stringent than state regulations. All products capable of being injected that are not allowed must have a negative statement on the label.

Waste Disposal

The EPD permits landfill disposal of certain concentrated pesticides as long as they are absorbed and bagged. Under EPD guidelines, up to 2.2 pounds of an *acutely hazardous pesticide* may be taken to a sanitary landfill; liquid formulations must first be absorbed by kitty litter or similar materials and contained in plastic bags. Up to one gallon liquid of a *toxic pesticide* may be taken to a sanitary landfill per visit. If there is more than one gallon but less than 220 pounds (about 25 gallons), it may be taken to a sanitary landfill, but not in a liquid form. It must be absorbed and bagged as described above. If more than 220 pounds of toxic pesticide waste are generated per month or more than 2.2 pounds of acutely hazardous pesticide waste, disposal instructions must be obtained from END. Remember, local landfills have the right to refuse any pesticide, no matter how it is presented.

The best method to dispose of mixed pesticides or rinse water is to apply it on the crop or site for which it is labeled.

Triple-rinsed (or equivalent) used containers can be discarded in permitted sanitary landfills without an ID number or further regulation. Regulated waste includes improperly prepared containers, excess pesticides and pesticide dilutions, rinse water, etc., that contain a listed chemical and cannot be properly used. Pesticides or pesticide ingredients among the listed chemicals are:

Acutely Hazardous Chemicals

Aldicarb (Temik)	Dinoseb (DNBP)	Phenyl mercuric Acetate (PMA)
Aldrin	Di-Syston (Disulfoton)	Phorate (Thimet)
Antu	Endothal	Phostoxin (Hydrogen phosphide)
Avitrol	Endrin	Strychnine and salts
Calcium Cyanide	Famphur (Warbex)	Sulfotepp (Bladafume)
Carbon disulfide	Heptachlor	Tetraethyl Pyrophosphate (TEPP)
Cpd 1080 (Sodium fluoracetate)	Hexa-ethyl tetraphosphate (HETP)	Toxaphene
Cpd 1081 (Fluoroacetamide)	Methyl Parathion	Warfarin
Dieldrin	Methomyl (Lannate, Nudrin)	Zinc Phosphide
Dimethoate (Cygon)	Nicotine/salts (Blackleaf 40)	
Dinitro Weed Killers	Parathion	

Toxic Chemicals

Acetonitrile	1,3-Dichloropropene (Telone)	Mirex
Acrylonitrile	Dimethyl Phthalate	Napthalene (Moth Balls)
Amitrole	Ethylene Dibromide (EDB)	Paradichlorobenzene (Moth Crystals)
Cacodylic Acid (Phytar)	Ethyl ether	Paraldehyde
Carbon Tetrachloride	Ethylene Dichloride (EDC)	Pentachlorophenol
Chlorobenzilate (Acaraben)	Ethylene Oxide	Pentachloronitrobenzene (PCNB)
Chlordane	Formaldehyde	Perchloroethylene
Chloroform	Hexachlorophene (Nabac)	Phenol (Carbolic Acid)
Creosote	Kepone	Phenol, 2,4,5, Trichloro (Dowicide 2)
Cresylic Acid	Lindane	Phenol, 2,4,6 Trichloro (Dowicide 25)
Cyclohexane	Maleic Hydrazide (MH-30)	Propyzamide (Kerb)
Cyclohexanone	MEK (Methyl Ethyl Ketone)	Silvex
2,4-D Salts and Esters	Methanol (Wood Alcohol)	2,4,5-T
DDD	Methoxychlor	Thiram
DDT	Methyl Bromide	Toluene
Diallate (Avadex)	MIBK (Methyl Isobutyl Ketone)	Xylene
1,2-Dibromo-3-Chlopropane (Nemagon, Fumazone)		
Dibutyl Phthalate		
O-dichlorobenzene		

For current information on compliance, location of permitted sanitary landfills and technical assistance, consult the phone numbers listed in this document under “Emergency Phone Numbers” or “Non-Emergency Numbers.”

OSHA and the Hazard Communications Standard

The purpose of this Standard (by Act of Congress in 1987) is to provide employers and employees with information regarding hazardous chemicals, including certain pesticides. The basic documents involved with this information procedure are the Material Safety Data Sheets or MSDS.

Basic manufacturer and importers are required by OSHA to provide the immediate customer a single MSDS with each shipment of hazardous chemical. Dealers and formulators are supposed to have lists of which chemicals are considered hazardous. Employers who use such hazardous chemicals must keep the MSDSs on file, available to workers, and the employer must teach all workers to read the sheets as part of the safety training program.

EPA Worker Protection Standard

The WPS requires agricultural employers to post treated areas; to put up a pesticide safety poster on the work premises; and to provide decontamination facilities, emergency assistance, pesticides safety training, and surveillance during certain pesticide applications. It also requires pesticide manufacturers to revise certain labels for new protective equipment requirements and reentry intervals. The regulation includes all agricultural pesticides, not just restricted use pesticides. All University personnel who supervise agriculture workers or agricultural pesticide applicators should be familiar with the *EPA Reference Guide for EPA’s Worker Protection Standard*. Revisions to these guidelines are

available from the Georgia Dept. of Agriculture or the University Pesticide Coordinator (Paul Guillebeau).

Pesticide Record-Keeping Requirements (RUP and WPS)

Records of applications of Restricted Use Pesticides (RUP) must be kept for two years from the date of application. The pesticide label will identify an RUP on the front panel. The information should be recorded within 14 days of application. University applicators should maintain all records indefinitely on computer.

All applicators must record the following information for federal RUPs:

- month, day, and year of the application
- pesticide brand or product name
- EPA registration number
- crop, commodity, stored product, or site treated
- total amount of RUP applied
- size of the area treated
- name and certification number of the certified applicator
- location of the application

The law provides four options for recording the location:

- identify the county, range, township, and section
- maps or written description
- a map and numbering system as used by Natural Resources Conservation Service or Consolidated Farm Service Agency
- a legal property description

There is no required form. There is no reporting requirement. Instead, records must be submitted if requested by:

- USDA
- Georgia Department of Agriculture
- licensed health care professionals who require the information to treat a person who may have been exposed to the RUP for which the record is maintained. In this case, the applicator may submit the record “information” rather than the record itself.

There are special guidelines for recording a spot treatment application. A spot treatment is defined as treating an area during one 24-hour period that is less than one-tenth of an acre. Greenhouse and nursery applications are *not* spot treatments. When making a spot treatment of an RUP, applicators must record:

- pesticide brand or product name

- EPA registration number
- total amount applied
- the location designated as “spot treatment” (e.g., “plot adjacent to spray shed”)
- date of application

The law provides penalties for failure to keep RUP records. For the first violation, the penalty is not to exceed \$500. For subsequent violations, penalties will not be less than \$1000, unless it is determined that a good-faith effort had been made to comply.

The Worker Protection Standard requires that the following information be recorded concerning applications of ALL pesticides, RUP and general use:

- location and description of treated area
- product name, EPA registration number, and active ingredient(s)
- time and date pesticide of application
- restricted entry interval (REI)

WPS requires that this information be maintained for 30 days after the REI expires. University personnel should keep all records indefinitely on computer.

Appendices

APPENDIX A: Employee Certification

Supervisors must ensure that every employee reads and signs this document. The signed copies should be kept on file, with a copy submitted to the next level supervisor.

By signing this document, I, _____, certify that I have read and understood the University of Georgia College of Agricultural and Environmental Sciences Pesticide Policies and Procedures Handbook. Furthermore, I certify that I will follow these policies whenever my University responsibilities require that I handle pesticides.

_____ (signature of employee)

_____ (date)

APPENDIX C: Request for Approval to Ship Hazardous Material

I. HAZARDOUS MATERIALS TO BE SHIPPED

DATE

A. Hazard Class and Description _____

B. Description of dangerous goods _____

C. Shipping papers Yes ___ No ___ D. Placards in place Yes ___ No ___

II. CARRIER Carrier informed Yes ___ No ___

III. AMOUNT OF HAZARDOUS MATERIALS

A. Total amount _____

B. Complete List of Hazardous Materials _____

IV. METHOD OF PACKAGING (see shippers instructions for each class)

Request Submitted by _____ Date _____

Approval 1st Level Supervisor (Name and Department) _____

Department and Unit _____

Hazardous Materials Coordinator _____ Date _____