

Department Safety Program

Department of Crop and Soil Sciences
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I. Statement of Purpose

The purpose of the Department Safety Program is to promote a safe working and learning environment for university personnel within the Department of Crop and Soil Sciences, and to meet state, federal and University safety requirements. This Program is designed to provide safety guidance for all personnel affiliated with the Department of Crop and Soil Sciences. This includes personnel working in Pullman, Lind, Prosser, Davenport, and any other work station where the Department of Crop and Soil Sciences has authority. It also pertains to employees traveling on departmental business. The Safety Committee will serve as a resource for interpretation of this program or any other safety issue. This program is intended as a supplement to, not a replacement for, the Washington State University Safety Policy and Procedure Manual.

II. Responsibility

A. The Department Chair

The Department Chair bears overall responsibility for ensuring that the provisions of the Safety Program are carried out. The Chair is responsible for implementing and maintaining those provisions in the Washington Industrial Safety and Health Act (WISHA) Regulations (SPPM S20.10.1) that are designated as management responsibilities, and for implementing and maintaining University regulations regarding safety and accident prevention, as set forth in the Business Policy and Procedures Manual (BPPM), the Safety Policies and Procedures Manual (SPPM), the Radiation Safety Manual (RSM), and the Laboratory Safety Manual (LSM).

The Department Chair must attend the first safety committee meeting of each new Safety Committee to emphasize to them the importance of safety and their need to be thorough and efficient in their committee responsibilities and duties.

B. Supervisors

Supervisors are responsible for implementing and maintaining the provisions of the Department Safety Program. They must provide a General Safety Orientation for all employees (see Appendix I) and other safety orientations (see Appendix II - VIII) pertinent to their employees activities. This applies to their workgroup and workplace. Supervisors will maintain open communication with their supervisees and with safety committee members to ensure that safety concerns are addressed. Supervisors will monitor work and safety conditions in their workplace to ensure compliance with regulations and safe practice. Supervisors are responsible for the safety and health of their employees (WSU SPPM S20.10.2).

C. Employees

Employees are required to receive the General Safety Orientation (see Appendix I) and any other safety orientations (see Appendix II - VIII) pertinent to their activities. Employees are also to conform with WISHA and SPPM regulations, which include the following practices:

- 1) Employees shall study and observe all safe practices governing their work.
- 2) Employees shall offer suggestions to contribute to a safer work area. No one should be afraid to voice his/her concerns about their personal safety for fear of ridicule or more serious consequences.
- 3) Employees shall apply the principles of accident prevention in their daily work and shall use safety devices and protective equipment as required by their employers or employment or the law.
- 4) Employees are required to report to their immediate supervisor each industrial injury or occupational illness, regardless of the degree of severity.

D. Safety Committee Representatives

The Safety Committee Representative will:

- 1) Represent the safety concerns of the employees to the department and university.
- 2) Work within the department safety committee to bridge administration concerns for safety with employee concerns for safety.
- 3) Assist the department chair in understanding, maintaining, and implementing ALL provisions and regulations regarding safety and accident prevention.

E. Safety Committee Chair

The Safety Committee Chair is responsible for coordinating and implementing the activities of the Department Safety Committee in accordance with the guidelines that follow.

III. Organization and Communication

A. General

The primary purpose of the Department Safety Program is:

- 1) To promote a safe working and learning environment for persons in the Department of Crop and Soil Sciences;

- 2) To reduce the chance of injury or illness through communication of information to employees;
- 3) To inform employees of their responsibilities toward a safe work place.

To this end, the Department Chair will respond to all safety issues raised by employees. The response will consist of a written decision and its implementation, a statement of policy, and dissemination of clarifying information. If an employee is not satisfied with the response and believes that a condition or activity represents a continuing threat to safety or health, that employee may appeal to a higher or independent authority (Environmental Health and Safety-335-5311; Human Resource Services-335-1950).

B. Safety Committee

- 1) The Department Safety Committee is composed of representatives who are elected to represent different working groups within the Department: Faculty, Farm and Seedhouse, Graduate Students and Timeslip Employees, Laboratory, Office, Postdocs, Visiting Scientists, and Other Temporary Faculty, and the USDA.
- 2) The committee members will serve one-year terms, and will be elected each January by their representative groups. Each committee member will be responsible for being aware of safety concerns and committee functions with respect to their constituent groups. The Committee members will elect the chairman of the Committee. In addition, the Department Chair may appoint one or more committee representatives (WSU SPPM, S20.20.1). Vacancies may be filled via appointment by the Department Chair or via special election.
- 3) The Committee will meet a minimum of monthly and will keep minutes of each meeting. The Committee Chair will appoint or elect a representative to document safety meetings. Meetings should be limited to one hour in length unless vote is taken for a longer period. The minutes will show:
 - a) Date, time, and place of the meeting
 - b) Members present
 - c) Topics discussed and actions taken
 - d) Date, time, and place of the next meeting.
- 4) The Committee Chair will ensure that a copy of the minutes will be distributed (as required by WSU SPPM S20.33.) to:
 - a) Department Chair
 - b) Committee members
 - c) College of Agriculture and Home Economics

- d) WSU Safety Office
- 5) The principle functions of the Committee are:
 - a) To study safety and health issues raised by the Department employees or administrators and to recommend solutions to these issues.
 - b) To advise employees and administrators of rights, responsibilities, and regulation under University, state, and federal laws.
 - c) To review accident and investigation reports to ensure that proper action is taken to prevent related accidents in the future.
 - d) To document the Safety Training of each staff member, graduate student, faculty, and visiting scientist.
 - e) To document the Safety Departure Checklist of each staff member, graduate student, faculty, and visiting scientist.
 - f) To document and organize work area inspections and self-inspections.
 - g) Provide departmental education/training sessions and access to non-departmental education/training sessions.
 - h) To maintain a correspondence file (forms, memos, suggestions, letters, etc.) concerning departmental safety matters.
 - i) Specific responsibilities and current activities are found in Appendix XXI.
- 6) Safety Bulletin Boards

The Committee will maintain two Safety Bulletin Boards on the second floor of Johnson Hall (one at each end of the hallways), one in the Seedhouse, and one at Spillman Farm. The following items are to be located on each bulletin board (SPPM 20.33.1): WISHA poster LI-416-81 (obtained from EHS), Industrial Insurance poster LI-210-191 (obtained from EHS), OSHA 200 Summary (obtained from EHS), State and Federal citations and notices, information pertaining to general safety, and minutes of the Safety Committee meetings.

IV. Safety Program Elements

A. Safety Program for New Employees

Because of the size and complexity of functions and hazards in the Department of Crop and Soil Sciences, safety orientation and training of new employees will be carried out by individual supervisors rather than at the Departmental level. Employees working in several work stations are to be specifically oriented to each station. New employees or employees entering another work station are to be given safety orientation, specific to that station, before beginning any work in that area. Contact the Department Safety Committee when assistance is needed with safety orientations.

NOTE:

Ensure that employees/students who use English as a second language are able to comprehend the orientation; provide an interpreter, if necessary, to ensure comprehension of this information

- 1) The orientation will include, but need not be limited to:
 - a) nearest first aid trained co-workers
 - b) first aid kit
 - c) fire extinguisher
 - d) eyewash station
 - e) safety shower
 - f) chemical spill kit
 - g) emergency exits
 - h) telephone
 - i) personal protection equipment
 - j) general safety as outlined in the orientation check-list for each work unit
 - k) instruction on the proper use of hazardous equipment, chemicals (including use and location of MSDS forms), or materials specific to that work area. Refer to the specific orientation check-lists for each unit.
 - l) Employees who work under specified conditions (such as with hazardous chemicals, radiation, lasers, explosives, heavy equipment) are to receive training as required by the indicated State of Washington Reference. Specific training topics and references are listed in WSU SPPM S20.30.1.

Emphasize that unauthorized use or removal of materials from work stations is illegal and is grounds for dismissal, and will not be tolerated.

- 2) Each new employee or graduate student and their supervisor will be asked to sign a safety checklist(s) acknowledging mutual responsibility for the completed orientation. A copy of each of these checklists is included in the Appendix of this Safety Program guide. Contact the main office, JSN 201, regarding orientation checklist forms. The checklists include:
 - a) General Safety Orientation Form
 - b) Faculty/Visiting Scientists/Post-doc Safety Orientation Form
 - c) Farm/Shop Safety Orientation Form
 - d) Field Safety Orientation Form
 - e) Graduate Teaching Assistant Safety Orientation Form
 - f) Greenhouse Safety Orientation Form
 - g) Laboratory Safety Orientation Form
 - h) Office Safety Orientation Form

- i) Seedhouse Safety Orientation Form
- 3) Each work unit will maintain a copy of the Department Safety Program making it and the WSU Safety Policy and Procedures Manual available to all employees for further information of safe work practices and how to report accidents and emergencies. In addition, supervisors or persons designated by them will prepare a short written safety orientation fact sheet that is tailored to the hazards and particular information specific to the work area or lab. This information sheet will be posted in the lab or work area, a copy will be given to each employee supervised and will be updated as necessary.
- 4) An Employee Departure Safety Checklist, found in Appendix X, needs to be filled out by all departing employees to ensure proper return and/or transfer of equipment, chemicals, data etc. to a responsible person (WSU BPPM 60.38).

B. First Aid Training

- 1) State of Washington policy requires the presence of personnel trained in first-aid procedures at or near those places where employees are working to assure that all employees can be afforded quick and effective first-aid attention in the event an injury occurs (WAC 296.24.060).
 - a) The name, office/lab location, and phone number of the person or persons who hold certificates must be posted in each participating project area.
 - b) The project areas may not be widely separated.
- 2) The Safety Committee recommends that all faculty, staff, graduate students on appointment, and time-slip workers have current first-aid training. In addition, supervisors of work crews on field operations should possess first aid certificates. The Safety Committee will maintain a file of employees with valid certificates and will update the list yearly to identify and correct areas within the Department that do not have at least one trained employee.

C. Accident Prevention

- 1) Proper Actions in the Event of a Fire or Other Emergency (SPPM S60.001 through 75.2).

All personnel must be aware of the proper actions to take in the event of an emergency such as fire, exposure to hazardous or toxic materials, bomb threats, and other life-threatening situations. An introduction to general guidelines will be presented to each the new employee during the orientation session. Unit supervisors will periodically review the safety plan with all employees. In addition,

every employee should be aware of the location of emergency equipment and facilities, such as fire extinguisher, fire alarms, first-aid kits, emergency showers, and eye washes, should know how to exit the work area and/or building, and also should know the emergency telephone number. This information is listed specifically for each work unit in the General Orientation Checklist.

2) Hazard Communications Program

In compliance with WISHA WAC 296.62.054, a Written Hazard Communication Program ("Worker's Right to Know") is an intricate part of the Departmental Safety Program (see WSU SPPM S80.60.1 and S80.61.1) and is addressed below in the written safety program. It is accompanied by an overview of the Chemical Hygiene Program for laboratories, which includes chemical waste handling requirements at WSU.

3) Transporting of Chemical and/or Radioactive Substances

- a) Transportation of Chemicals: Transportation of chemicals is complicated. For most departmental uses, the following guidelines should be used.
- (1) Mailing of chemicals should be avoided. If a chemical must be mailed then compliance with state and federal Dept. of Transportation (DOT) laws MUST occur. It is a good idea to keep the shipping label from when the chemical was received so that it can be used as an example. The chemical destination people could also provide a pre-labeled package. If the chemical is a hazardous material (see page 19 below) then whomever will prepare the package for shipping must have documented training in hazardous materials transportation DOT and be sure the package is prepared correctly.
 - (2) On Campus Roadway via motor vehicle: Routine purchase of chemicals from Chemical Stores may be transported on campus (not off campus) legally by:
 - (a) Putting the purchased chemical from Chem Stores into a leak proof secondary container which has the holding capacity of 110% of the chemical volume,
 - (b) Having with you a 20 lb bag of absorbent clay kitty litter to be used in case of a spill,
 - (c) Having the MSDS for that chemical, and
 - (d) Having an emergency response guidebook (available from the Safety Committee).
 - (3) Transporting chemicals from room to room and building to building can usually be done without mishap. The chemical MUST still be placed into a secondary container and walked to its destination. Transporting by mechanical means requires the rules for on campus roadway or off campus roadway.
 - (4) Off Campus Roadway. All regulations of the Dept. of Transportation will apply. These may include the following:

- (a) Requirement of Commercial Drivers license endorsement H
- (b) Transportation of chemicals over 1001 lbs
- (c) Transportation of a hazardous chemical
- (d) Proper placarding of the vehicle.

The American Trucking Assoc. "Handling Hazardous Materials" has a great guide to determine if a substance is considered a hazardous material (Haz Mat). This guide in conjunction with the Federal Register Hazardous Materials Table (49CFR-172.101) make it possible to determine what regulations apply to what substances and amounts. For questions contact Safety Committee or EHS-Wenatchee Craig Root 509-663-8181 Ext.230, e-mail: craig_root@tfrec.ncw.net

- b) Transportation of radioactive substances or sources: Transporting ANYTHING radioactive should be considered illegal unless certain provisions have been addressed. Contact the Radiation Safety Office for the most recent state and federal regulations and methods for compliance (RSO: 335-8916).

American Trucking Assoc. 2200 Mill Rd. Alexandria, VA 22314-4677
800-282-5463; Dept. of Transportation, Colfax WA 509-397-3051,
Washington State Dept. of Licensing 334-2499]

4) Chemical Spills Emergency Plan

Laboratory work units, in accordance with WSU SPPM S70.45.7, are to prepare, maintain, and post a Chemical Spills Emergency Plan specific to that work area. Laboratory employees must be aware of the proper safety actions outlined in the policy which is addressed in the section entitled Hazard Communication and Chemical Hygiene Program and in the written safety program.

5) Inspections

A regularly planned inspection is the best way to detect and control potential hazards. Self-inspections will be requested by members of the Department Safety Committee once during the year. See Appendix VIII. As part of the periodic self-inspection, unit administrators and supervisors are to check the work or learning/research area for electrical hazards (WSU SPPM S45.10.2). Laboratory supervisors should periodically check labels on hazardous chemical containers (WSU SPPM S80.65.1) to ensure that they are labeled, that the label is legible, and that labels contain name of chemical, appropriate hazard warnings, and name and address of manufacturer.

Some of these inspections will be accomplished in cooperation with the WSU Safety Division. Educational self-help inspections will be solicited as needed from the Department of Labor and Industries Education Division, particularly in the event of concerns and questions regarding an authoritative judgment. The department will

cooperate in all regular safety inspections conducted by WSU and the Department of Labor and Industries Regulatory Division. The results of these inspections shall be forwarded to the Department Chair, College and University Safety Officers, and to the work area supervisors for proper corrective action.

6) Vehicle Safety

In accordance with WSU SPPM S35.10.1 3, authorization to drive WSU motor vehicles is granted by the department chair or equivalent administrator. Drivers of WSU motor vehicles must be at least 16 years of age, licensed, and are responsible for knowing current departmental, WSU, and State driving regulations and directives. These are to be found in departmental safety meeting minutes and memos, seminars and safety meetings, the WSU SPPM Manual (S35.10, S35.30, S.35.31), the driver's manual for the State of Washington, and instructions in the vehicle.

WSU drivers are not to provide transportation for non-WSU personnel with the following exceptions:

- a) A spouse (but not other family members) when other university personnel are not traveling (on the assumption that the companionship would provide a margin of safety),
- b) Personnel on official state of Washington business,
- c) Personnel employed by other public institutions who are traveling on official public business.

The maximum capacity for which the vehicle was originally manufactured may not be exceeded. Drivers of passenger vans with a seating capacity greater than 15 people will need a commercial driver's license. Drivers and passengers are required to wear seat belts while the vehicle is in motion. Smoking is prohibited in University Vehicles.

All traffic accidents must be reported within two days, regardless of how minor, on a State of Washington Vehicle Accident Report. A copy should be in the glove compartment of the vehicle, or can be obtained from the Benefit Services and Risk Management Office in French Administration Building. Follow the procedure for reporting accidents in S35.30.1 2 of the WSU SPPM. Parking fines and traffic violation tickets are the responsibility of the individual, and will not be paid by WSU.

7) Smoking Policy.

In accordance with WSU SPPM S70.12, smoking is prohibited in all university buildings (with the exception of private residences). Smoking is prohibited in University vehicles. Smoking is prohibited in any location where the airflow carries smoke directly into a university work area. No smoking locations may include spaces

near building openings and spaces near outdoor work areas. Smokers are to dispose of smoking refuse in ash urns or other containers specifically designated for such disposal. Such refuse is never to be disposed into trash cans.

8) Employee Departure Safety Checklist.

When an employee leaves the university for an extended period (sabbatical) or permanently, a process to aid in addressing all safety concerns is initiated. An Employee Departure Checkout List (Appendix IX) ensures chemicals, data, keys and other materials, equipment, etc. are transferred to a responsible person or discarded properly. In addition, the Department Chair must notify the appointing authority (college dean) of the intended departure as soon as the department becomes aware of, and at least one month prior to, the departure date (BPPM 60.38.1-2), The department safety checkout list is initiated by the Safety Committee, and the completed form is filed in the employee's personnel file.

9) Visitors and Private Contractors

- a) Visitors to the workplace must be made aware of applicable safety considerations by their host.
- b) WSU does allow private contractors to work on campus. The contractors are responsible for their own and their employees' workman's compensation or liability insurance. Any activities by private contractors in this department must be cleared through the department chair. The departmental chair will be responsible for ensuring written documentation has been submitted for the proof of Workman's Compensation. These workers must adhere to all safety policies and procedures addressed in the Departmental Safety Program.

10) University Liability/Human Subjects.

Any research, funded or not funded, that involves human subjects (biomedical, behavioral, etc., including surveys and taste test panels) must be reviewed by the Office of Grants and Research Development (OGRD) Institutional Review Board (IRB). Theses and dissertations without IRB approval can be refused by the OGRD office and data can be confiscated/destroyed in cases where an individual's rights of confidentiality are violated. The overall intent is to ensure that human subjects are treated in such a way to minimize embarrassment and stress, and to avoid harm or other negative effects. Contact OGRD (335-9661).

11) Accident Reporting and Investigation

All accidents, no matter how minor, shall be reported PROMPTLY to the immediate supervisor for evaluation/investigation (see WSU SPPM S25.20 - S25.30.4 for procedure and report forms). ALL accidents are to be reported to the Departmental Administrative Services Manager for completion of the Accidental Injury and

Occupational Illness Report. This must be submitted to the WSU Retirement and Insurance Office within 24 hours. Other required reporting functions are accomplished by the WSU Safety Office and the Retirement and Insurance Office. It is to the employee's advantage, under provisions of the Industrial Insurance Law, to cooperate in this reporting requirement to ensure compensation. Moreover, the information obtained from the investigation of the accident can be useful in developing procedures to eliminate the same type of accident in the future.

Principal Investigators are responsible for ensuring that all workplaces are clearly posted with emergency contact information, including nearby worker with certified first aid training. It is recommended that these be posted outside the workstation door.

V. Hazard Communication and Chemical Hygiene Program (WISHA WAC 296-62-054)

To be in compliance with WISHA WAC 296 62 054, the following Written Hazard Communication Program has been established for the Department of Crop and Soil Sciences, Washington State University, Pullman, Washington.

A. Hazard Communication Program

1) Container Labeling

Whoever receives a chemical at the work station is responsible for verifying that all containers will:

- a) Be clearly labeled as to the contents and date received;
- b) Be initialed by the receiver;
- c) Note the appropriate hazard warning, if any;
- d) List the name and address of the manufacturer;
- e) Be listed in the chemical index or inventory;
- f) An MSDS is on file for that chemical.

Reagents made from chemical stocks are to be properly labeled as to substances contained in the mixture. It is the responsibility of the employee preparing any such reagents to ensure that the bottle is properly labeled, dated, and initialed. Hazard information can be obtained by the user of such reagents by referring to the original container label or the MSDS. (Sect. II, pg II-2, Lab Safety Manual).

2) Purchase and Inventory of Chemicals, and Material Data Safety Sheets

Material Safety Data Sheet (MSDS) contains the necessary information to allow an employee to utilize a chemical-containing item safely. An MSDS must be on file for every chemical. A chemical is anything in, on or a part of something which may

somehow affect the employee. Things such as paper, soap, ink, gasoline, oils, etc. are items often not thought of as chemicals but definitely do fall onto the jurisdiction here; refined chemicals are, of course, a must.

Storage of the chemical and any waste and disposal of the chemical waste must be considered when ordering chemicals. Chemical compatibility can be a serious storage problem when dealing with oxidizers and strong acids and bases. The same is true when storing the waste products. The days of "indiscriminate dumping down the drain" are over, and legal chemical disposal is now required for ALL items. See page 20 on chemical waste handling.

When ordering a chemical, either from the campus Chemical Stores or elsewhere, a MSDS must be requested. In the case of a chemical purchase from an outside source, you must request an MSDS, if needed, from the vendor. This request can be included in the Departmental Requisition Form. You must keep a copy of this form for verification of request for the MSDS. Be sure you note that the MSDS is to be sent to the shipping address. A copy of the form to request MSDS forms (WSU 1280-EH001-0593 from the WSU SPPM) is included in Appendix XXIV.

Upon receipt of the chemical, log it into the Chemical Inventory Card File. If a card does not exist, make one. Assure that an MSDS is on file for every chemical. Include chemical name, formula, manufacturer name and address. Each log entry will include receipt date and will be initialed by person logging the chemical.

MSDS forms must be maintained by each laboratory, and is the ultimate responsibility of the principal investigator. (See Section II, Page II-23 in Laboratory Safety Manual).

3) Employee Training and Information

The principal investigator is responsible for the employee training program. In addition to the Department General Safety Orientation, Appendix I, he/she will ensure that an overview of the requirements contained in the Hazard Communication Standard (WISHA WAC 296-62-054) is received by all employees. This includes:

- a) Location of MSDS file and the WISHA Regional Directive re: WAC 296-62-054, must be listed in the Lab Safety Manual. These must be accessible to all employees 24 hours a day.
- b) A list of chemicals present in the workplace (Chemical Inventory Card File)
- c) Location and availability of the departmental written hazard communication program (see Department Safety Program)

- d) How to read labels and review MSDS file to obtain appropriate hazard information;
 - e) Physical and health effects of the hazardous chemicals that they specifically work with (see MSDS notebook);
 - f) How to lessen or prevent exposure to these hazardous chemicals through safety precautions and use of personnel protective equipment;
 - g) Emergency procedures in case of accident, exposure, contamination or spill;
 - h) Hazardous non-routine tasks: Periodically, employees may be required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information by the Supervisor about the hazardous chemicals he or she may encounter during such activity. This information will include specific chemical hazards, protective safety measures the employee can use, and steps the department is using to reduce hazards, including ventilation, respirators, presence of another employee and emergency procedures.
 - i) Multi-employer Workplaces: It is the responsibility of the workplace supervisor to provide employers or supervisors of any other employees copies of MSDS's at the worksite (or make them available at a central location) for any hazardous chemicals that these employees may be exposed to while working at that workplace. The supervisor will also inform other employers or supervisors of any precautionary measures that need to be taken to protect employees, such as an explanation of the labeling system that is used at the worksite.
- 4) **Classes of Potentially Hazardous Materials Covered Under the Hazard Communication Program**
- a) Laboratory chemicals, media, filters, and reagents
 - b) Lab glassware cleaning supplies
 - c) Fertilizers and Pesticides
 - d) Bulk fuels and lubricants, batteries, wet cells
 - e) Compressed gases
 - f) First Aid supplies
 - g) Office supplies

If there is a question as to whether or not a compound is considered hazardous, request an MSDS when placing the order. It is recommended that Hazard warnings be included on the Chemical Inventory file card and referenced to the MSDS file.

5) **Informing Contractors**

Persons working in the area will be required to inform contractors (i.e., Physical Plant employees, etc.) working in the area of the following:

- a) Hazardous chemicals to which they may be exposed while on the job;
- b) Location of the MSDS file;
- c) Precautions they may take to lessen the possibility of exposure.

B. Chemical Hygiene Plan

1) Definition and Purpose

The Chemical Hygiene Plan for Laboratories is contained in the red Laboratory Safety Manual. Implementation of the Chemical Hygiene Plan is a critical element in achieving a safe and healthful work environment in WSU laboratories. The purpose of the Chemical Hygiene Plan is to establish policies and procedures. In addition it will provide general and specific guidelines and information to protect employees from health hazards associated with hazardous chemicals in the laboratory. In fulfilling this purpose, the Plan also satisfies the state requirements for the standard on "Occupational Exposures to Hazardous Chemicals in Laboratories" herein referred to as the Laboratory Safety Standard (WAC 296-62-40001 through 40025). Implementation of a chemical hygiene plan in the laboratory will assist in minimizing chemical exposures and in complying with mandated exposure limits.

In order to meet the requirements of the Laboratory Safety Standard, the Chemical Hygiene Plan must be individualized for each specific Washington State University laboratory. Completion of the Laboratory Safety Manual is required. The Chemical Hygiene Plan (Lab Safety Manual) must and is designed to contain the following information specific to each laboratory:

- a) Standard operating procedures for use of hazardous chemicals
- b) Designated area provisions
- c) Descriptions of provisions for fume hoods and other protective equipment
- d) Provisions for employee information, training, and medical monitoring and examination
- e) Evaluation criteria the employer will use to reduce exposure
- f) Prior approval provisions for special laboratory projects
- g) A designation of the chemical hygiene officer and other person(s) responsible for the implementation of the Chemical Hygiene Plan
- h) Any extra protection provisions.

The Chemical Hygiene Plan must be readily available to all employees, students, and workers in the laboratory.

2) Chemical Wastes Handling Requirements for WSU

A waste must be collected by Environmental Health Services if any of the following situations exist:

--aldehydes are present

--alcohols are present

--silver is present in a concentration above 1 ppm

--pH is outside the 6-9 range

--any organic is present

Note: It is illegal to dilute or to evaporate chemical wastes

- a) Store waste container in same room as it was generated.
- b) The container needs to be capped at all times except when filling.
- c) Do not mix waste types in a container.
- d) The container must be compatible with the waste (e.g., the waste should not dissolve the container). The total amount of waste stored per room should not exceed:
 - Acutely hazardous chemicals = 1 quart
 - Flammable chemicals = 10 gallons
 - Hazardous chemicals = 55 gallons
- e) Use the labels provided at Central Stores (#47860) to label container with "dangerous waste" and list chemical contents by % beginning when waste first enters the container. Also label with all major hazards of the contents. Use tubs to contain bottles and separate wastes with different hazards.
- f) Waste container must be in sight of the operator or in a locked area so that no one else will contaminate the container.
- g) Fill out the "Chemical Collection Request" (CCR) form available from Central Stores (#47860). They come with the dangerous waste labels in packets of 25 for no charge.
- h) Send the CCR to Environmental Health Services when the container is full.
- i) **Contact Fred Miller at EHS (335-5381 or email: millerfl@wsu.edu) if you have questions.**

3) Biohazard Handling and Disposal

- a) Environmental Health and Safety considers the following materials to be biohazardous (SPPM S80.12.1):
 - * recombinant DNA
 - * oncogenic viruses
 - * infectious agents
 - * blood and blood-contaminated materials
 - * animal carcasses and parts
 - * chemical carcinogens in tissue mediums
 - *HEPA filters from biological safety cabinets and BL-III facility exhaust ducts

- b) It is the **responsibility of administrators and principal investigators** to insure that biohazardous wastes generated by university units are handled in a safe manner, and that employees are properly trained.
- c) Biohazards are disposed in Biohazard boxes (obtained from Central Stores: Box #49955, Lid #53067) lined with heavy plastic bags. Boxes are kept in the lab where the biohazards are generated. When filled, the bag is sealed and the box labeled with the following information: name and phone number of principal investigator, identification of waste contained in the box, building and room number in which the waste was generated, and area (CAHE). Boxes should be placed in JSN 65 and the Biohazard Pickup (335-9075) must be contacted for pickup of the materials.
- d) Researchers working with recombinant DNA and/or infectious agents must file a "Memorandum of Understanding and Agreement" (MUA) with the OGRD office. Contact 335-9661 for further information.
- e) Researchers wishing to transport organisms containing recombinant DNA (e.g. engineered *Agrobacterium* or, *E. coli*, transgenic plants, etc.) must have their facilities inspected by the USDA to obtain a permit for this work (Contact Steve Miller, USDA /Plant Protection and Quarantine, Spokane, WA. 509-353-2950; FAX 509-353-2637).
- f) An Animal and Plant Health Inspection Service (APHIS) permit is required for importation, interstate movement, or release into the environment of a regulated article. Intrastate movement is a matter of State jurisdiction. To apply for a permit, submit an application form (APHIS Form 2000) to the Biotechnology Permit Unit, Biotechnology, Biologics, and Environmental Protection, 4700 River Road, Unit 147, Riverdale, MD 20737-1237; 301-734-7612 or 301-734-5787 after you receive your permit (e. above) from the USDA. Other researchers may work in the inspected facilities under the permit of one researcher if that researcher is willing to accept responsibility for those activities.
 - (1) A regulated article is an organism that has been genetically engineered (via recombinant DNA techniques) from a donor organism, recipient organism, vector or vector agent which is, or contains, a plant pest.
 - (2) A plant pest is defined as "any living stage of insects, mites, nematodes, slugs, snails, protozoa, or other invertebrate animals, bacteria, fungi, other parasitic plants or reproductive parts thereof; viruses; or any organisms similar to or allied with any of the foregoing; or any infectious agents or substances, which can directly or indirectly injure or cause disease in or damage to any plants or parts thereof, or any process, manufactured, or other products of plants." (7 CFR 330.1 of NIH Guidelines).
- g) Laboratories and greenhouses must meet NIH guidelines to prevent release of "pests" into the environment (See Guidelines for Research Involving Recombinant DNA Molecules [NIH Guidelines], published in the Federal Register, July 5, 1994 (Separate Part IV), that relate to recombinant DNA research and plants).
 - (1) Most plant experiments in the department will be classified as Biosafety Level 1.

- (a) Biosafety Level 1 for plants is designed to provide a moderate level of containment for specific recombinant DNA research involving plants and is recommended for experiments for which there is no recognizable and predictable risk to the environment in the event of accidental release or for which there is convincing biological evidence that precludes the possibility of survival, transfer, or dissemination of the recombinant DNA molecules into the environment.
- (b) "Such experiments include, for example, those involving recombinant DNA-modified plants that are not noxious weeds or cannot interbreed with noxious weeds. Also included are those involving whole plants and recombinant DNA-modified non-exotic microorganisms that have no recognized potential for rapid and widespread dissemination and for serious detrimental impact on managed or natural ecosystems (e.g., *Rhizobium* spp., *Agrobacterium* spp.)"
- (2) Specific Guidelines for Greenhouses/Labs/Growth Rooms:
 - (a) Access to the greenhouse/lab/growth room is limited. Walkways made of cement are recommended in greenhouses. Windows may be opened for ventilation as needed. Screens are recommended to contain or exclude pollen, microorganisms, or small flying animals (e.g., insects, birds).
 - (b) Personnel are required to read Federal Register instructions on BL1-P practices and procedures (Appendix P., pp.55-64 from above) and to follow them.
 - (c) All procedures are performed in accordance with practices appropriate to the experimental organism. No cross-fertile plant should be growing within the experimental plant's known pollen dispersal range, or reproductive parts should be covered to prevent pollen dissemination at flowering and seed dissemination at maturity.
 - (d) A log is kept of experimental plant, organisms that are brought in or removed from the greenhouse/lab/growth room facility.
 - (e) Experimental organisms are rendered biologically inactive by appropriate methods before disposal outside of the facility.
 - (f) A program is utilized to control undesired species, such as weed, rodent, or insect pests and pathogens, by methods appropriate to the organisms and in accordance with regulations.
 - (g) A sign incorporating the universal biohazard symbol and the name of the recombinant DNA-modified organism is posted on the greenhouse/lab/growth room access doors (See Appendix X).

- (h) Experiments involving other organisms which require a containment level lower than BL1-P may be conducted in the same greenhouse.

4) Radiation Safety

- a) The Principal Investigator is ultimately responsible for the safe use of radioactive materials or radiation producing equipment.
- b) Principal Investigators must get AUTHORIZATION from the Radiation Safety Committee before using radioactive materials or generators. Check with Radiation Safety Office (335-8916).
- c) Each employee may only work under the permission of an AUTHORIZED USER.
- d) Each employee who will use radioactive materials MUST receive training from RSO before work begins. Completion of the Radiation Safety Training Course is required by Federal law.
- e) A certificate of training is granted upon successful completion of the required Radiation Safety Training Course. This certificate must be posted in the work area.
- f) Special "on site" training must be received where the radioactive materials will be used. This must include procurement, handling, storage, disposal, and documentation of isotopes. Also, training must include: what to do in case of a spill, who must be contacted, how to contact help. Know what is being done to protect safety (area swipes, user surveys, etc.).
- g) Personal protective equipment must be used when working with radioactive material. "On site" training will dictate what types, when, and their storage and disposal.
- h) Caution signs and labels are to be used at each radiation location, container, and machine. They are not to be removed.
- i) Film badges and other monitoring devices are available through RSO and are to be worn at all times when in the radiation area.
- j) Surveys of the work area(s) are required and records maintained for inspection by RSO personnel. Check with RSO for frequency and method of survey.
- k) Purchasing and receiving of radioactive materials must be checked with RSO.
- l) Materials are to be securely stored from unauthorized use. Theft should be reported immediately to RSO and police.
- m) Collection and disposal of any radioactive material may only be done according to RSO protocol. Check with RSO.
- n) Accidents causing abnormal exposure must be reported to Radiation Safety Office IMMEDIATELY and to emergency services (WAC 102-24-190, -200). Radiation Safety Office (RSO) phone number is: 335-8916.

After hours, contact the following radiation safety officers:

Len Porter	334-1547
Steve Eckberg	334-3199
Marshall Scott	332-4529

Emergency contact information must be posted at all radiation work sites.

C. Chemical Spills Emergency Plan

In compliance with WSU SPPM policy S70.45.1 8, the following Emergency Plan for Chemical Spills has been compiled for the Department of Crop and Soil Sciences:

Environmental Health and Safety (EHS) provides containment and cleanup services for the chemical spill if the size of the spill is within the scope of EHS resources. If the spill is too large or too hazardous for EHS to manage, EHS obtains the services of an outside spill control firm to manage the spill or release.

The Emergency Plan should be activated when a chemical spill occurs.

1) Evaluation of Situation

If a spill occurs, evaluate conditions in the following order:

- a) Identify the released material; Estimate the volume of released material; Estimate the rate of spread of the release.
- b) Evaluate the toxicity and immediate physical hazards if possible.
- c) If the chemical is an unknown, treat it as a hazardous spill, as outlined below.

2) Response

All workers in the laboratory shall be familiar with the Chemical Spills Emergency Plan for that lab, and will respond to chemical spills in the manner listed for that lab in the Plan. The Plan is located in the Lab Safety Manual. The Plan must address the following situations:

- a) Activate the fire alarm when/if conditions are serious or grave;
- b) Evacuate the laboratory and call 911 if unmanageable amounts of any carcinogenic powders or solutions, concentrated acids, caustics, or unknowns are spilled. Do not attempt to clean up the spill. Remain in the area outside the lab and wait for help to arrive. Others in the immediate area should be warned, and the area closed off. IF ASSISTANCE WITH THE DECISION IS NEEDED, call 911. If a call to 911 is activated, provide the following information:
 - (1) Name
 - (2) Location of release
 - (3) Location to meet responder
 - (4) Telephone number of safe location from which call is originating
 - (5) Nature of emergency and chemicals involved
- c) When manageable amounts of any non-hazardous chemical solutions or reagents are spilled, use spill absorbent to contain the spill. Wearing goggles, gloves, and laboratory coat, sweep the spill material into the

bucket or plastic disposal bags (also with the spill kit), and report to Environmental Health Services (335-3041) for disposal of waste.

3) Reporting

Employees and any other workers in the laboratory will immediately report all such spills to the laboratory supervisor in person if possible (or by telephone) and subsequently in writing. The laboratory supervisor will file accident reports and call EHS if either are required (see S70.45.5 in WSU Safety Policy and Procedure Manual), and will inform the primary investigator.

Accident reports filed in the lab for the incident are forms S25.20.6 and S25.25.2 from the WSU SPPM. In addition, if any possible injury occurs, these forms, and the Accidental Injury or Occupational Illness Report (see form S25.20) will be filed with the Department and WSU Benefit Services to comply with university procedures for reporting worker injuries.

If medical assistance is required, consult the Emergency contact posting for people trained in first aid, or call 911 if it is deemed an emergency. Should any questions arise regarding how to handle a spill, call EHS at 335 3041.

D. Respiratory Protection Program

WSU provides appropriate respirators to employees assigned duties in work areas with respiratory hazards (WAC 296 62 0705 through 07515). The University Industrial Hygienist of EHS is the program administrator and coordinates all respiratory protection efforts. Determination of need and use of the Respiratory Protection Program is found in the following: SPPM S80.80.1 through 87.1.

E. Worker Protection Standard

See Quick Guide - Appendix XXIV. Pullman information from: Carol Ramsey, Dept. of Entomology, 335-9222

- 1) Worker Protection Standard training is required for ALL EMPLOYEES who will be working in an area where pesticides are in use under the following circumstances:

- the field within a 1/4 mile range;
- within 30 days after the application of ANY pesticide in the field, greenhouse or growth chamber or any other site.

There are three types of training depending upon the work being performed: Pesticide User, Handler and Worker. The Worker Protection Standard has certain duties for all Employees: Anti-Retaliation; Information at a Central Location; Pesticide Safety

Training; Decontamination; Employer Information Exchange and Emergency Assistance.

a) Pesticide User

Pesticide Users License is required if:

- (1) you will use RESTRICTED USE chemicals (example: phenoxy-based)
- (2) you will apply ANY pesticides by power mechanical means.

The type of license required is "Public Operator License For Pesticide Use". This allows purchasing, application, and consultation regarding pesticides. It also allows for the license holder to provide training to other workers and employees regarding the Worker Protection Standard for "Handler" and "Worker". Licensing is available through the Washington State Dept. of Agriculture in Olympia 360-902-2020; additional information may be obtained from Carol Ramsay, Dept. Entomology 335-9222 or CSS Safety Committee. This training must be documented and filed in the employees personnel file.

b) Pesticide Handler

A pesticide handler is anyone who: (1) is employed (including self-employed) for any type of compensation by an agricultural establishment or a commercial pesticide handling establishment that uses pesticides in the production of agricultural plants on a farm, forest, nursery, or greenhouse, and (2) is doing any of the following tasks:

- (1) mixing, loading, transferring, or applying pesticides,
- (2) handling opened containers of pesticides,
- (3) acting as a flagger,
- (4) cleaning, handling, adjusting, or repairing the parts of mixing, loading, or application equipment that may contain pesticide residues,
- (5) assisting with the application of pesticides, including incorporating the pesticide into the soil after the application has occurred,
- (6) entering a greenhouse or other enclosed area after application and before the inhalation exposure level listed on the product labeling has been reached or one of the WPS ventilation criteria has been met to:
 - (a) operate ventilation equipment,
 - (b) adjust or remove coverings such as tarps, used in fumigation,
 - (c) check air concentration levels
- (7) entering a treated area outdoors after application of any soil fumigant to adjust or remove soil coverings, such as tarpaulins,
- (8) performing tasks as a crop advisor,
- (9) disposing of pesticides or pesticide containers that have not been cleaned.

The person who conducts handler training must:

- (a) currently be a certified applicator of restricted-use pesticides (in any category of certification), or
- (b) currently be designated as a trainer of certified pesticide applicators or pesticide handlers by a State, Federal, or Tribal agency having jurisdiction, or
- (c) have completed a pesticide safety train-the-trainer program approved by a State, Federal, or Tribal agency having jurisdiction.

c) Pesticide Worker

A worker is anyone who: (1) is employed (including self-employed) for any type of compensation and (2) is doing tasks such as harvesting, weeding, or watering, relating to the production of agricultural plants on a farm, forest, nursery, or greenhouse.

The person who conducts worker training must:

- (1) currently be qualified to present handler training, as described below, or
- (2) currently be trained (as specified in EPA's certification and training regulations) as a handler who works under the supervision of a certified pesticide applicator, or
- (3) currently be trained as a WPS handler, or
- (4) have completed a pesticide safety train-the-trainer program approved by a State, Federal, or Tribal agency having jurisdiction.

2) How to Comply With the Worker Protection Standard for Agricultural Pesticides

a) Duties for All Employers

(1) Anti-Retaliation

Do not retaliate against a worker or handler who attempts to comply with Worker Protection Safety.

(2) Information at a Central Location

(a) In an easily seen central location on each agricultural establishment display close together:

- (i) EPA WPS safety poster,
- (ii) name, address, and telephone number of the nearest emergency medical facility,
- (iii) the following facts about each pesticide application [from before each application begins until 30 days after the restricted-entry interval (REI)]:
 - product name, EPA registration number, and active ingredient(s),
 - location and description of treated area,
 - time and date of application, and REI.

(b) Inform workers and handlers where the information is posted, and allow them access.

- (c) Inform workers if emergency facility information changes and update the posted information.
- (d) Keep the posted information legible. See Appendix for specific policies on Crop and Soil Science facilities for Spillman Farm, the Seedhouse, Lind, greenhouses, etc.

b) Pesticide Safety Training

Train handlers and workers before they begin work and at least once every 5 years:

- (1) use written and audio/visual materials,
- (2) use EPA WPS handler training materials for training workers,
- (3) have a certified applicator conduct the training orally and/or audiovisually in a manner the employees can understand, using easily understood terms, respond to questions.

This training cannot be accomplished by distributing reading material alone. It must at least in part be audiovisual. University of Idaho has a video available which covers most of the required training. USDA has a copy we may use or contact Carol Ramsay.

c) Decontamination Sites

- (1) Establish a decontamination site within 1/4 mile of all workers and handlers. Supply:
 - (a) enough water for routine and emergency whole-body washing and for eyeflushing,
 - (b) plenty of soap and single-use towels,
 - (c) clean coverall (for handlers)
- (2) Provide water that is safe and cool enough for washing, for eyeflushing, and for drinking. Do not use tank-stored water that is also used for mixing pesticides.
- (3) Provide the same supplies at each mixing and loading site.
- (4) Have at least 1 pint eyeflush water immediately accessible to each handler.
- (5) Do not put worker decontamination sites in areas being treated or under an REI.
- (6) If within an area being treated, protect decontamination supplies for handlers in enclosed containers.
- (7) At least 1 gallon of water must be available for each worker and at least 3 gallons for each handler. Eyeflush must be carried by the handler if the pesticide label requires eye protection.
- (8) IF tractor/truck mounted sprayers at the site have properly installed portable shower systems, the requirement for a handler decontamination site within 1/4 mile is met.

d) Employer Information Exchange

Before any application, commercial handler employers must make sure the operator of the agricultural establishment where a pesticide will be applied is aware of:

- (1) location and description of area to be treated,
- (2) time and date of application,
- (3) (product name, EPA registration number, active ingredient(s), and REI,
- (4) (whether the product label requires both oral warnings and treated area posting,
- (5) all other requirements on labeling for workers or other people.
- (6) Operators of agricultural establishments must make sure any commercial pesticide establishment operator they hire is aware of:
 - (a) specific location and description of all areas on the agricultural establishment where pesticides will be applied or where an REI will be in effect while the commercial handler is on the establishment,
 - (b) restrictions on entering those areas.

Most of this requirement is met by posting notices on a Central Display Board. Oral warnings may still need to be given if the pesticide label requires. Cooperators and farmers need to be notified by the operators of the agricultural establishment and give notification about pesticide applications in a manner consistent with the labeling requirements.

e) Emergency Assistance

When any handler or worker may have been poisoned or injured by pesticides:

- (1) Promptly make transportation available to an appropriate medical facility.
- (2) Promptly provide to the victim and to medical personnel:
 - (a) product name, EPA registration number, and active ingredient(s),
 - (b) all first aid and medical information from label,
 - (c) description of how the pesticide was used,
 - (d) information about victim's exposure.

3) Additional Duties for Employers of Workers

a) Restrictions During Applications

- (1) In areas being treated with pesticides, allow entry only to appropriately trained and equipped handlers.
- (2) Keep nursery workers at least 100 feet away from nursery areas being treated.
- (3) Allow only handlers to be in a greenhouse:
 - during a pesticide application,
 - until labeling-listed air concentration level is met or, if no such level, until after 2 hours of ventilation with fans.

b) Restricted-Entry Intervals (REI's)

During any REI, do not allow workers to enter a treated area and contact anything treated with the pesticide to which the REI applies. Workers are only allowed into a treated area during an REI if they will NOT touch or be touched by any pesticide residues including:

- (1) on plants, including both agricultural plants and weeds,
 - (2) on or in soil or planting medium,
 - (3) in water, such as irrigation water, or water standing in drainage ditches or puddles,
 - (4) in air, if pesticide remains suspended after application, such as after fumigation or after a smoke, mist, fog, or aerosol application. Personal protective equipment does NOT qualify as avoiding contact.
- c) Notice About Applications
- (1) Orally warn workers and post treated areas if the label requires.
 - (2) Otherwise, either orally warn workers or post entrances to treated areas. Tell workers which method is in effect.
 - (3) Post all greenhouse applications.
- d) Posted Warning Signs
- (1) Post legible 14" x 16" WPS-design signs just before application; keep posted during REI; remove before workers enter and within 3 days after the end of the REI.
 - (2) Post signs so they can be seen at all entrances to treated areas. This includes field plots on and off State owned land.
- e) Oral Warnings
- (1) Before each application, tell workers who are on the establishment (in a manner they can understand):
 - (2) location and description of treated area,
 - (3) REI and not to enter during REI.
 - (4) Workers who enter the establishment after application starts must receive the same warning at the start of their work period.
- 4) Additional Duties for Handler Employers
- a) 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/PPE-equipped handlers.
 - (2) Make sight or voice contact at least every 2 hours with anyone handling pesticides labeled with a skull and crossbones.
 - (3) Make sure a trained handler equipped with labeling-specified PPE maintains constant visual or voice contact with any handler in a greenhouse who is doing fumigant-related tasks, such as application or air-level monitoring.
- b) Specific Instructions for Handlers

Before handlers do any handling task, inform them, in a manner they can understand, of all labeling requirements related to safe use of the pesticide, including at least:

- (1) the signal word,
 - (2) human hazard statements and precautions,
 - (3) personal protective equipment requirements,
 - (4) first aid instructions,
 - (5) environmental precautions, and
 - (6) any additional precautions about the handling task to be performed.
- c) Keep pesticide labeling accessible to each handler during the entire handling task.
 - d) Before handlers use any assigned handling equipment, tell them how to use it safely.
 - e) When commercial handlers will be on an agricultural establishment, inform them beforehand of (The agricultural establishment operator must give you these facts.):
 - (1) areas on the establishment where pesticides will be applied or where an REI will be in effect,
 - (2) restrictions on entering those areas
- 5) **Equipment Safety**
- a) Inspect pesticide handling equipment before each use, and repair or replace as needed.
 - b) Allow only appropriately trained and equipped handlers to repair, clean or adjust pesticide equipment that contains pesticides or residues.
- 6) **Personal Protective Equipment [PPE] (See also Respiratory Protection Program, p. 28). Each pesticide handler is responsible for wearing the required PPE during the entire handling task. Duties Related to PPE:**
- a) Provide handlers with PPE that the pesticide labeling requires for the task and be sure it is:
 - (1) clean and in operating condition,
 - (2) worn and used correctly,
 - (3) inspected before each day of use,
 - (4) repaired or replaced as needed.
 - b) Be sure respirators fit correctly.
 - c) Take steps to avoid heat illness.
 - d) Provide handlers a pesticide-free area for:
 - (1) storing personal clothing not in use,
 - (2) putting on PPE at start of task
 - (3) taking off of PPE at end of task.

- e) Do not allow used PPE to be worn home or taken home.
- 7) **Care of Personal Protective Equipment:**
- a) Store and wash used PPE separately from other clothing and laundry.
 - b) If PPE will be reused, clean it before each day of reuse according to instructions from the manufacturer unless the pesticide labeling specifies other requirements. If there are no other instructions wash in detergent and hot water.
 - c) Dry the clean PPE before storing, or hang to dry.
 - d) Store clean PPE away from other clothing and away from pesticide areas.
 - e) Replace respirator purifying elements as needed or as required by pesticide labeling.
- 8) **Disposal of PPE:**
- a) Discard coveralls and other absorbent materials that are heavily contaminated with undiluted pesticide having a DANGER or WARNING signal word.
 - b) Follow Federal, State, and local laws when disposing of PPE that cannot be cleaned correctly.
- 9) **Instructions for People Who Clean PPE: Inform people who clean or launder PPE:**
- a) that PPE may be contaminated with pesticides
 - b) of the potentially harmful effects of exposure to pesticides,
 - c) how to protect themselves when handling PPE,
 - d) how to clean PPE correctly.
- 10) **Special Application Restrictions in Greenhouses**
- a) **Application Restrictions in Greenhouses**
During any application described in column A of Table II (see Appendix XIX), do not allow or direct any person, other than an appropriately trained and equipped handler, to be in the areas specified in column B.
 - b) **Ventilation Criteria for Greenhouses**
 - (1) After some types of pesticide applications, listed in column A of Table II in Appendix XIX, you must make sure that adequate ventilation has occurred before you allow workers to enter the areas specified in column B. If column C indicates that ventilation restrictions apply, make sure that one of the following ventilation criteria is met:
 - (a) The concentration of the pesticide in the air is measured to be less than or equal to any inhalation exposure level required on the labeling.
 - (b) If no inhalation exposure level is listed on the labeling, keep workers out until after:
 - (c) 10 air exchanges, or

- (d) 2 hours ventilation using fans or other mechanical ventilating systems, or
 - (e) 4 hours of ventilation using vents, windows, other passive ventilation, or
 - (f) 11 hours with no ventilation followed by 1 hour of mechanical ventilation, or
 - (g) 11 hours with no ventilation followed by 2 hours of passive ventilation, or
 - (h) 24 hours with no ventilation.
- (2) After ventilation criteria are met and until the Restricted entry intervals expires:
- (a) do not allow workers into the treated area (see column D on Table II),
 - (b) you may allow workers into the areas just outside the treated area that were off-limits during the application.

Early entry with contact for short-term, emergency, or specially excepted tasks is allowed for workers in some situations. Extra worker training is required. More information is in the EPA publication on WPS.

VI. SPILLMAN FARM

ALL RULES, REGULATIONS AND RESPONSIBILITIES AS OUTLINED IN APPENDIX XII MUST BE COMPLIED WITH BY ALL PEOPLE WORKING AT SPILLMAN FARM.

A. Farm Tractor Safety

- 1) No individual is to operate tractors at Spillman Farm without prior tractor safety training. This training is to be done annually and must be documented as to the date of training, what was discussed and who did the training.
- 2) All tractors must have rollover protection and seat belts. The seat belts must be used whenever these tractors are moving.
- 3) Safety rules:
 - a) Never try to start a tractor unless you are in the operator's seat.
 - b) Never carry a passenger unless a seat is provided for that passenger such as in the Vogel planter.
 - c) Do not speed and reduce speed when turning, crossing slopes and on rough, slick or muddy surfaces.
 - d) Avoid sharp turns on hillsides especially in loose soil.
 - e) When on the highway lock the two brakes together.
 - f) Securely fasten the seat belt if the tractor has a ROPS.

- g) Do not remove the ROP(rollover protection).
- h) Make repairs as needed-such as adjusting clutches, brakes and replacing as needed.
- i) If the tractor has a loading bucket on front keep the bucket low when traveling and this is especially so when the bucket is full. Only raise the bucket to unload.
- j) Avoid overloading the three point lift on the rear. Might cause front to come off the ground losing steering.
- k) Hitch only to the drawbar and hitch points recommended by tractor manufacturers. If using a drawbar on the three point lift keep the three point lift arms as low as possible to keep the center of gravity low.
- l) Never remove any of the guards. A Power Take Off cover must be in place on every tractor. If necessary the cover can be removed to attach a drive line to the PTO but the cover must be replaced as soon as the drive line is removed.
- m) Operators must wear hearing and eye protection when operating the tractor.
- n) Where possible, avoid operating the tractor near ditches, embankments and holes. Stay off slopes too steep for safe operation.
- o) Watch where you are going, especially at row ends, on roads and around trees.

B. Pesticide and Safety Application

- 4) Everyone that handles and/or applies pesticides at Spillman Farm must carry a current Pesticide Applicators license or be under direct supervision of a current license holder. The license must cover the category of pesticide being applied. For example if you are applying herbicides then the license must have a herbicide endorsement.
- 5) All Personal Protective Equipment required by the pesticide label must be available and used. If a respirator is required then the person wearing the respirator must have a doctor's clearance and be fit tested to wear the respirator. All PPE must comply with WAC 296-306-060.
- 6) All pesticides must be mixed and applied in accordance with the label. Try to mix only the amount needed for the job. When adding water to the spray tank at the fill station do not allow the end of the water hose to come in contact with the spray mix in the spray tank or become submerged in the spray mix. Excess spray mix or rinse water is to be sprayed on a field, not dumped at the fill station or dumped on the road. Ask the Farm Manager as to what field to apply the excess pesticide or rinse water.
- 7) Posting of fields, reentry and record keeping must comply with WAC296-306-400. A warning sign is provided at the entrance of Spillman Farm and must be in place when pesticide application is

taking place. Signs giving information on the pending application should be placed at the Farm Office along with a farm map showing the field or fields that will be sprayed. Aerial spraying must be cleared through the Farm Manager and if possible done during the evening hours or on the weekend.

C. Use of Plot Equipment

No one is to use the plot equipment-planters, thrashers, combines, etc-without the permission of the project owning the equipment. The user must have training on how to safely use the plot equipment. This training is to come from a knowledgeable individual, not someone who used it the first time yesterday. The training given must be documented as to what was discussed, who gave the training and the training date. If the equipment malfunctions then a qualified individual must be notified to do the repairs.