

# Washington State University Pesticide Policy

Revised July 5, 2010

## TABLE OF CONTENTS

<b>Introduction</b> .....	2
<b>Synopsis of Individual Responsibilities</b> .....	2
<b>Background</b> .....	3
<b>Legal Issues</b> .....	3
<b>Organic Production Systems</b> .....	4
<b>Bioengineered Plants</b> .....	5
<b>Structural and Public Health Pest Control at WSU Locations</b> .....	5
<b>Recommendations</b> .....	6
<b>Approval Process</b> .....	6
<i>New Publications</i> .....	6
<i>Revised Publications</i> .....	7
<i>Newsletter, Fact Sheets and Other Publications</i> .....	7
<i>New Web Pages or Sections</i> .....	7
<i>Revised Web Pages or Sections</i> .....	7
<i>"Home Remedies"</i> .....	7
<b>Pesticide License Requirements</b> .....	8
<b>Recordkeeping Requirements</b> .....	9
<b>Federal/State Worker Protection Standards</b> .....	9
<b>Summary of WPS Requirements</b> .....	10
<b>Chemical Safety</b> .....	11
<i>Cholinesterase Monitoring</i> .....	12
<b>Experimental Use of Pesticides</b> .....	12
<b>Disclaimer Language for Reports on EUP Work</b> .....	14
<b>USDA ARS Personnel</b> .....	15
<b>Master Gardener Program</b> .....	15
<b>Appendix A</b> .....	16
<b>Definitions</b> .....	16
<b>Appendix B</b> .....	19
<b>Contacts</b> .....	19
<b>Appendix C</b> .....	21
<b>Information for WSU Employees Working in Oregon and Idaho Test Plots</b> .....	21
<b>Appendix D</b> .....	22
<b>Case Study: Off-label recommendations</b> .....	22
<b>Appendix E</b> .....	24
<b>Frequently Asked Questions (FAQs) about Pesticide Recommendations</b> .....	24
<b>Appendix F</b> .....	26
<b>Frequently Asked Questions (FAQs) about Pesticide Uses</b> .....	26

## **Introduction**

This manual is designed to compile information on WSU's pesticide policies and procedures into one reference document, which, if followed, will keep individuals and the institution in compliance with state and federal laws.

A synopsis is provided below for quick reference. Each of the points listed is discussed in further detail in the body of this document.

If you have questions that are not answered by this reference you should direct them to either your supervisor or one of the individuals listed in the contact section (Appendix B).

Benefits of following this policy include:

- A clear understanding of institutional expectations for individual behaviors
- Coverage by WSU in the case of legal action
- Safety protection for employees and prevention of pesticide misuse
- A reduction in potential numbers and severity of accidents involving pesticides
- Improved or sustained environmental stewardship

## **Synopsis of Individual Responsibilities**

Personnel working with transgenic plants that are considered pesticides but are not yet registered, or exempted from registration by EPA, are reminded that these plants must be handled in the same manner as any other experimental pesticide. Personnel working with any bioengineered plants are required to register with the Institutional BioSafety Committee (IBC) prior to initiating research. Personnel working with animals are required to seek prior approval from the Institutional Animal Care and Use Committee.

Individuals and units involved in publishing hard copy or web based materials designed for user groups, which also contain references to pesticides, must obtain written approval in advance of publication or web posting.

Depending upon the type of recommendation or field application involved, some personnel may be required to obtain and maintain a valid WSDA pesticide license with the proper endorsements. If work requires application of Restricted Use pesticides, or application of any pesticide through powered equipment, then a valid license must be obtained before such work begins. A list of licensed individuals is available from the Pesticide Coordinator's office. Unit heads should use the list to verify that appropriate licenses are held by individuals in their respective areas.

All personnel who advise on or work with pesticides are encouraged to obtain and maintain a pesticide license in order to demonstrate their level of professional

competency. Those persons whose work activities fall under the WSDA requirements for a public consultant or public operator must have a valid license.

All licensed applicators who apply pesticides, and all persons applying pesticides to more than one acre of agricultural land in a calendar year, must keep records of those applications. In addition, all applications of experimental pesticides must be reported in accordance with permit requirements.

When applying any pesticide for agricultural research or in making an application to any farm, forest, nursery or greenhouse for which the pesticide label carries the "agricultural use requirement" section, the WSU employee must comply with the Worker Protection Standards to protect other employees (and students) from exposure.

WSU actively promotes the creation and maintenance of safe and healthy work environments. Direct supervisors are responsible for following all applicable laws pertaining to employee safety.

All field work with Experimental Use Pesticides (EUP) requires either an individual permit, obtained directly from US EPA or WSDA, or concordance with WSU's collective EUP permit. Those working under the collective EUP must file records shortly after applications are made.

Personnel applying pesticides to field plots in other states are expected to obtain all necessary licenses or permits required by that state in advance of the application.

Master Gardener (MG) coordinators must ensure that all MG's working under their supervision have signed a current Pest Management Agreement form (<http://mastergardener.wsu.edu/gap/mgap.html>).

## **Background**

### **Legal Issues**

In Washington State there are both federal and state laws that define what constitutes a pesticide, and under which circumstances it can be manufactured, sold, shipped, stored, recommended, used and disposed of in this state. WSU employees are expected at all times to observe and follow all applicable federal, state and local laws regarding pesticides.

State laws and regulations, the Revised Code of Washington (RCW), and the Washington Administrative Code (WAC), can be accessed through WSDA's web page at <http://agr.wa.gov/pestfert/Pesticides/LawsRules.htm>.

Washington State is one of the more highly regulated states in the nation. All pesticides registered at the federal level are required to be registered at the state level. In addition,

Washington law requires registration of adjuvants and minimal risk (25b) pesticides which are considered exempt from registration at the federal level.

Definitions of terms can be found in Appendix A at the end of this document. Because legal definitions may differ from those based on popular wisdom, WSU employees are strongly urged to consult the legal definitions section first so as to know, for example, which materials are in fact classified as pesticides, what action constitutes a recommendation, and which groups of persons are classified as employees.

A useful tip on quickly determining the likelihood of whether a substance is classified as a pesticide is to consider the use to which you are putting the substance or mixture of substances. The rationale for determining whether a material is classified as a pesticide is USE driven (*i.e. what is the use or expected outcome of using the material*).

A pesticide label is a legal document, serving much as a legally binding contract, which warrants that, when the product is used under the exact directions listed, it will not damage the crop/site and will control the pests listed. The legal liability for this warranty is borne by the registrant. The person who intends to use the product is accepting the contract by the act of using it. If the product fails to perform as advertised, the user can go to a court of law to seek damages under the claim of a broken contract. Conversely, if the purchaser does not follow the label directions and the product fails to work as promised, he or she has no legal claim since they invalidated their part of the contract.

Federal and state laws allow for certain use deviations from the label. These are sometimes referred to as "allowable off-label uses". Those uses are listed under Label Deviations in Appendix A. While it is legal for the applicator to use the pesticide in this manner, and for any individual to recommend the use of a pesticide in this manner, there are other legal ramifications to be considered. If WSU employees recommend allowable off-label uses, they and WSU are assuming legal liability that the product will work under the stated circumstances. As such, we need to have scientific data that we have generated, or which our peers have generated, that in your professional opinion will be sufficient to stand up to an examination by a court of law. Employees are forbidden to knowingly provide information that is inconsistent with label directions unless it is a legal label deviation (allowable off-label use).

## **Organic Production Systems**

Organically approved pesticides are regulated in the same manner as conventional pesticides. This includes manufacturing, sales, transport, storage, recommendation, use and disposal. There is no exemption from pesticide law based on the origin of the substance or mixture because the definition of a pesticide is based on use not on origin. Personnel working in organic production systems should therefore be aware of their responsibilities in the areas of licensing, recommendations, use, storage and disposal of organic pesticides. This includes bacteria, viruses and fungi that are classified as pesticides.

Those persons testing organic materials for pest control/management purposes should first determine whether the materials fall within the legal definition of a pesticide. If yes, they must follow the same procedures and EUP permit requirements described later in this document.

There are several options for obtaining organic certification on lands in this state. There is only one source to obtain pesticide registration: the Washington State Department of Agriculture (WSDA) Pesticide Division. Certification and registration occur independently of one another, by different groups. Each must be actively pursued; neither one is granted automatically by virtue of having the other.

Employees have a responsibility to ensure that pesticide use and recommendations on certified organic lands are in accordance with all regulations that govern pesticides as well as those that govern organic certification.

### **Bioengineered Plants**

In this document, the term bioengineered plant refers specifically to those plants containing a plant-incorporated protectant (PIPs). The formal definition of PIPs is *pesticidal substances that are intended to be produced and used in a living plant, or in the produce thereof... and includes the genetic material necessary for production of such pesticidal substances. It also includes any inert ingredient contained in the plant or produce thereof.* In general, any plant which has been genetically modified with DNA from a different organism so that its pest resistance capabilities are altered is considered as having PIPs.

Personnel working with PIP-containing bioengineered plants that are not registered, or exempted from registration by EPA, must obtain an individual EUP or work under the collective EUP described in later sections.

Personnel working with any bioengineered plants, whether they contain PIPs or not, are required to register with the Institutional BioSafety Committee (IBC) ([www.biosafety.wsu.edu/biosafety](http://www.biosafety.wsu.edu/biosafety)) prior to initiating research.

### **Structural and Public Health Pest Control at WSU Locations**

The Environmental Health and Safety Department is charged with oversight of activities related to structural and public health pest control at WSU. Specific details are located in the Safety Policies and Procedures Manual S70.20 ([http://www.wsu.edu/manuals\\_forms/HTML/SPPM/S70\\_Environmental\\_Health/S70.20\\_Pest\\_Control.htm](http://www.wsu.edu/manuals_forms/HTML/SPPM/S70_Environmental_Health/S70.20_Pest_Control.htm)).

## Recommendations

WSU requires formal approval by a designated authority of all written and spoken pesticide recommendations made *to user groups* before such recommendations can be released. Discussion of pesticides at professional society meetings of scientific peers does not require approval. Publication of scientific studies involving pesticides in scientific journals does not require approval.

The designated authority for review is the Pesticide Coordinator. Once approved, a recommendation may be used in publications, news releases, or other forms of communication without further approval.

In the event WSU is sued over one of its pesticide recommendations, authors of approved material are included under WSU's coverage. Authors of unapproved materials may be excluded from WSU coverage.

Employees who do not have a public operator or public consultant pesticide license, and who are making spoken recommendations, must only reference approved WSU written materials registered for home and garden use.

Employees who have a public operator or public consultant pesticide license, with the appropriate endorsements, and who are considered an expert in some field of pest management, may make spoken recommendations without having prior approval providing they are in accordance with label directions or recommending allowable label deviations.

Written recommendations include, but are not limited to, bulletins, manuals, crop protection guides, newsletters, posters, brochures, fact sheets, computer software, and all web based materials.

## Approval Process

### *New Publications*

Authors writing numbered publications through Extension and CAHNRS units (such as new extension bulletins, new crop protection guides, etc.) must complete the Publications Packet forms (<http://eces.wsu.edu/print/published/>).

The publications coordinator will route the manuscript to the Pesticide Coordinator for review. The Pesticide Coordinator will match each recommendation with a currently registered label, approve the recommendations as written or contact the author with suggested changes. For Extension and CAHNRS units, the manuscript and signed approval forms will be returned to the publications coordinator for final publication.

Authors in other colleges should send their manuscript to the Pesticide Coordinator through any required signature authority in their unit. If none exists, then authors should

send their manuscripts directly to the Pesticide Coordinator. Upon approval, the manuscript and a document of approval will be returned to the authors.

#### *Revised Publications*

Authors in Extension and CAHNRS must contact the publications coordinator in Extension Publishing and Printing to discuss revision of publications. Final drafts of the revised manuscripts will be sent to the Pesticide Coordinator by the editorial staff even if no changes were made to the pesticide recommendations. The Pesticide Coordinator will match each recommendation with a currently registered label, approve the recommendations as written or contact the author with suggested changes, and return the manuscript to the editorial staff for final publication.

Authors in other colleges should send their revised materials to the Pesticide Coordinator through any required signature authority in their unit. If none exists, then authors should send their manuscripts directly to the Pesticide Coordinator.

#### *Newsletter, Fact Sheets and Other Publications*

Authors should send their material directly to the Pesticide Coordinator for review. After review the material and a document of approval will be returned to the authors.

#### *New Web Pages or Sections*

Authors composing new web pages or adding new sections to existing web pages must submit a request for review directly to the Pesticide Coordinator. The Pesticide Coordinator will match each recommendation with a currently registered label, approve the recommendations as written or contact the author with suggested changes, and return the a signed approval form directly to the author.

#### *Revised Web Pages or Sections*

Authors revising web pages must submit a request for review directly to the Pesticide Coordinator. The Pesticide Coordinator will match each recommendation with a currently registered label, approve the recommendations as written or contact the author with suggested changes, and return the a signed approval form directly to the author.

#### *"Home Remedies"*

It is a violation of law for anyone to recommend or give advice regarding a pesticide inconsistent with the label of the product. Because home remedies have no labels, it is not against the law to recommend them. However, WSU policy **does not allow** recommendations for anything that we do not have adequate scientific data to support. Should you wish to make home remedy recommendations, seek approval first by submitting supporting data, along with draft written recommendations, to the Pesticide Coordinator.

Stale beer traps used for control of garden slugs can be recommended without review as the beer is considered an attractant for a device and therefore does not fall under the Washington Pesticide Control Act.

## Pesticide License Requirements

All personnel who advise on or work with pesticides are encouraged to obtain and maintain a pesticide license in order to demonstrate their level of professional competency. Those persons whose work activities fall under the WSDA requirements for a public consultant or public operator must have a valid license.

If work requires application of Restricted Use pesticides, use restricted pesticides, or application of general use products through powered equipment, a valid license must be obtained before any applications can be made. If they are not licensed, a licensed public operator must be within eyesight and earshot and supervise the application at all times. This requirement applies to Discovery Gardens, research plots and greenhouses as well as general grounds and farm maintenance at any WSU location. Licenses are also required for application of Restricted Use pesticides (RUP) or use-restricted pesticides (URP) on cooperator lands.

A list of licensed individuals is available from the Pesticide Coordinator's office. Supervisors and unit heads should use the list to verify that appropriate licenses are held by subordinates in their respective areas. Alternatively, WSDA maintains a search feature on their web page (<http://agr.wa.gov/pestfert/licensing/search/default.aspx>), which allows users to verify that a license has been issued to any particular individual.

*Public Operator-* Faculty, staff and students who apply restricted use pesticides (RUP), use-restricted pesticides (URP), or apply general use pesticides through powered equipment, must have this license and the appropriate (exam) endorsement categories for the area in which they work. This license allows work as an applicator, a supervisor for unlicensed personnel, and a public consultant, therefore you do not need to carry both an operator and consultant's license. Note: public operators may supervise unlicensed personnel only when they are physically present at the work site and in constant eye and ear contact during the application.

*Public Consultant-* Faculty, staff, and students who, as WSU representatives, recommend the use of non-home-and-garden pesticides must have this license and the appropriate (exam) endorsement categories for the area in which they work. Note: the consultant license does **not** allow the individual to apply pesticides nor supervise the use of pesticides by another person. Researchers giving use instructions to a licensed technician must have an operator license, not a consultant license.

Individuals working with plant growth regulators are advised to obtain an endorsement in either agricultural weed or ornamental weed categories.

Faculty with at least a 50% research appointment, who only apply general use pesticides through powered equipment to their research plots, are exempt from the operator license requirement. Note: researchers giving use instructions to a licensed technician must have an operator license.

Personnel applying pesticides to field plots in other states are expected to obtain all necessary licenses or permits required by that state in advance of the applications.

### **Recordkeeping Requirements**

*This section gives instructions for recordkeeping following application of registered pesticides for registered uses. A following section, *Experimental Use of Pesticides*, describes recordkeeping requirements following application of unregistered pesticides or registered pesticides used in an experimental manner.*

All licensed applicators who apply pesticides, and all persons applying pesticides to more than one acre of agricultural land in a calendar year, must keep records of those applications.

Records must be completed on the same day that the pesticide is applied and they must be kept for seven years from the application date. Records should be housed in individual unit or local land use committee files and be available for inspection if requested.

Personnel may either use appropriate WSDA recordkeeping forms (<http://agr.wa.gov/pestfert/Pesticides/ComplianceActivities.htm#ApplicRecForms>) or may design their own form using the required elements and submit it to WSDA for advance approval. Designing a form has the advantage of allowing researchers to customize the form so it fits with existing experimental design records or clientele reporting requirements. WSDA's approval letter should be kept on file with the application records.

### **Federal/State Worker Protection Standards**

The Worker Protection Standards (WPS) were enacted to protect employees (faculty, staff, students, and volunteers) from occupational exposure to agricultural pesticides. Both WSDA and Washington State Department of Labor & Industries conduct compliance audits for WPS. The key feature of this legislation is that any pesticide used that carries an "Agricultural Use Requirement" section on the label requires compliance with the law. WSU is viewed as an agricultural establishment growing agricultural plants if the pesticide product they (any unit, college, or farm) use carries the WPS/Agricultural Use Requirement labeling.

Employees under WPS are divided into two categories.

1. *Pesticide Handlers*. Anyone mixing, loading, applying pesticide, or cleaning and repairing pesticide application equipment.
2. *Pesticide Workers*. Anyone working, in relation to plant production (i.e. water, irrigate, prune, etc.), in an area **within 30 days** of where a pesticide application was made using a product containing WPS labeling.

Educational facilities are clearly covered in WPS interpretive guidelines. Although WPS compliance is not required when employees perform landscape maintenance duties, or when researchers use unregistered (i.e. numbered compound) pesticides, supervisors are strongly encouraged to promote a safe work environment in all cases.

## **Summary of WPS Requirements**

*Protection during applications:* Applicators are prohibited from applying a pesticide in a way that will expose workers or other persons. Workers must be excluded from areas while pesticides are being applied.

*Restricted-entry intervals* must be specified on all agricultural plant pesticide product labels. Workers are excluded from entering a pesticide treated area during the restricted entry interval, with few narrow exceptions. There is a no-entry period for workers for four hours for all products with WPS labeling; this means **no** early entry.

*Personal protective equipment* must be provided and maintained for handlers and early-entry workers. The PPE must meet label requirements. [Note: employees wearing respirators, including N95s, need to be part of WSU's respiratory protection program, which included medical clearance, fit-testing and training. Supervisors can contact EH&S to determine if their employees need to be included in the respiratory protection program.]

*Notification of workers:* Workers must be notified about treated areas so they may avoid inadvertent exposures.

### *Decontamination supplies*

*All employees:* The agricultural employer shall provide water, soap and single-use towels in quantities sufficient to meet workers' needs. When water is available to workers, the employer will assure that it is of a quality and temperature that will not cause illness or injury when it contacts the skin or eyes or if it is swallowed. Decontamination supplies must be located together, be reasonably accessible and not more than one-quarter mile from where workers are working.

*Workers:* provide adequate water for routine washing and emergency eye flushing.

*Handlers:* provide adequate water for routine washing, emergency eye flushing, and for washing the entire body in case of an emergency. At least ten gallons of water for one employee and twenty gallons of water for two or more employees shall be provided at mixing and loading sites that do not have running water.

*Emergency assistance:* Transportation to a medical care facility must be made available if a worker or handler may have been poisoned or injured. Information must be provided about the pesticide to which the person may have been exposed. Information must be provided to the worker and medical attendant about the pesticide to which the person may have been exposed.

*Pesticide safety training and safety posters:* Training is required for all workers and handlers, and a pesticide safety poster must be displayed.

*Pesticide safety training for workers* shall convey, at a minimum, the following information:

- (i) Where and in what form pesticides may be encountered during work activities.
- (ii) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
- (iii) Routes through which pesticides can enter the body.
- (iv) Signs and symptoms of common types of pesticide poisoning.
- (v) Emergency first aid for pesticide injuries or poisonings.
- (vi) How to obtain emergency medical care.
- (vii) Routine and emergency decontamination procedures, including emergency eye flushing techniques.
- (viii) Hazards from chemigation and drift.
- (ix) Hazards from pesticide residues on clothing.
- (x) Warnings about taking pesticides or pesticide containers home.

*Pesticide safety training for handlers* shall convey, at a minimum, the following information:

- (i) Format and meaning of information contained on pesticide labels and in labeling, including safety information such as precautionary statements about human health hazards.
- (ii), (iii), (iv), (v), (vi), and (vii) see equivalent "worker" requirements.
- (viii) Need for and appropriate use of personal protective equipment.
- (ix) Prevention, recognition, and first aid treatment of heat-related illness.
- (x) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
- (xi) Environmental concerns such as drift, runoff, and wildlife hazards.
- (xii) Warnings about taking pesticides or pesticide containers home.

*Access to labeling and site specific information:* Handlers and workers must be informed of pesticide label requirements. Central posting of recent pesticide applications is required.

Additional information can be found at

<http://agr.wa.gov/pestfert/Pesticides/WorkerProtection.htm>

## **Chemical Safety**

A primary goal for each unit should be the creation and maintenance of safe and healthy work environments. Technical assistance is available from the WSU Environmental Health and Safety (EH&S) Program on a variety of topics. PDF versions of fact sheets for restricted entry, hazard communication, heat-related illness, respirator fit, and other related topics can be downloaded from the WSU EH&S web page at

<http://www.ehs.wsu.edu/Factsheets/factsheets.asp>. Additionally, information is available from the Washington State Department of Labor and Industries at <http://www.lni.wa.gov/Safety/default.asp>.

#### *Cholinesterase Monitoring*

Supervisors of pesticide handlers who use toxicity class I or II organophosphate or N-methyl-carbamate pesticides should contact WSU EH&S for assistance in complying with state cholinesterase monitoring requirements. Further details on state rules can be found at the Washington State Department of Labor and Industries web site <http://www.lni.wa.gov/Safety/Topics/AtoZ/Cholinesterase/default.asp>.

### **Experimental Use of Pesticides**

Experimental pesticides are regulated in the same manner as registered pesticides in the areas of transportation, licensing, supervision, use and storage. Personnel should ask the supplier of the material to provide an indication of the common chemical name of the active ingredient, a Material Safety Data Sheet for the product, an indication of the signal word that will be requested during registration, and the use classification (general or restricted) that will likely be assigned by US EPA during the registration process.

There are two types of experimental uses:

- Use of an active ingredient which has not yet been registered by the US EPA nor exempted from registration; and
- Use of active ingredients which have been registered but (1) the crop or site being tested is not on the label, or (2) the use rate is higher than that listed on the label, or (3) the application timing is outside of label directions, or (4) the number of applications are more frequent than the label allows, or (5) the pre-harvest interval is shorter than allowed by the label, or (6) tests are being done using an application method forbidden by the label.

Both types of experimental uses require permits, either state or federal, before the applications/tests are made. Laboratory testing of pesticides in these two categories is allowed only under state permits.

**In the case of EUP use in Washington State, all field applications, regardless of plot size, require a permit.**

If testing is done on microbial or organic materials that, when registered, would be regulated as pesticides, they are also subject to all permit requirements.

There are three types of permits available to WSU personnel: the first is federal while the other two are Washington State-based.

*Federal EUP permit* - is required for terrestrial sites of 10 acres or more treated with a single active ingredient. The acreage does not have to be contiguous; the permit requirement is based on total acres treated, not total acres at each research site. The permit must be obtained in advance and it is the responsibility of each researcher to do so. Permit forms can be obtained at <http://www.epa.gov/opprd001/forms/8570-17.pdf> . As a professional courtesy, permit applicants should also notify WSDA that a request for a federal permit has been filed.

*State Individual EUP permit* - is required for terrestrial sites between one and 10 acres in size when using a single active ingredient. The acreage does not have to be contiguous; the permit requirement is based on total acres treated, not total acres at each research site. (Fumigant, aquatic and residential sites are exceptions and are discussed below.) Individual permits must be obtained in advance of application and it is the responsibility of each researcher to do so. Permit forms can be downloaded from <http://agr.wa.gov/PestFert/Pesticides/docs/WseupForm4257.pdf> .

All fumigant applications, regardless of plot size, require an individual EUP. Forms can be obtained at <http://agr.wa.gov/PestFert/Pesticides/docs/WseupForm4257.pdf> .

All aquatic applications, regardless of plot size, require an individual EUP. Forms can be obtained at <http://agr.wa.gov/PestFert/Pesticides/docs/AquaticEupForm4128.doc> .

All residential (structural and landscape) applications regardless of plot size, require an individual EUP. Forms can be obtained at <http://agr.wa.gov/PestFert/Pesticides/docs/WseupForm4257.pdf> .

*State Collective EUP permit*- is issued to a single permit holder to allow all employees of that agency, institution or business the ability to apply experimental pesticides to a sum total of 1 acre/active ingredient. WSU holds one collective EUP (<http://ext.wsu.edu/admin/PDF/Permit.pdf> ) so that researchers working on plots less than 1 acre in size do not need to obtain permits. However, the collective EUP permit is binding on all employees (<http://ext.wsu.edu/admin/PDF/Pesticides.pdf>). Applications may be made to both WSU lands and to cooperator lands. Only non-residential, non-fumigant, terrestrial applications are allowed under this permit.

The collective EUP permit has several requirements:

- WSU must keep a record of all experimental field applications made under the collective use permit, even those applications made to WSU property. These records must be available for a data call-in if requested. The central data collection site, along with submission instructions, is located at <https://cahedb.wsu.edu/EUP/> . All personnel working under this permit are required to submit EUP application records to this site.
- A written permission statement is required by the landowner/land manager for applications on cooperator's land. A copy must be submitted to the Pesticide Coordinator.

- Storage time limit for experimental products is three years from the end of the research trial. It must then be returned to the supplier. Personnel are not allowed to dispose of the material via the WSDA Waste Pick up Program or the WSU EH&S Hazardous Waste Program.
- Only research that is done for the purpose of obtaining a pesticide registration or label modification is covered by this permit.
- All treated food or animal feed resulting from crop applications must have an existing tolerance which is greater than anticipated residues from the application, or be destroyed (e.g. lab testing, burning, landfill, plowing under). A statement detailing the date and method of crop destruction must be included in the final application record. A searchable list of existing tolerances can be generated using the PICOL Tolerance Database (<http://cru66.cahe.wsu.edu/LabelTolerance.html>).
- Summaries of experimental results must be submitted at the end of the research trial.
- Any serious adverse environmental effects resulting from the application should be immediately reported to WSDA at (360) 902-2030. A summary of the effects should be submitted to the central data collection site with the final application record.

### **Disclaimer Language for Reports on EUP Work**

In situations where personnel are reporting the results of research trials, such as but not limited to, slide presentations to growers, poster presentations at commodity meetings, and web posting of field trial reports, an appropriate disclaimer must be used when discussing unregistered pesticides or unregistered uses of registered pesticides. WSDA has approved the following language for all WSU presentations:

"Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to \$7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance."

Personnel are required to use the disclaimer, in its entirety, when presenting information on experimental uses to user groups or in venues where user groups make up the bulk of the participants.

## **USDA ARS Personnel**

Researchers hired by USDA and given adjunct appointments with WSU are not eligible to work under WSU's collective EUP permit. Individual ARS units are encouraged to apply to WSDA for collective EUP permits.

## **Master Gardener Program**

Personnel writing MG resource material are reminded to use home-and-garden references only. Both HortSense (<http://pep.wsu.edu/hortsense/>) and PestSense (<http://pep.wsu.edu/pestsense/>) web sites contain fact sheets that are designed to support MG pest management recommendations. MG program county leads, that also have pesticide licenses, are able to recommend general use commercial pesticides to members of the general public if circumstances warrant. In these cases care must be taken so that resource materials describing commercial products do not become mixed with MG resource materials.

Volunteers are not allowed to apply anything other than home-and-garden pesticides to WSU property. Coordinators who oversee MG Gardens on WSU lands should work with the local Research and Extension Center Director for access to licensed personnel who will apply pesticides on their behalf. Note: all posting requirements must be met. Careful scheduling of applications to gardens with public access must be a priority.

Coordinators who oversee MG Gardens in city or county parks are highly encouraged to have a written agreement with the park agency. The terms of the agreement should state that MGs are to "maintain the area" and, for the purposes of pest management, MGs are considered employees of the park. Note: depending upon the terms of the agreement, MGs may then be able to apply general use pesticides using non-powered equipment.

MG coordinators must ensure that all MGs working under their supervision have a signed Pest Management Agreement form on file.

MGs are limited to making recommendations for home-and-garden pest management, and limited to products previously approved through the WSU pesticide approval process. Volunteers are not allowed to directly provide pesticide information to the public on behalf of WSU unless they are certified MGs.

## Appendix A

### Definitions

**Employee.** All administrators, faculty members, support personnel, students, and any other persons working for WSU, with or without compensation.

**EPA.** The U.S. Environmental Protection Agency (EPA) is charged with pesticide registration, enforcement, certification and training at the federal level. In order for a pesticide to be legally used in the United States it must either be registered for use with EPA or exempted from registration by EPA.

**EUP.** The term "experimental use pesticide", or EUP, may be used to describe a pesticidal active ingredient which has not yet been registered by US EPA. They may also be referred to colloquially as numbered compounds, in recognition that these products do not yet have common chemical names or trade names. The term may also be used to describe an unregistered use of a registered product being tested. The use itself is experimental while the active ingredient is not. In terms of permitting, there is no difference between the two descriptions: both require a permit.

**Fumigant.** The term fumigant refers to a chemical(s) whose initial form may be solid, liquid or gas, but is used in its gaseous state as a pesticide or disinfectant. Fumigants are either volatile chemicals that become gases at relatively low temperatures, around 40 degrees Fahrenheit, or they are chemicals that react to produce such a gas (e.g., dazomet and metam sodium converting to methyl isothiocyanate or MITC).

**Label Deviation (Allowable Off-label Use)** includes **only** the following: (a) control for a pest which is not on the label, (b) use of other application methods unless specifically prohibited (note: chemigation must be specifically mentioned on the label to be allowed), (c) less chemical per application than the amount listed on the label, (d) more diluent (usually water) than listed on the label, or (e) fewer number of applications than listed on the label. All of these exceptions are provided under federal and Washington State law. The WSU author for these types of recommendations should be able to produce scientific data supporting such statements.

**Minimal Risk (25b).** The term 25b refers to the Code of Federal Regulations citation that describes these types of products ([http://www.epa.gov/oppbppd1/biopesticides/regtools/25b\\_list.htm](http://www.epa.gov/oppbppd1/biopesticides/regtools/25b_list.htm)). Historically, minimal risk pesticides were called Generally Recognized as Safe (GRAS) materials. Most of the active ingredients on the list are also food products (vinegar, clove oil, etc.). At the federal level, products which contain just these accepted active ingredient and inert materials are not required to go through federal registration. These materials are required to go through state registration in Washington however.

**Organic.** This definition is taken from the National Organic Program web site: "Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation." Before a product can be labeled "organic," a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to local supermarkets or restaurants must also be certified.

**Pesticide.** The Washington Pesticide Control Act (Chapter 15.58 RCW) states the word "pesticide" means, but is not limited to: "any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, or any other form of plant or animal life or virus, (except virus on or in a living person or other animal) which is normally considered to be a pest or which the director may declare to be a pest...." Washington State's legal definition includes spray adjuvants, plant regulators, defoliants and desiccants. Although popular literature sometimes describes pesticides as only killing insects, this legal definition clearly states the term "pesticide" includes materials that kill many types of pests.

**Pesticide Recommendation.** Any written or spoken statement which advises that a particular pesticide can be used to control a particular pest, or produce a particular result (such as a plant growth regulator or desiccant). From the legal standpoint of liability, there is no difference between the term "suggestion," "guideline," or "recommendation". You may phrase the statements as you choose, however it will not change the legal liability WSU carries for these statements.

**RCW.** Revised Code of Washington contains all the laws of this state, separated into titles and further subtitles by a numbering system. For example RCW 17.21 describes the Washington Pesticide Application Act.

**RUP.** Restricted use pesticides, or RUPs, carry a statement on the label, prominently visible, which tells readers that a pesticide license is required in order to purchase and use the product. In general, these products have a higher toxicity to humans or greater risk to the environment than general use pesticides.

**Tolerance.** The maximum legal allowable limit for residues of a pesticidal active ingredient (or its metabolites) on food, feed or fiber crops. Residue values are usually expressed at parts per million (ppm) levels. Tolerances are set by individual countries and may vary one from another.

**URP.** The Washington State Department of Agriculture (WSDA) has the ability to set additional use restrictions on products for increased protection of humans, the environment, or other cropping systems. There are a number of factors they consider and products may receive a "use restricted pesticide" designation for different reasons. For example, materials that show high drift potential and high damage on neighboring crops

may have a county restriction placed on them such that only licensed applicators may purchase and use the product. Materials that are applied directly to water always carry a use restricted designation in Washington. Materials that have high leaching capability may be designated as URP's.

**WAC.** The Washington Administrative Code describes the rules of procedure for the various departments within state government. It is divided by titles and subtitles using a numbering system. For example, WSDA's rules and procedures are described in WAC 16. One can find the General Pesticide Rules in WAC 16.228.

**(WPS) Worker Protection Standard.** In 1992, the Environmental Protection Agency (EPA) adopted the federal WPS to protect agricultural workers, including pesticide handlers and applicators, from pesticides and their residues. Washington State has additional requirements that must also be met. WSDA and the Washington State Department of Labor and Industries have joint enforcement authority for WPS compliance.

**WSDA.** The Washington State Department of Agriculture (WSDA) is charged with pesticide registration, enforcement, certification and training at the state level in Washington. In order for a pesticide to be legally used in Washington, and therefore recommended by WSU personnel, it must be registered by WSDA.

## Appendix B

### Contacts

#### Pesticide Coordinator:

Dr. Catherine Daniels  
Washington State Pest Management Resource Service (WSPRS)  
WSU Puyallup  
7612 Pioneer Way E.  
Puyallup, WA 98371-4998  
voice: (253) 445-4611  
email: [cdaniels@wsu.edu](mailto:cdaniels@wsu.edu)  
web: <http://wsprs.wsu.edu>

#### Pesticide Safety Education Specialist and Program Coordinator:

Carol Ramsay  
Pesticide Safety Education Program  
WSU  
PO Box 646382  
Pullman, WA 99164-6382  
voice: (509) 335-9222  
email: [ramsay@wsu.edu](mailto:ramsay@wsu.edu)  
web: <http://pep.wsu.edu>

#### BioSafety Manager:

Lorraine McConnell  
WSU BioSafety Program  
PO Box 643005  
Pullman, WA 99164-3005  
voice: (509) 335-4462  
email: [lormcc@wsu.edu](mailto:lormcc@wsu.edu)  
web: [www.bio-safety.wsu.edu/biosafety](http://www.bio-safety.wsu.edu/biosafety)

#### WSU Environmental Health and Safety:

Pullman Campus  
<http://www.ehs.wsu.edu>

Statewide EH&S Services  
<http://www.tricity.wsu.edu/BC-RS/statewide.asp>

Institutional Animal Care and Use Committee (IACUC)

<http://www.iacuc.wsu.edu>

Washington State Department of Agriculture Pesticide Management Division:

Registration Section (360) 902-2030

Compliance Section (360) 902-2040

Licensing Section (360) 902-2020

Division web site: <http://agr.wa.gov/PestFert/default.htm>

Washington State Department of Agriculture Organic Food Program

Program web site: <http://agr.wa.gov/FoodAnimal/Organic/default.htm>

Washington State Department of Health

Environmental Health Assessment Section web site:

<http://www.doh.wa.gov/ehp/ts/Pest/default.htm>

Washington State Department of Ecology

Department web site: <http://www.ecy.wa.gov/>

Washington State Department of Labor & Industries

Department web site: <http://www.lni.wa.gov/>

Environmental Protection Agency

Office of Pesticide Programs (HQ) web site: <http://www.epa.gov/pesticides/>

## Appendix C

### Information for WSU Employees Working in Oregon and Idaho Test Plots

#### Idaho

Idaho does not require state EUP permits; field trials with a cumulative sum of less than 10 acres do not require a federal permit. Personnel working on 10 acres or more must seek a US EPA permit. The Idaho State Department of Agriculture (ISDA) can issue a 10 acre permit in lieu of US EPA, but only if data to be collected will be used for the purpose of obtaining an Idaho Section 24c (special local needs) registration.

Application of restricted use pesticides, whether as experimental compounds or registered products, triggers the requirement for an Idaho pesticide consultant's license. Those individuals who possess a valid Washington State license can petition ISDA for a reciprocal license in Idaho

(<http://www.agri.state.id.us/Categories/Pesticides/licensing/indexPestLicenseMain.php> ).

#### Oregon

As in Idaho, testing of experimental compounds on 10 acres or more in Oregon requires a federal permit.

Detailed information regarding rules and Oregon Department of Agriculture's expectations can be found at <http://www.oregon.gov/ODA/PEST/docs/pdf/eup4009.pdf> WSU personnel testing experimental compounds in Oregon are advised to check with the Oregon Department of Agriculture before initiating any trials to ascertain that regulations have not changed.

Any pesticide application in Oregon requires an Oregon license. Those persons in charge of an application must have an Oregon consultant's license with an R&D endorsement. There are no reciprocal licenses for those persons having Washington State licenses.

Oregon has a pesticide use reporting system ([http://egov.oregon.gov/ODA/PEST/purs\\_index.shtml](http://egov.oregon.gov/ODA/PEST/purs_index.shtml) ) which mandates that all application records be entered into the database, including those made with EUP compounds.

Adjuvants are not considered pesticides in Oregon therefore use does not have to be reported. Minimal risk (25b) pesticides are not further regulated by Oregon past the requirement that they meet federal standards.

## Appendix D

### Case Study: Off-label recommendations

#### Example 1

An administrative law judge in Washington decided a recommendation had been made when the defendant in a damage case had given specific instructions for using a pesticide that caused the damage. The defendant argued that the instructions were the result of a casual conversation and that he told the grower the use was not on the label and therefore illegal. The judge concluded, however, "It does not matter who brought the subject up first, whether the formulation (use directions) was written or spoken, nor whether the information was volunteered or asked for. The key is that a specific formulation was given." In effect, the judge said intent was implied when use instructions were given.

#### Example 2

(Taken from *WSDA Pesticide Notes 2004*.) A grower, Bob, was having problems with grassy weeds in his timothy hay crop. He consulted with John, a field rep from the local cooperative who was a licensed pest control consultant. John recommended a product, which due to weather conditions, Bob was unable to apply. Bob went back to John the next year and John talked about an herbicide that worked very well but was not registered on timothy. John said that it worked fine in perennial grasses, even if it wasn't registered for them. Bob asked if it was okay to go off-label? John said yes, they do it all the time. He also said that the chemical companies don't test for smaller crops because testing was so expensive, which was the reason why timothy wasn't on the label. Bob made the application.

Later, he noticed that his timothy crop was heavily damaged by the herbicide application. Bob asked John to pay for the crop loss. John told him that since it was an off-label use, he should have expected crop damage might occur, and that Bob was on his own. Bob called WSDA in, who heard both that the consultant recommended an off-label use and that the grower applied the herbicide knowing it was an off-label use. WSDA found written confirmation that John recommended the herbicide to Bob, that he sold the herbicide to Bob, and that he rented Bob the spray equipment then helped him calibrate it. So in essence, John told Bob what product would work, told him what rate to use and how to apply the product, sold Bob the product, rented him the equipment and showed him how to use it. So even though he warned Bob that crop loss might occur, he clearly

made a pesticide recommendation for a non-registered crop. He was charged with making a recommendation inconsistent with the label, and for aiding and abetting. His fine was \$450 and his license was suspended for seven days.

***Note: Pesticide registrants often do not test small acreage crops, also called minor crops, because the testing is expensive and they are only allowed a certain number of new registrations/year by EPA. However, the IR-4 program does perform such tests and obtains registration with EPA in cooperation with the registrant. The fact remains that if a crop is not on the label, it is not legal to use the product on that crop.***

## Appendix E

### Frequently Asked Questions (FAQs) about Pesticide Recommendations

1. *How can I keep up with new regulations and new pesticide registrations or changes to existing ones?* Resources include the WSU Pesticide Education Program courses (<http://pep.wsu.edu/>), WSDA's Pesticide Registration Division web page (<http://agr.wa.gov/PestFert/Pesticides/>), the Pesticide Notification Network web and email system (<http://ext.wsu.edu/pnn/>), and the Pesticide Information Center On-Line label and tolerance databases (<http://cru66.cahe.wsu.edu/LabelTolerance.html>).
2. *When home gardeners call with questions about misapplications to their garden, and seek reassurance that the resulting food will still be safe to eat, what do I tell them?* If someone says they used a pesticide contrary to label directions the proper response is to tell the caller that **legally WSU staff is bound to tell them to follow the label**. So if they applied a product that was not labeled for use on that crop and want to eat the fruit, you cannot tell them it is safe to do so, even if you have data that supports your claim. WSU staff may provide information about the relative hazards of pesticides for the public to make their own determination of safety.
3. *Are the terms "safe" and "non-toxic" or "least toxic" synonymous?* "Safe" is a relative comfort term and should never be used to describe toxicity. Use the opportunity to either directly educate the caller, or point them to a web site such as ExToxNet (Extension Toxicology Network, <http://ace.ace.orst.edu/info/extoxnet/>) or NPIC (National Pesticide Information Center <http://npic.orst.edu/>) where they may obtain information and determine their own level of comfort with each term.
4. *Does WSU have specialists who can answer detailed questions on pesticides?* Yes. If you want to obtain more information yourself or refer your client, call the Pesticide Coordinator's office to locate an appropriate specialist, or visit the WSPRS web page at <http://wsprs.wsu.edu/> and look for links to the appropriate discipline (weeds, insects, diseases, etc.).
5. *Should I share appropriate biological or physical pest management measures as well as chemical measures when clients specifically ask for chemical advice?* Yes. Ask your caller for details about their situation. This is especially important for homeowners, as there may be physical or biological control measures more appropriate than chemical measures to control pests. In the same vein, many commercial labels have plant-back or grazing restrictions, groundwater concerns, or other restrictions that could affect agricultural production systems. Knowing details about the client's situation will allow you to determine the best approach to pest management.

6. *Can I recommend commercial products to home gardeners?* If you have an appropriate endorsement for the public operator or public consultant's pesticide license, you may recommend general use commercial products to those clients who do not have a pesticide license. If you do not have a license, or are a Master Gardener, you may not recommend commercial products. You should exercise caution in making these recommendations by first determining that the product is the only fit or the best fit for the client situation. WSU and WSDA staff are concerned about waste stream issues when home gardeners buy larger than two-pound pesticide packages (excluding lawn care weed-and-feed products), as well as personal safety issues because home gardeners have very limited safety training regarding pesticide exposures to themselves and to the environment.
  
7. *Can I use product trade names when recommending pesticides?* When recommending pesticides to homeowners, it's best to use common chemical names of the active ingredients you are recommending. The product registrants frequently change the active ingredients of homeowner products while keeping the trade name exactly the same because they are trying to capitalize on brand loyalty. By giving the client the trade name, and thus trying to make it easier for them to remember, you might be steering them to a product which will not solve their pest problem and could place your credibility in jeopardy.
  
8. *Can I write a letter of support for registration of commercial products if I don't have any type of pesticide license?* Yes. A consultant is defined as one who offers technical advice to a user of pesticides. By writing a professional letter of support to a governmental agency, you are not providing advice to an end user.
  
9. *When I host grower workshops that offer pesticide recertification credits, I may invite speakers not employed by WSU. If one of these speakers does not address the topic as stated in the syllabus, or discusses illegal activities, what are the ramifications?* WSDA has the option of rescinding the credits or declining to issue future credits. WSU has a reputation of offering science-based information that conforms to legal and ethical expectations. It is up to workshop organizers to make sure that all speakers adhere to these expectations, even if it means interrupting their talk to correct erroneous information.
  
10. *One of the physical control measures for a production issue on my crop has the secondary effect of controlling a pest. How can I discuss this effect with my grower clientele?* You must focus on the primary effect, which is the promotion of an activity that helps crop production, but you can mention that there is a secondary effect of pest control. It is important to remember that if you claim something is acting as a pesticide, then by default it becomes one, then all pesticide regulations apply.

## Appendix F

### Frequently Asked Questions (FAQs) about Pesticide Uses

1. *Can we use unregistered pesticides as positive controls in research/demo plots?* Yes. All requirements for experimental pesticide use must be met however.
2. *Can we intentionally apply a 2X rate of herbicides on demonstration plots in order to teach growers how to identify crop damage?* Yes. Such use is allowed under the collective EUP, therefore application records must be filed in the central data base. While the herbicide may be registered for use on the crop in question, because the 2X rate exceeds the label rate it is considered an experimental application.
3. *Can I use a product in the greenhouse if the label doesn't prohibit such use?* Yes. Unless prohibited by the label, any pesticide registered for a field crop can be used on the same greenhouse crop, e.g. a product registered on field-grown wheat can be used on greenhouse-grown wheat.
4. *Can I use a product through chemigation (irrigation) if the label doesn't prohibit such use?* No. Chemigation must be specifically allowed on a label in order to be a legal application method.
5. *Can I use a product registered for use on a bearing cherry orchard on ornamental or non-bearing cherries?* Yes, for non-bearing cherries. Any product which is registered on a bearing crop can be used on its equivalent non-bearing or seed crop. No, for the ornamental cherries unless the label specifically allows use on an ornamental crop.
6. *Does testing of experimental pesticides on livestock require a permit?* Yes. Researchers testing experimental compounds for the purpose of pest management on livestock must obtain an individual EUP from WSDA. Testing on laboratory animals does not require an EUP. If you are feeding livestock a bioengineered plant containing PIPs, there must be a feed tolerance for the material or, none of the animal products may pass into the channels of trade. In addition, you must obtain permission from the WSU Institutional Animal Care and Use Committee (IACUC) prior to starting the experiment.
7. *How do I deal with a quarantine situation where all pests must be eradicated before the material can enter the country but there is no pesticide registered for this crop or material?* Initiate a request to WSDA for a Section 24c (special local needs) registration for the quarantine site in question.

8. *Many web sites offer full text labels, either to view or to download. Are these legal labels?*

Section 18's:

Yes, specific exemptions from registrations (Section 18's) approved by EPA and crisis exemptions issued by WSDA can be downloaded off the web and used by growers. WSDA stipulates that the documents should be downloaded from a reliable source to verify authenticity. (If your office wishes to scan these documents and offer them through your web site **PLEASE** make all efforts to ensure that the scans are exact copies of the originals.) Those electronic documents sent from WSDA to the Washington State Pest Management Resource Service are available on the Pesticide Notification web page (<http://ext.wsu.edu/pnn/>). Applicators should be aware that regardless of the source of their Section 18 document, they are responsible for complying with all of the provisions on the **original** documents issued by EPA and WSDA. Note that WSDA may list a requirement/restriction on their request to EPA, but that requirement/restriction may not be included on the specific exemption document issued. The list of requirements/restrictions is normally included on the fax or email cover letter that WSDA sends out with the specific exemption. Crisis exemptions issued by WSDA normally incorporate all necessary restrictions and requirements.

Section 3's (also called main labels):

WSDA's current position is that these labels **cannot** be downloaded off the web and used to make pesticide applications. Applicators must abide by the container label. Only the registrant or someone under their specific designation has the legal authority to re-label product containers. Note: in some cases the web label is the "master" label registered with EPA, not the actual "marketing" label registered with WSDA for use in Washington. The master label may list uses not on the label marketed in Washington, therefore care should be exercised in using these labels for recommendation purposes.

Section 24(c) and federal supplemental labels:

Currently, WSDA's position is that regardless of the source, these labels can be used for informational purposes only; they **cannot** be downloaded and used for applications.

9. *If someone asks me for copies of labels can I provide them?* If you supply labels for informational purposes only, you may copy and send labels to the public. You must indicate, by either a cover memo, or directly stamping on the label, that these are "specimen labels" or say "for informational purposes only". Registrants and their designees are the only parties allowed to distribute labels for actual use.

10. *If an active ingredient is exempt from tolerance can I use it without worrying about a pesticide label?* EPA has determined that some pesticides are federally "exempt" from registration, as they are "generally recognized as safe." An

example of such an ingredient is sulfur. Because of Washington State law however, a label for sulfur must be registered for use in Washington in order for its use to be legal here. Washington law requires all products fitting the definition given in Chapter 15.58 RCW to be registered.