



California Environmental Protection Agency
dpr Department of
Pesticide Regulation

Laws and Regulations Study Guide

Second Edition



Laws and Regulations Study Guide

Second Edition
2011

**Primary Laws and Regulations Study Guide for
these Core Examinations:**

- Qualified Applicator Certificate
- Qualified Applicator License
- Pest Control Aircraft Pilot Certificate
- Agricultural Pest Control Adviser License
- Pest Control Dealer Designated Agent License

This guide was published by the
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MISSION

DPR's mission is to protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management. DPR's strict oversight begins with pesticide product evaluation and registration and continues through statewide licensing of commercial applicators, dealers, consultants, and other pesticide professionals; evaluation of health impacts of pesticides through illness surveillance and risk assessment; environmental monitoring of air, water, and soil; field enforcement (with the county agricultural commissioners) of laws regulating pesticide use; residue testing of fresh produce; and encouraging development and adoption of least-toxic pest management practices through incentives and grants. DPR is one of five boards and departments within the California Environmental Protection Agency.

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LAWS AND REGULATIONS

The State of California has many complex laws and regulations covering pesticides and pest control. Written primarily to address various concerns over pesticide registration, sale, and use activities in pest control settings unique to California, they also incorporate the requirements in federal pesticide laws and regulations. The State's pesticide use laws are in the California Food and Agricultural Code (FAC) Divisions 6, 7, and 13; the regulations are in Title 3, California Code of Regulations (3 CCR) Division 6. The laws and regulations include the requirements that cover certification and licensing of individuals who make agricultural use recommendations and handle pesticides in the work place, as well as the licensing of pest control dealers and pest control businesses.

PESTICIDE REGULATORY AGENCIES— BROAD OVERVIEW

U.S. Environmental Protection Agency (U.S. EPA). U.S. EPA regulates all aspects of pesticide registration, sale, and use at the federal level through the laws in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the regulations in the Code of Federal Regulations, Title 40 (40 CFR). In addition to registering all pesticide products before they are sold, held for sale, or otherwise

distributed in commerce, U.S. EPA oversees and reviews state regulatory programs for compliance with federal requirements, including the federal Worker Protection Standard. The various states' regulatory programs may include these sub-programs:

- Certification and Training
- Enforcement and Compliance
- Worker Health and Safety, and
- Environmental Monitoring and Protection.

Certification of Pesticide

Applicators. U.S. EPA requires States to certify individuals that are private or commercial pesticide applicators that use or supervise the use of federal restricted use pesticides. Generally, DPR requires that individuals possess applicator certification when using or supervising the use of California restricted materials, which include federal restricted use pesticides and certain other pesticides. Supervising means exercising control over an applicator that is or is not a certified applicator. There are more details later in this study guide regarding certification of applicators that make pesticide applications for hire when working under a pest control business license.

Applicants for certification must demonstrate competence in the use and handling of pesticides by passing certification examinations. States must designate a State Lead Agency with the legal authority to implement the state-wide pesticide regulatory

program, with a special emphasis placed on the pesticide applicator certification requirements, plus have the legal authority to enforce all of the other aspects of pesticide sales and use. To meet federal requirements each state pesticide regulatory program must include at minimum, these six components:

1. State-granted legal authority to carry out a pesticide regulatory program
2. Provisions of legal processes for denying, suspending, and revoking applicator certification and for assessing criminal and or civil penalties for violations
3. Provisions for legal review of an applicator's certification to determine if suspension or revocation is appropriate after a federal or state enforcement action
4. Provisions for right-of-entry by State personnel at reasonable times to sample, inspect, and



SIDEBAR 1

The Purposes of Pesticide and Pest Control Laws and Regulations

The purposes of the laws in the California Food and Agricultural Code and regulations in Title 3 of the California Code of Regulations are to:

1. Provide for the proper, safe, and effective use of pesticides used in the production of food and fiber and the protection of public health and safety
2. Protect the environment from environmentally harmful pesticides by prohibiting, regulating, or controlling their uses
3. Assure that agricultural and pest control workers have safe working conditions where pesticides are present
4. Authorize pest control and make sure that it is done by competent, responsible licensees and permittees under strict control of DPR and the county agricultural commissioners
5. Assure applicators, consumers, and other users that the pesticides they use are properly labeled and are appropriate for the uses designated on the label, and
6. Encourage the development and implementation of integrated pest management systems, stressing the integration of biological and cultural pest control techniques with the use of selective pesticides, when these are necessary, to achieve acceptable levels of control with the least possible harm to non-target organisms and the environment.

observe any actions and activities related to pesticide use and pest control

5. Provisions legally requiring applicators to possess certification to use restricted use pesticides or supervise non-certified applicators using restricted use pesticides, and
6. Provisions requiring certified commercial applicators to record pesticide use and maintain pesticide use records for two years, and to make them readily available to State regulatory personnel.

In general, these federal requirements for a state pesticide regulatory program deal with the sale and use of restricted use pesticides. California's regulatory program goes much further in addressing the sale and use of all pesticides, those that are designated as California restricted materials which include federal restricted use pesticides and those that are designated as State/federal general use pesticides.

Department of Pesticide Regulation (DPR). DPR is the State Lead Agency for developing and implementing a state wide pesticide regulatory program. DPR is responsible for regulating all aspects of pesticide sales and use to protect public health and the environment from known adverse effects that might occur from the legal use of pesticides. This includes certifying and licensing individuals and businesses that work in the agricultural and non-agricultural pesticide and pest control industries, and enforcing pesticide laws and regulations. Within DPR, the Structural Pest Control Board (SPCB) certifies structural pest control applicators and licenses structural pest control businesses, and conducts certain types of field enforcement of structural pest control laws and regulations.

DPR also works with a number of Cooperating Agencies in California to implement the State's various certification and training programs, enforcement programs, and other programs that make up the total State pesticide regulatory program. The following are the Cooperating Agencies with a brief description of their roles:

California Department of Food and Agriculture (CDFA) through the **County Agricultural Commissioners (CAC):** Certify private pesticide applicators and conduct local enforcement of pesticide use laws and regulations in agricultural, residential, non-agricultural and structural pest control settings.

University of California, Davis, Statewide Integrated Pest Management Program (UC IPM): DPR contracts with UC IPM to develop pesticide applicator certification and training study guides and programs, examination questions, pest control guidelines, and other pest control information.

Department of Public Health (DPH), Division of Communicable Disease Control, Vector-Borne Diseases Section:

Certify vector pest control pesticide applicators and develop vector pest control study guides.

For advice on the certificate or license you will need, contact:

DPR
Licensing and Certification Program
(916) 445-4038
<http://www.cdpr.ca.gov/>

SPCB
Licensing
(916) 561-8704
<http://www.pestboard.ca.gov/>

DPH

Certification Coordinator
<http://www.cdph.ca.gov/>
 (916) 552-9730

U.S. Food and Drug Administration (U.S. FDA)

Although not a state cooperating agency, the U.S. FDA contracts with DPR to gather produce samples from marketplaces and assist with investigations of incidents in which pesticide residue levels exceed the allowed tolerance levels on food. The U.S. FDA is responsible for enforcing pesticide residue tolerances on food shipped in interstate commerce. As part of these activities, U.S. FDA regulates pesticide residue levels in domestically produced and imported foods.

CALIFORNIA CERTIFICATION AND LICENSING

Commercial Applicator and Pest Control Adviser. You must pass a core examination and at least one pest control category to hold the following commercial pesticide applicator certificates/licenses:

- Qualified Applicator Certificate (QAC)
- Qualified Applicator License (QAL)
- Pest Control Aircraft Pilot Certificate (PCAPC), and

The following non-applicator license:

- Agricultural Pest Control Adviser (PCA) license.

These individual certificates and licenses require individuals to pass a core examination to demonstrate a minimum standard of knowledge and competency related to pesticides and pesticide use and sales. The core examination includes a section on pesticide laws and regulations. This study guide is written to help those

individuals in preparing for the laws and regulations portion of the core examination. This manual does not contain the complete text of the sections within the FAC or 3 CCR as cited above, it is not a compliance assistance manual.

This study guide is intended only to help individuals prepare for DPR certification and licensing examinations, and as such it identifies and explains the general requirements in these laws and regulations. The core examination covers the laws and regulations affecting pesticides and pest control, and the basic principles of safe and effective pest control. You should use this study guide to prepare for the laws and regulations portion of the core examination. To prepare for the basic principles of safe and effective pesticide control portion of the core examination, you should study the UC IPM publication, "The Safe and Effective Use of Pesticides".

The pest control category examination is specific to the type of pest control activities relative to your certification or licensing. To prepare for the pest control category examinations there are other study materials that you can study. You might need to pass more than one category-specific examination, depending on the scope of work you plan to do. DPR Pest Management and Licensing Branch develops and gives these examinations, and issues the certifications and licenses.

To obtain the Pest Control Dealer Designated Agent (DA) license requires only one examination on laws and regulations and basic principles of safe and effective pesticide use.

Private Applicator Certificate.

Generally, private applicators must hold a valid Private Applicator Certificate (PAC) to use or supervise the

use of a California restricted material, which includes federal restricted use pesticides, to produce an agricultural commodity. The local County Agricultural Commissioner administers the examination and issues the certificate. You must pass one examination to obtain the PAC as there are no pest control categories.

You do not have to pass examinations to obtain any of these DPR-issued business licenses:

- Pest Control Business License
- No-fee Pest Control Business License
- Maintenance Gardener Pest Control Business License
- Pest Control Dealer License, and
- Pesticide Broker License.

However, you must meet certain requirements when applying for any of the aforementioned business licenses. The requirements are explained later in the study guide.

All persons conducting pest control or any other pesticide-related activity are responsible for knowing and following all of the requirements in the pesticide use and pest control laws and regulations that pertain to their pesticide and pest control related activities. Before engaging in these activities you should have copies of these laws and regulations, review and understand them; plus County Agricultural Commissioners and DPR have other written compliance assistance material available to help you understand and comply with DPR pest control requirements. You should contact the local County Agricultural Commissioner or DPR for:

- Help in getting copies of the laws and regulations, pesticide information pamphlets, health and safety information, any other written compliance

assistance materials, and any referenced forms or lists,

- Clarification of any of the State pesticide use and pest control laws and regulations, and any of the regulatory programs implemented by DPR, and
- Assistance and guidance for complying with those laws and regulations.

For assistance from DPR you can: Contact the Pesticide Enforcement Branch at (916) 324-4100 or the Pest Management and Licensing Branch, Licensing and Certification Program at (916) 445-4038. You can also review information on DPR's web site: <http://www.cdpr.ca.gov>.

Laws and Regulations. The California Legislature passes pesticide use laws to address specific concerns over pesticide sales and uses. The Governor will implement the law by signing it into effect. If regulations are needed to carry out the requirements in the law, DPR is responsible for writing and implementing the regulations. DPR must meet administrative requirements imposed by the Office of Administrative Law and the Secretary of State in writing and implementing regulations. Most of the State's pesticide use and pest control laws are found in the California FAC. These laws govern most pesticide use, with the emphasis placed on agricultural pesticide use, although they also cover some structural pest control activities. The Business and Professions Code contains laws specific to structural pest control pesticide use. Sidebar 1 details the purposes of pesticide and pest control laws and regulations.

Each County Agricultural Commissioner has the authority to propose additional regulations, and if approved by DPR, they apply only to his or her county. These county-

specific regulations supplement the regulations in 3 CCR to locally implement additional requirements on individuals and businesses involved in the sale, possession, and use of pesticides. These regulations are not the same as restricted material use permit conditions, which are covered later in this study guide.

How to Use This Study Guide.
Study each chapter and when you finish, answer each of the review questions at the end of each chapter.

Use them to test your understanding of the information presented in that chapter. These questions are in the same format as the questions on DPR examinations, multiple choice selection and fill-in-the-blank. However, they are not the same questions that are in the examinations. Check your answers with the correct answers on page 115. If you missed any of the questions, go back and reread the appropriate sections of the chapter that cover that information.

REVIEW QUESTIONS

(answers on page 115)

1. The difference between California laws and DPR regulations is that laws are

- A. Passed by County Agricultural Commissioners and regulations are passed by the California legislature
- B. Passed by the California legislature and regulations are adopted by DPR to carry out the laws
- C. Supplements to federal regulations
- D. Adopted by DPR to carry out regulations signed by the Governor

2. Which of the following is not one of the purposes of California's pesticide and pest control laws and regulations?

- A. Protecting workers from pesticide exposure
- B. Providing proper, safe, and effective use of pesticides
- C. Encouraging people to use more pesticides
- D. Protecting public health and safety

3. A cooperating agency that helps DPR enforce pesticide use laws and regulations in California is the

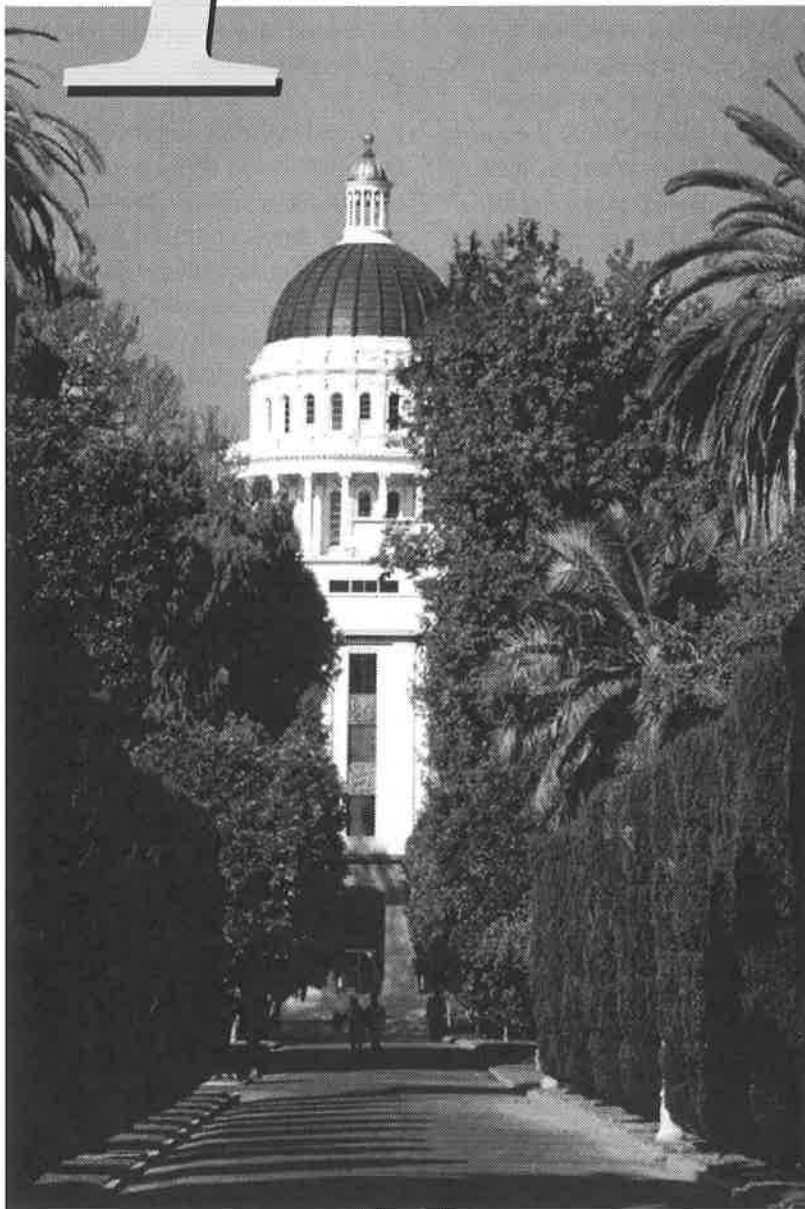
- A. County Department of Health
- B. State Department of Water Resources
- C. State Department of Labor
- D. County Agricultural Commissioner

4. County Agricultural Commissioners may adopt supplemental pesticide regulations with the approval of the

- A. Department of Pesticide Regulation
- B. Office of the Governor
- C. County Board of Supervisors
- D. California State Legislature

1

Pesticide Registration and the Label



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PESTICIDE PRODUCT REGISTRATION

Anyone who wants to produce in or bring into California, a pesticide product for sale, possession, or use, must first register that pesticide product with U.S. EPA and then DPR. These agencies register individual pesticide products, not generic pesticides. The registration procedure is designed to protect people and the environment from ineffective or harmful pesticide products. Persons or companies that register pesticide products, referred to as "registrants", must fulfill numerous regulatory requirements and submit scientific data to support proposed uses of the pesticide.

Pesticide Use Classification: General Use, Restricted Use, and Restricted Materials. A pesticide product may be unclassified, or it may be classified as restricted use or general use by U.S. EPA and DPR registration procedures which include evaluating large volumes of scientific data for each pesticide active ingredient and pesticide product. At the federal level this evaluation includes U.S. EPA's classification of a pesticide as general use or restricted use. When there are known hazards that cannot be mitigated through label directions and requirements, U.S. EPA will designate a pesticide as restricted use to mitigate or reduce those hazards. This restricted use designation will impose applicator certification requirements and possible additional application restrictions. After EPA registration,

DPR also evaluates scientific data for each pesticide during its registration process to determine if any federal general use pesticide should be designated as a State "restricted material" due to local hazards or health concerns specific to California.

Restricted materials are pesticides deemed to have a higher potential to cause harm to public health, farm workers, domestic animals, honeybees, the environment, wildlife, or other crops compared to other pesticides. Generally, persons using or supervising the use of a restricted use pesticide or a restricted material must possess private or commercial applicator certification. You will find more detailed information about applicator certification in Chapter 3 of this study guide. The registration process includes producing a pesticide product label that meets all federal and state requirements. These labels become legal documents and contain important use directions, requirements, prohibitions, and other user information.

State Pesticide Product Registration and Accepted Labeling. DPR issues a Certificate of Registration for each pesticide product after reviewing and accepting data and documentation, including the labeling. The labeling that was accepted during the registration evaluation becomes the registered labeling. The labeling for each container of pesticide



FIGURE 1-1.

Supplemental labels are often attached to pesticide packages. Before purchasing a pesticide, make sure you have a complete set of labels.

sold and used in California must be identical to the registered labeling for that pesticide on file with DPR.

A pesticide sale and possibly its use are illegal if the pesticide product container label sold does not match the registered label on file with DPR.

Product That Is No Longer Registered. A registrant cannot sell a pesticide product in California if the

- Registrant allows the registration to lapse by not renewing it, or
- DPR or U.S. EPA suspends or cancels the pesticide product registration.

If the registrant allows a product registration to lapse, a pest control dealer who acquires the pesticide product while it was still registered may sell and deliver it for two years after the last date of registration. An end user can purchase that non-registered pesticide product within two years of the last day of registration. Unless prohibited by U.S. EPA, an end-user may possess and use the pesticide indefinitely in accordance with the original container label and any labeling that might accompany the pesticide or referred to on the label. Regulatory requirements still apply to the use of these non-registered pesticide products, including:

- Applicator certification, if required
- Obtaining use and possession permits, if required
- Obtaining and making all agricultural use recommendations in writing prior to use, and
- All other pesticide use requirements.

When U.S. EPA or DPR cancels or suspends the registration of a pesticide product, they often impose specific restrictions on the sale and use of existing stocks. All persons possessing and using these cancelled or suspended registration products must comply with all sales and use provi-

sions included in cancellation and suspension orders. A pesticide product cannot legally be sold or used, nor can a permit be issued, contrary to any U.S. EPA or DPR cancellation or suspension order.

Amending the Registered Label.

Any changes made to the registered label, such as adding new crops or prohibiting certain application methods, must be reviewed and accepted by U.S. EPA and DPR before the product bearing the proposed amended label can be sold or used in California. Pesticide users must comply with the label directions attached to the pesticide products they are using at the time.

TYPES OF PESTICIDE REGISTRATIONS

The Federal Insecticide Fungicide, Rodenticide Act (FIFRA) is the federal law that outlines the various types of pesticide product registrations and exemptions from registration. These different types of registrations each have their specific label type, often referred to by the FIFRA section containing the requirements; section 3, the initial pesticide label registration; and sections 18 and 24, additional registrations allowing for uses not covered by the initial registration and label. Most commonly referred to are section 3 (general pesticide product registration), section 18 (emergency exemptions from registration), and section 24c (special local need registrations). The regulatory requirements differ (including product label and support data) for each type. The three most common types are listed below.

Registration of Pesticides (section 3). FIFRA section 3 grants U.S. EPA the authority to register pesticide products with the corresponding label

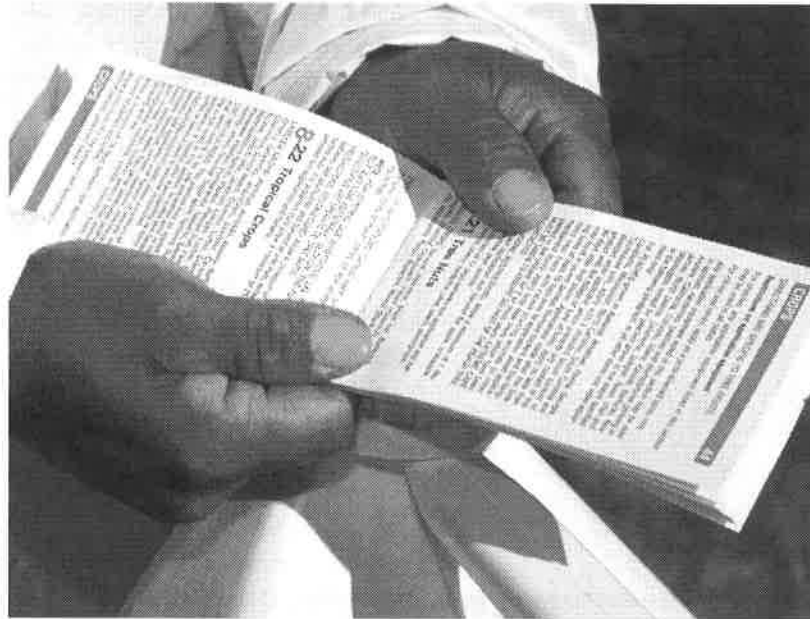


FIGURE 1-2.

The pesticide label is a complex legal document that you must read and understand before making a pesticide application. Make pesticide applications in strict accordance with the label instructions, making sure not to conflict with more restrictive state regulatory requirements.

often referred to as the section 3 label containing basic registered uses, use directions, requirements, and prohibitions. 40 CFR regulations provide the specific guidelines necessary to carry out federal law. There is later a more detailed presentation of the required label information and format that are found in FIFRA and 40 CFR, as well as in California laws and regulations.

Exemption of Federal and State Agencies (section 18). Section 18 of FIFRA authorizes U.S. EPA to allow an unregistered use of a pesticide for a limited time if EPA determines that emergency conditions exist. The regulations governing section 18 of FIFRA define the term "Emergency Condition" as an urgent, non-routine situation that requires the use of a pesticide(s). Such uses are often referred to as "emergency exemptions," "section 18s," or simply "exemptions." One example is when a state declares an emergency over a pest infestation in a particular crop. After an evaluation and assessment of

the infestation and possible control measures, the state agency can petition U.S. EPA to issue a section 18 exemption from registration to authorize use of a pesticide that is otherwise not registered for use on that particular crop. In other words, the section 18 exemption of registration from the provisions in FIFRA is a pesticide use registration in itself that generates a use label. DPR works with local, state, and federal agencies to evaluate the emergency and determine if it meets certain criteria to submit an exemption request to U.S. EPA. There must be no feasible alternative to the exemption. U.S. EPA will evaluate the request, and upon approval will issue the emergency exemption. There are four types of section 18s:

- Specific
- Public health
- Quarantine, and
- Crisis.

All users are required to possess and maintain a valid restricted materials permit for possession and

use of a pesticide registered under a section 18. All emergency uses under a section 18 are subject to strict regulatory controls, including recordkeeping in addition to that already required for normal pesticide use. It is important to note that use of a product under a section 18 includes special requirements and responsibilities. Section 18 labels prescribe application rates, safety precautions, and other vital application information you must comply with in the same manner as the section 3 registered label.

Authority of States (section 24). FIFRA section 24 grants states pesticide regulatory authority in three areas, including issuance of a new use registration for a federally registered pesticide. They are:

- Section 24(a)—A state is authorized to regulate the sale and use of a federally registered pesticide as long as the sale and use is not prohibited by FIFRA
- Section 24(b)—A state cannot impose labeling or packaging requirements different from or more restrictive than the requirements if FIFRA, and
- Section 24 (c)—Also known as a special local need registration (SLN), 24 (c) gives a state the authority to issue a use registration not previously issued for a federally registered pesticide. This allows states to expand the uses of certain registered pesticides within their jurisdictions. For example, some SLN's allow uses of a registered pesticide for crops or sites not listed on the section 3 label. The 24(c) registration label will contain a registration number that includes the letters, "SLN" and the code for the state issuing the registration. DPR-issued SLN's will be identified by the

code, "CA". These registrations are legal only in the region, state, or local area specified on the label. If you apply a pesticide under a SLN from another state or region you are subject to civil and criminal penalties. You can contact the local County Agricultural Commissioner or DPR to find out which SLN registrations pertain to your crop and area. You may also contact the local UC Cooperative Extension farm advisor or a pest control dealer.

Research Authorizations. California has specific regulations regarding experimental, unregistered uses of pesticide products. In most cases, a Research Authorization must be obtained from the Pesticide Registration Branch of DPR before an unregistered pesticide product can be used to conduct research. A Research Authorization is not an exemption from pesticide registration. Research Authorizations are issued only to allow research for unregistered uses on limited acreage or use sites. They sometimes require that the research crop be destroyed. California's Research Authorization program is meant to allow for research that contributes to the registration process.

Research Authorizations are different from federal Experimental Use Permits, which must be reviewed and registered by U.S. EPA and then by DPR. In general, colleges and universities doing research under established university policies do not need to obtain a Research Authorization. Check with your institution. Pesticide registrants doing experimental work on property under their control do not need to obtain a Research Authorization.

12

RESTRICTED USE PESTICIDE

Due to High Acute Toxicity to Humans

For retail sale and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Direct supervision for this product requires the certified applicator to review federal and supplemental label instructions with all personnel prior to application, mixing, loading, or repair or cleaning of application equipment.

1 Reckon® LV

insecticide by **ToxCo®**

	Active Ingredient:	By Weight
5	Methomyl	
3	(S-methyl-N-[(methylcarbamoyl)	
2	oxy]thioacetimidate)	29%
	Inert Ingredients	71%
	TOTAL	100%

4 Water Soluble Liquid

Contains 2.4 lbs active ingredient per gallon.

8 EPA Reg. No. 000-000

EPA EST. No. 0000-XX-0

6 Net 5 gallons

KEEP OUT OF REACH OF CHILDREN

9 **DANGER**



POISON

PELIGRO

VENENO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

11

FIRST AID

This Product is an N-Methyl Carbamate insecticide.
If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching the back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
If in eyes: Hold eyelids open and flush with a steady gentle stream of water for 15 minutes. Get medical attention.
If on skin: Wash with plenty of soap and water. Get medical attention.
ATROPINE IS AN ANTIDOTE—SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING.
 If warning symptoms appear (see WARNING SYMPTOMS), get medical attention.
For medical emergencies involving this product, call toll free 1-000-000-0000.

10

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER! CONTAINS METHANOL. FATAL IF SWALLOWED. MAY CAUSE BLINDNESS IF SWALLOWED. MAY BE FATAL IF INHALED OR ABSORBED THROUGH EYES. CAUSES IRREVERSIBLE EYE DAMAGE.
 (Precautionary Statements continued in next column.)

7

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FIGURE 1-3

This is an example of a pesticide label illustrates the sections described in the text.

Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Pilot should not assist in the mixing and loading operation.

WARNING SYMPTOMS—Methomyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors. If warning symptoms appear, refer to Statement of Practical Treatment on front panel of Reckon®—LV label and seek medical attention at once.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category B on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- Shoes plus socks.
- Protective eyewear.

For exposure in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C or a NIOSH-approved respirator with any R, P, or HE filter [also N if product does not contain oil and bears no instructions that will allow application with an oil-containing material]), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

For exposures outdoors, dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter [also N if product does not contain oil and bears no instructions that will allow application with an oil-containing material]).

Cleaners and repairers of application equipment must wear:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves.
- Chemical resistant footwear.
- Protective eyewear.
- Respirator as outlined above.
- Chemical resistant apron.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS

Human flaggers must be in enclosed cabs.
 When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. The enclosed cabs must be used in a manner that meets the requirements listed in the WPS for agricultural pesticides. The handler PPE requirements may be reduced or modified as specified in the WPS.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Keep container closed. Use with adequate ventilation.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product through any type of irrigation system.

Do not formulate this product into other end-use products without written permission.

ToxCo RECKON® LV Insecticide should be used only in accordance with recommendations available through local dealers.

ToxCo will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by ToxCo. User assumes all risks associated with such non-recommended use. RECKON® LV is a water soluble liquid to be diluted with water for application by mechanical ground or air equipment only. Use only in commercial and farm plantings. Not for use in home plantings nor on any commercial crop that is turned into a "U-Pick," "Pick Your own" or similar operation. Pilot should not assist in the mixing and loading operation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI). PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- Shoes plus socks.
- Protective eyewear.

GENERAL INFORMATION

Scouting—Monitor insect populations to determine whether or not there is a need for application of RECKON® LV based on locally determined economic thresholds. More than one treatment of RECKON® LV may be required to control a population of pests.

Insect Predators—RECKON® LV at rates of 2/5 to 3/4 pt. per acre helps conserve certain beneficials, including big-eyed bugs, damsel bugs, flower bugs and spiders in cotton and soybeans. While these beneficials cannot be relied upon to control pests, they are of potential value and should be monitored along with pests in pest management programs on these crops.

Resistance—Some insects are known to develop resistance to products used repeatedly for control. When this occurs, the recommended dosages fail to suppress the pest population below the economic threshold. Because the development of resistance cannot be

predicted, the use of this product should conform to resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of active classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local agricultural authorities for details.

Compatibility—Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

Do not use RECKON® LV with Bordeaux mixture, "Du Ter" (triphenyltin hydroxide), lime sulfur, "Rayplex" iron nor in highly alkaline solutions. Use mildly alkaline mixtures immediately after mixing to prevent loss of insecticidal activity.

SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying RECKON® LV.

Fill spray tank 1/4 to 1/2 full of water. Add RECKON® LV directly to spray tank. Mix thoroughly. Use mechanical or hydraulic means; do not use air agitation. Spray mix should not be stored overnight in spray tank.

(Directions for Use continued on supplemental labeling.)

STORAGE AND DISPOSAL

STORAGE: Do not subject to temperatures below 32° F. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PRODUCT DISPOSAL: Do not contaminate water, food, or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer for recycling or reconditioning if container reuse is permitted, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Return empty stainless steel containers for refilling and reuse.

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of ToxCo. These risks can cause: ineffectiveness of the product; crop injury; or injury to nontarget crops or plants.

ToxCo does not agree to be an insurer of these risks. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

(Warranty information continued on supplemental labeling.)

Crops	Insects	Rate	Last Application—Days		
		Reckon® LV Pts. Per Acre	To Harvest	To Livestock Grazing/Feeding	REI
Anise (fennel)	Cabbage Looper	3	7		48 hrs
	Beet Armyworm	1-1/2 to 3			
	Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop.				

(Restricted-entry information continued on supplemental labeling.)

PESTICIDE LABELING

Explanation of the Terms: Label; Supplemental Labeling; and Labeling.

FIFRA and 40 CFR contain lengthy definitions for the terms "label", "supplemental label", and "labeling". In addition, there are requirements for placement of the label and labeling that are required for each pesticide product. The following are paraphrases of those definitions to simplify understanding of labels, labeling and labeling requirements.

A "label" is any written, printed, or graphic matter with pest control directions, requirements, prohibitions, and other information such as health and safety precautions. The label must appear on or be securely attached to the immediate pesticide product container or pest control device. If an outside wrapper, bag, or box obstructs the view of the container or device label, the label must also be securely attached to the outside wrapper, bag, or box.

A "supplemental label" is any label that is not part of the pesticide container but is otherwise attached to or accompanies the pesticide product container or device. Some pesticide containers are too small to allow the complete label to be printed on or securely attached to them. In such cases, U.S. EPA requires registrants to provide supplemental labels (Figure 1-1) with the remainder of the complete label. Supplemental labels are usually placed in plastic pouches glued to the side of metal and plastic containers. Paper packages usually have supplemental labels inserted under the bottom flaps. Section 18 and 24c labels are examples of supplemental labeling. Some labels refer to other documents, such as a Material Safety Data Sheet (MSDS) or a commodity treatment schedule. Agricultural use pesticide labels also

refer to the Worker Protection Standard provisions of 40 CFR part 170. These and other documents referred to on pesticide labels become part of the pesticide label.

"Labeling" includes all labels and all other written, printed, or graphic matter accompanying the pesticide product container or device at any time, or to which reference is made on the label or in literature accompanying the pesticide or device. That is another way of saying that labeling is:

- The label on or attached to the pesticide product container or pest control device
- Any label that is attached to the pesticide container outer wrapper or a shipping bag or box
- Section 18 and section 24(c) labels, and
- Any other documents referenced on the label, such as a MSDS or commodity treatment schedule.

40 CFR outlines the format for pesticide labels and the information they must contain. The label contains mandatory statements for required or prohibited pesticide use activities and permissive statements for information. Mandatory statements must be followed. These statements include terms such as "shall" or "must." Permissive statements include terms such as "should" and do not impose requirements. It is a violation of federal law to use a pesticide in conflict with its registered FIFRA section 3 label, or other label issued under FIFRA section 18 or 24(c).

When to Read the Pesticide Label.

Read the pesticide label (Figure 1-2):

- *Before buying the pesticide.*
Make sure the pesticide is registered for your intended use. Confirm that there are no restrictions or other conditions

that prohibit using this pesticide at the application site. Be certain its use is suitable under current weather conditions. Also, be sure it controls the life stage of your pest. Find out what protective equipment and special application equipment you need

- *Before mixing and applying the pesticide.* Learn how to mix and safely apply the material. Find out what precautions to take to prevent exposure to people and non-target organisms. Learn what first aid and medical treatments are necessary should an accident occur
- *When storing pesticides.* Find out how to properly store the pesticide. Understand the special precautions to prevent fire hazards, and
- *Before disposing of unused pesticide and empty containers.* Learn how to prevent environmental contamination and hazards to people. Before disposal, check with the County Agricultural Commissioner in your area for local restrictions and requirements.

The Information Provided in Pesticide Labeling

Refer to the corresponding numbers on the sample pesticide label (Figure 1-3) for examples of the following pesticide label sections:

Brand Name. A brand name is the **1** name the manufacturer gives to the product. This is the name found in the DPR database and used to advertise and promote the product.

Chemical Name. Chemical names **2** describe the chemical structure of a pesticide active ingredient. Chemists follow international rules for naming chemicals.

Common Name. Chemical names of **3** pesticide active ingredients are often complicated. Therefore, manufacturers give most pesticides common or generic names. For example, 0,0-diethyl 0(2-isopropyl-6methyl-4-pyrimidinyl) has the common name diazinon. Common names and brand names are not the same, and not all labels list common names for the active ingredient(s).

Formulation. Labels usually list **4** the formulation type, such as emulsifiable concentrate, wettable powder, or soluble powder. Manufacturers may include this information as a suffix in the brand name of the pesticide. For example, in the name Princep 80W, the "W" indicates a wettable powder formulation.

Ingredients. Pesticide labels list **5** the percentage of each active ingredient and total percentage of the inert ingredients by weight. Inert ingredients are all components of the formulation that do not have pesticidal action, therefore are not considered active ingredients but are intentionally included in the product. Examples include solvents, preservatives, stabilizers, etc. However, these may be toxic, flammable, or pose other safety or environmental problems. Some, however, may be harmless, such as clay. In the example given above, the name Princep 80W indicates that there is 80% by weight of the active ingredient 2-chloro-4,6-bis(ethylamino)-striaizine. If this were a liquid formulation, the label would also indicate how many pounds of active ingredient there are in 1 gallon.

Contents. Labels list the net **6** contents, by weight or liquid volume, contained in the package.

Manufacturer/Producer. Pesticide labels will contain the name and address of the manufacturer/producer of the product. Use the contact information if you need to contact the manufacturer for any reason. In some cases a company manufactures/produces a pesticide for another company or person who is the registrant, and whose name appears on the label. The label will then qualify that the manufacturer is not the registrant with wording such as, "Manufactured for..." or "Produced for..."

Registration and Establishment Numbers. U.S. EPA assigns registration numbers to each pesticide. You need this EPA number if you are reporting the use of the pesticide. In addition, an establishment number identifies the site of manufacture or repackaging.

Signal Word. An important part of every label is the signal word. The signal word indicates to the user the pesticide product's toxicity level. It is determined by the acute (short term) toxicity data conducted on the pesticide product. Part of the registration process assigns each pesticide to a toxicity category, based on acute toxicity to humans and noted by the signal word. The words "DANGER" and "DANGER/POISON" with a skull and crossbones indicate that the pesticide is highly toxic. The word "DANGER" used alone indicates that the pesticide poses a dangerous health hazard. "WARNING" indicates moderate toxicity, and "CAUTION" means low toxicity.

Precautionary Statements. The precautionary statements are designed to provide the pesticide user with information regarding the toxicity, irritation and sensitization hazards

associated with the use of a pesticide, as well as treatment instructions and information to reduce exposure potential. It includes information on potential hazards to people and domestic animals and the type of protective equipment to wear while handling packages, mixing and applying the product.

In addition, it includes information on environmental hazards, such as the product's toxicity to non-target organisms such as honeybees, fish, birds, and other wildlife.

The third part of the precautionary statement explains special physical and chemical hazards. These include risks of fire or explosion and hazards from fumes.

First Aid Statement. The first aid statements provide emergency first aid information. They describe the emergency first aid procedures for swallowing, skin and eye exposure, and inhalation of dust or vapors. This section tells you when to seek medical attention.

Statement of Use Classification. As described above, U.S. EPA classifies pesticides as either general use, unclassified or restricted use. U.S. EPA restricted use pesticides have a special statement printed on the front page of the label. Pesticides that do not contain this statement are either unclassified or general use pesticides, except where special state restrictions apply. Some labels have restrictive statements indicating that they are for agricultural or commercial use only. A restrictive statement is different from a statement of use classification.

Directions for Use. The directions for use are an important part of the pesticide label that must be followed to keep from violating the law. It is illegal to use a product

in a manner inconsistent with the directions for use except where federal or state laws specify acceptable deviations from the label (see the section titled, "Deviations from Label Directions"). The directions for use list all the target pests that manufacturers claim their pesticides control. They also include the crops, plant species, animals, or other sites where the pesticide can be used. Here is where you find special restrictions that you must observe. These include crops that you may or may not plant in the treated area (plant back restrictions). They also include restrictions on feeding crop residues to livestock or grazing livestock on treated plants.

These instructions tell you how to apply the pesticide. They specify how much to use, where to use the material, and when to apply it. The directions also include the pre-harvest intervals for all crops whenever appropriate. Some labels refer to a "harvest interval" or "interval before harvest." This interval is the time, in days, required after application before you may harvest an agricultural crop.

Agricultural Use Requirements. This **14** special statement appears in the Directions for Use section on labels of pesticides approved for use in production agriculture, commercial greenhouses and nurseries, and forests. It refers to the federal Worker Protection Standard (Code of Federal Regulations, Title 40, part 170), which has been incorporated into the 3 CCR. It provides information on the personal protective equipment required for early-entry workers. It also gives the restricted-entry interval for workers. The agricultural use requirement section may differ from other requirements on the label or those listed in 3 CCR. You must use the pesticide in accordance with the most restrictive requirements.

Restricted-Entry Statement.

15 A Restricted-Entry Interval (REI) is the time period immediately following a pesticide application during which entry into the treated area is restricted, REIs vary according to the toxicity and special hazards associated with the pesticide. The crop or site being treated and its geographic location also influence the length of the interval. Some pesticide uses in California require longer REIs than those listed on the pesticide label. Check with the local County Agricultural Commissioner for this information.

Misuse Statement. The misuse

16 statement reminds users to apply pesticides according to label directions.

Storage and Disposal.

17 Directions for properly storing and disposing of the pesticide and empty pesticide containers are another important part of the label. Proper disposal of unused pesticides and pesticide containers can reduce human and environmental hazards. Some pesticides have special storage requirements because improper storage causes them to lose their effectiveness. Improper storage can cause explosions or fires.

Warranty. Manufacturers usually

18 include a warranty and disclaimer on their pesticide labels. This information informs you of your rights as a purchaser and limits the liability of the manufacturer. Note: Companies are not required to include a warranty statement on their label. However, exclusion of a warranty statement is not common.

DEVIATIONS FROM LABEL DIRECTIONS

You can sometimes use pesticides in a manner that seems to conflict with or deviate from label directions. These deviations generally involve safer or less disruptive uses of the pesticide. For instance, University of California (UC) Pest Management Guidelines often recommend pesticide rates that are lower than label instructions. Researchers recommend these rates to protect beneficial organisms.

Federal law and California regulations allow eight deviations from label directions; each under limited circumstances. They include:

Decrease in rate per unit treated.

Some guidelines call for less pesticide than the amount listed on the label, although the volume of diluent or carrier, such as water or oil, must remain the same. This is usually because a lower rate is less disruptive to natural enemies. Consider, for example, the guidelines for controlling spider mites in almonds. If there are adequate levels of beneficials, the guidelines recommend as little as 1/10 of the label rate of specific acaricides. The lower rate reduces pest numbers to a level where predators can maintain control. However, be cautious about using lower rates. Sometimes using lower rates speeds up the development of pesticide resistance in the target organism. To avoid possible problems when using lower rates, check first with the local farm advisor. Under no circumstance can you legally increase the amount of pesticide you apply beyond the maximum label rates.

Decrease in the concentration of the mixture applied.

Label instructions usually state

the volume of water to use when preparing a spray mixture. It is always possible to use more water than this, however too much water may cause excessive dilution and runoff. This results in not enough of the pesticide getting to the target pest. In most cases, use only as much water as necessary to obtain thorough coverage. Be sure this is not less than what the label states.

Increase in concentration as long as it corresponds with published recommendations of the University of California.

There are times when it would be convenient to use a more concentrated mixture than the dilution rate specified on the label. Although you would apply no more than the labeled rate of pesticide, you would prefer using less diluent or carrier, such as water or oil. If there are current, published UC guidelines for doing this, you can increase the concentration. However, these guidelines are pesticide-specific. Comply with all other label instructions. Remember, verbal recommendations of any type are not acceptable.

Application at a frequency less than specified.

Label instructions often prescribe how often to apply a pesticide. Manufacturers recommend this frequency to maintain adequate control of the pest being treated. It is permissible under the law to make applications less frequently than the label recommends. If your monitoring confirms that less frequent applications adequately control pests, there is no need to make additional treatments. Additional applications sometimes increase other pest problems by disrupting natural enemies. Besides, it is expensive to use unneeded pesticides.

However, reducing the frequency of a pesticide application below label

recommendations may result in inadequate control. Before reducing application frequency, carefully monitor the pest population.

You may apply the pesticide repeatedly if the label does not limit the number of applications or it states "apply as needed." Monitor the pest to be sure that repeated applications are necessary. It is never permissible to apply a pesticide more frequently than the interval listed on the label.

Use to control a target pest not on the label when the commodity or site is on the label and use against an unnamed pest is not expressly prohibited. You may wish to use a pesticide on a commodity or site listed on the label, but the label does not list the target pest. As long as the label does not forbid use of this pesticide against the pest on the commodity or site, you may use it. Be certain the label lists the intended commodity or target site. Follow all other label instructions.

Use of any method of application not prohibited, provided other label directions are followed. Most label recommendations do not specify exactly how to apply the pesticide. Should this be the case, it is possible to use any practical method. However, be sure the method you choose allows you to follow all other label directions. Applying a pesticide by ground or by air is an example. If there is no prohibition against aerial application on the label, you may use either method. However, you must comply with all label directions. It may not be possible to apply a pesticide by air when the label prohibits the lower dilution rate required for aerial application.

Tank-mixing with another pesticide or fertilizer, unless prohibited. You may want to combine one pesticide

with one or several others or with fertilizers.

This type of application saves time and reduces application costs. Unless specifically prohibited by directions on any of the labels, it is permissible to apply pesticides in combination. Even though the label does not prohibit mixtures, you may experience incompatibility problems with certain combinations of pesticides or pesticides and fertilizers. Check for incompatibility before mixing large volumes. Never mix a pesticide with another pesticide or fertilizer if the label prohibits such a mixture. Label restrictions may specify general classes of chemicals such as sulfur-containing materials, alkaline chemicals, or oils.

Exceptions to or substitutions for personal protective equipment (PPE) requirements. State regulations provide for the following exceptions to some pesticide label PPE requirements:

- When using a closed system* that meets DPR closed system criteria to handle pesticide products with the signal word "DANGER", "DANGER/POISON" or "WARNING"
 - If it does not operate under positive pressure handlers may substitute coveralls, chemical resistant gloves, and a chemical resistant apron for the personal protective equipment required by the pesticide label, or
 - If it operates under positive pressure, handlers must wear eye protection but can still substitute coveralls, chemical resistant gloves, and a chemical resistant apron for the personal protective equipment required by the pesticide label. However, all personal protective equipment required by the

pesticide product label must be immediately available for use in an emergency

*Note: Properly mixing pesticides packaged in water-soluble packets is considered to be using a closed system.

- When using a closed system* that meets DPR closed system criteria to handle pesticide products with the signal word, "CAUTION"
 - If it does not operate under positive pressure handlers may substitute work clothing for the personal protective equipment required by the pesticide label, or
 - If it operates under positive pressure, handlers must wear eye protection but can still substitute work clothing for the personal protective equipment required by the pesticide label. However, all personal protective equipment required by the pesticide product label must be immediately available for use in an emergency

*Note: Properly mixing pesticides packaged in water-soluble packets is considered to be using a closed system.

- When applying pesticides from an enclosed cab, including the cockpit of an aircraft, handlers:
 - May substitute work clothing for personal protective equipment required by the pesticide product label, and
 - When applying pesticides from an enclosed cab, other than an aircraft, handlers must wear required respiratory protection while applying pesticides from ground application equipment unless the cab is approved for respiratory protection.
- Store in a chemical-resistant container and have immediately available all of the personal protective equipment required by the pesticide product label, and
- Wear the label-required personal protective equipment when contacting surfaces with pesticides when working outside the cab.

REVIEW QUESTIONS

- 1. Which of the following is considered to be pesticide labeling?**
 - A. Spray nozzle catalog
 - B. A printed pesticide advertisement
 - C. The federal Worker Protection Standard
 - D. A written recommendation
- 2. When a pesticide registrant allows a pesticide product registration to lapse, pest control dealers**
 - A. Must immediately return all unsold stock
 - B. Can sell and deliver the pesticide product for two years
 - C. Must retrieve all previously sold stock
 - D. Can indefinitely sell and deliver the pesticide product
- 3. When a pesticide product registration is cancelled, the sale and use of this product**
 - A. Is automatically prohibited under all circumstances
 - B. May continue under conditions imposed by the regulatory agency responsible for the cancellation
 - C. Will be allowed for two years from the cancellation date
 - D. Is not affected as long as detailed sales records are kept current
- 4. A Special Local Need Registration (SLN) allows**
 - A. Growers to apply the pesticide to any crop as long as the SLN is valid in the grower's state
 - B. Supplemental uses of the pesticide uniformly throughout the U.S.
 - C. Uses of pesticides for crops or sites not listed on the label
 - D. Any feasible use of the pesticide in the specified local area
- 5. Which of the following is considered a supplemental label?**
 - A. Sales literature distributed by the pesticide registrant
 - B. A sample of a pesticide label produced by the registrant
 - C. Literature containing use and maintenance directions for application equipment
 - D. A pamphlet containing use directions and restrictions that is attached to the container
- 6. On a pesticide label the signal word**
 - A. Signifies the relative acute toxicity of the pesticide product
 - B. Identifies the formulation of pesticide product
 - C. Warns of the potential crop damage level
 - D. Identifies relative effectiveness or control level
- 7. The precautionary statements section of the label contains information about the**
 - A. Application rate
 - B. Crops on which the product can be applied
 - C. Relative toxicity of the product
 - D. Hazards to people and domestic animals
- 8. Plant-back restrictions are found in the _____ section of the pesticide label**
 - A. Precautionary statements
 - B. Statement of practical treatment
 - C. Contents
 - D. Directions for use
- 9. Making an application of a pesticide product at a rate less than specified in its label directions is**
 - A. Always allowed.
 - B. Illegal.
 - C. Allowed only if you obtain written authorization from the County Agricultural Commissioner.
 - D. Allowed only if the product is tank mixed.
- 10. Exceeding the maximum application rate of a pesticide product as per its label is**
 - A. Always allowed.
 - B. Illegal.
 - C. Allowed only if you obtain written authorization from the County Agricultural Commissioner.
 - D. Allowed only if the product is tank mixed with another similar product.

2

Restricted Materials



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PESTICIDES WITH CERTAIN active ingredients are potentially more hazardous than others even when they are used according to the registered label. U.S. EPA has designated these as restricted use pesticides. DPR has designated additional pesticides with certain active ingredients as California restricted materials. The California restricted materials list includes U.S. EPA restricted use pesticides and those pesticides DPR has designated as California restricted materials. The possession or use of restricted materials is regulated more closely and permitted only under a restricted materials permit issued by the County Agricultural Commissioner. After evaluating an applicant's qualifications, the County Agricultural Commissioner may issue a permit to possess and use restricted materials to certified commercial or private applicators.

FEDERAL RESTRICTED USE PESTICIDES

Federal restricted use pesticides, which bear the statement "Restricted Use Pesticide" on the label, are restricted because U.S. EPA has determined that their:

- Acute dermal (skin) or inhalation (lung) toxicity presents hazards to applicators or others, and

- Use by people who have not demonstrated a level of competence in the safe handling of pesticides could lead to unreasonable harm to people and the environment.

CALIFORNIA RESTRICTED MATERIALS

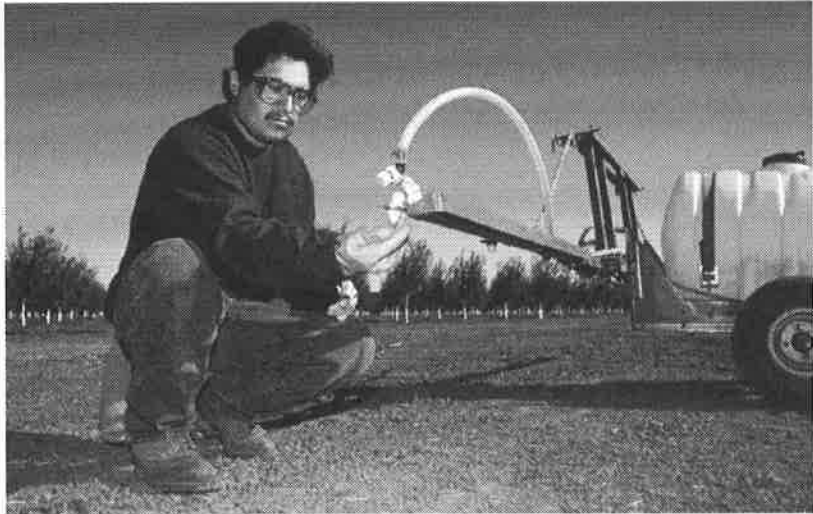
California classifies pesticides with certain active ingredients, including federal restricted use pesticides, as California restricted materials. It is determined that these pesticides, even when used according to labeling requirements and restrictions, may still pose dangers and hazards to:

- Public health
- Pesticide handlers and field workers
- Domestic animals, including honey bees, or to crops from direct application or drift
- Streams, lakes, or wildlife sanctuaries from direct application or drift
- Fish, wild birds, or other wildlife resulting from persistent residues in the soil that could result in contamination of the air, waterways, estuaries, or lakes, and
- Subsequent crops through persistent soil residues.

DPR enforces regulations about the possession and use of any restricted material. These regulations prescribe the time when, and the conditions under which, a restricted material

FIGURE 2-1.

The labels of some federal restricted use pesticides require the certified applicator to provide direct supervision and to be physically present when non-certified handlers apply, mix, or load these pesticides or repair or clean application equipment.



may be possessed or used in California. Use is limited to situations in which:

- It is reasonably certain that no injury will result, and
- There is no non-restricted material or procedure that is equally effective and practical.

Supervision Standards for Certified Applicators. California restricted materials which include federal restricted use pesticides shall be used only by, or under the supervision of, a certified commercial or private applicator, unless the label specifies otherwise. The certified applicator responsible for this supervision must be aware of the conditions at the site of application and be available to direct or control the manner in which applications are made by non-certified applicators. The availability of the certified applicator must be directly related to the actual or potential hazard of the situation.

The labels of some federal restricted use pesticides require the certified applicator to provide direct supervision and to be physically present when non-certified handlers are involved in mixing, loading, or applying these pesticides and when they repair or clean the application equipment.

(Figure 2-1). "Physically present" means the certified applicator must remain in the line of sight to:

- Observe that non-certified handlers follow the label directions,
- Provide guidance if the label is unclear,
- Intervene if the non-certified handler fails to follow safe and effective handling procedures or fails to adhere to label directions, and
- Respond if an emergency or unusual situation occurs.

Restricted Material Use Permit.

Users must possess a valid restricted material use permit before they can purchase, possess or use any restricted material for agricultural and non-agricultural use. The restricted material use permit will impose additional specific limitations:

- In certain areas
- Under certain conditions relating to safety
- Regarding certain specified quantities or concentrations
- Regarding certain mixtures
- In compliance with industrial safety orders of the Department of Industrial Relations and any order of DPR or County Agricultural Commissioner, and

- Agreed upon by the property operator to comply with conditions in the restricted material use permit.

A restricted material permit is not required for using or possessing a federal restricted use pesticide that is not listed as a California restricted material. However, you must be certified applicator to use or supervise a federal restricted use pesticide even if a restricted material permit is not required.

Before a restricted materials permit is issued, the County Agricultural Commissioner or DPR must consider local conditions, including the following:

- Location of schools, homes, hospitals, recreational areas, or livestock enclosures
- Problems related to the proximity of dissimilar crops
- The possibility of resurgence of primary or secondary pests that may result from improper pesticide choice. The application might kill parasites or predators, subsequently promoting a new or more severe pest problem.
- Weather conditions
- Timing of applications in relation to bee activity (Figure 2-2). Proper timing can greatly reduce hazards to bees. Some pesticides, when applied at night or early in the morning do not present a severe hazard to bees, while the same pesticide applied during the day may have a devastating effect on bees, and
- Pesticide storage facilities and disposal of used containers. All pesticides must be stored in a locked enclosure except when someone is physically in control of them. The storage and con-

tainer disposal requirements are addressed in Chapter 4.

Pest control operations must always be carried out in accordance with all permit conditions. The specific conditions of use will be spelled out in each restricted materials permit, but every permit issued is conditioned on compliance with the registered label(s) and applicable laws and regulations.

Pest control businesses engaged in pest control for hire and individuals engaged in pest control must have available a copy of the:

- Use permit covering each agricultural use application of a pesticide that requires a permit, and
- Written pest control recommendation from a licensed pest control adviser OR grower's work order covering each agricultural use application of a general use pesticide or a pesticide that requires a permit.

Alternatives and Mitigation

Measures. Agricultural pest control advisers and growers must make pest control decisions with the aim of causing the least adverse impact on the environment. When determining when to use a pesticide that requires a permit, they must consider and adopt if feasible, any reasonable, effective, and practical mitigation measures or use any feasible alternative that would substantially lessen any significant harmful effects on the environment.

Non-Agricultural Restricted Material Use Permit. Restricted materials permits for non-agricultural use may be issued to the operator of the property to be treated or to the designated licensed pest control business. A permit is valid for possession or use only by the person named in the permit. A



FIGURE 2-2.

Before a restricted materials permit is issued, the county agricultural commissioner must consider local conditions, including the timing of applications in relation to bee activity.

restricted materials use permit application for non-agricultural use must include the following information:

- Name and address of the applicant (property operator or pest control business)
- Restricted materials to be possessed or used
- Pest or pests to be controlled
- Method of application, and
- Criteria for determining the need for the pesticide application.

Agricultural Restricted Material Use Permit. An agricultural restricted material use permit must be site and time specific. A permit is valid for possession or use only by the person named in the permit. They are issued to the property operator named in the permit, but may be signed by the:

- Operator of the property to be treated
- Property operator's authorized representative, or
- Licensed Agricultural Pest Control Adviser authorized by the property operator.

The operator of the property is responsible for compliance with all permit conditions regardless of who signs the permit. An agricultural restricted material use permit application must include the following information:

- Name and address of the applicant
- Location of each property to be treated
- Identification and location of all known areas that could be adversely impacted by the use of the pesticide or pesticides. These areas include, but are not limited to, hospitals, schools, playgrounds, residential areas, labor camps and other housing for workers, parks, lakes, waterways, wildlife management areas, or nearby livestock or crops. A

map or aerial photograph may be used for designating such areas.

- Identification of each commodity, crop, or site to be treated
- Anticipated pest problems for each crop pest or pests to be controlled
- Proposed list of the restricted materials necessary to control each pest on each commodity, crop, or site
- Approximate dates or crop stages of the intended pesticide application or applications
- Expected method of application including the dilution, the volume per acre or other unit, and the dosage, and,
- Name of the pest control business, if any, that will be responsible for using or possessing the restricted material; including the name, the business address, and the certificate or license number and expiration date of the certified commercial applicator responsible for the pest control business.

The submitted restricted materials permit application and the Notice of Intent process authorizes the County Agricultural Commissioner to determine whether a substantial environmental impact will result from the proposed application and to condition or deny the permit to prevent such impact.

Restricted Materials Permit

Evaluation. Before issuing a restricted material use permit and when evaluating a Notice of Intent, the County Agricultural Commissioner must consider the environmental impact of the proposed pesticide use. If they determine that a substantial adverse effect on the environment is likely, they must decide whether there is a feasible alternative, including the alternative of no pesticide application,

or feasible mitigation measures that could substantially reduce the adverse impact. If they identify feasible alternatives or mitigation measures, they must deny the permit or intended pesticide application, or approve it on the condition that mitigation measures are used.

When they make these determinations, the County Agricultural Commissioner must consider and make use of their knowledge of local conditions, applicable sections of the California Food and Agricultural Code and the California Code of Regulations, pest management guidelines, DPR's Pesticide Safety Information Series (PSIS) leaflets, information obtained from monitoring other pest control operations, and any other information provided by DPR.

In addition to the required information, each non-agricultural or agricultural permit must contain the following information:

- Any appropriate conditions or limitations on the use of the pesticide or pesticides, including available PSIS leaflets for each pesticide included on the permit
- The requirements, if any, for a Notice of Intent prior to the pesticide application, and
- Any other appropriate conditions or limitations such as those described in pest management guidelines. The County Agricultural Commissioner will inform the permit holder of the pest management guidelines that are applicable to the pest control authorized in the permit, and where to obtain them.

Notice of Intent. If the approved and issued restricted material use permit does not specify the date and time of the application or applications, the property operator must assure that a

Notice of Intent to the County Agricultural Commissioner is provided at least 24 hours before beginning the application. The application cannot take place until after 24 hours have passed, unless the County Agricultural Commissioner determines that:

- Because of the nature of the commodity or pest problem, you are allowed to start your application sooner to attain effective pest control, or
- Evaluation of the intended application does not require 24 hours.

The Notice of Intent may be submitted by the property operator, the operator's authorized representative, or the licensed pest control business making the pesticide application, and must provide information about the proposed application. If this information has already been provided on the restricted materials permit, you can refer to the permit, otherwise the Notice of Intent must include the:

- Restricted materials permit number
- Name and address of the permittee and the applicator
- Location of areas to be treated and the name of the farm operator
- Crop or commodity, or if there is no crop or commodity, the site to be treated
- Approximate acres or other units to be treated
- Method of application and the restricted material or restricted materials to be used
- Dilution, the volume per acre or other units, and the dosage
- Pest or pests to be controlled
- Date the intended application is to commence, and
- Locations and identity of areas that have changed since the permit was issued and that may be adversely impacted.

Restricted Material Use Permit

Duration. A permit to use a restricted material is usually valid for one year or for a single growing season, unless it is revoked or suspended. However, the County Agricultural Commissioner or DPR may issue permits for perennial agricultural plantings, non-production agricultural sites, or non-agricultural sites that are valid for up to three years. After the permit expires, the permittee may retain possession of the restricted material for which the permit was valid, provided the pesticide is not held for sale, and is stored properly. Storage requirements are addressed in Chapter 4 of this Study Guide.

Pesticide Safety Information Series (PSIS) Leaflets. DPR has developed PSIS leaflets to provide additional information about pesticides, groups of pesticides, or general information about pesticide use, for example first aid, respiratory protection, storage, and disposal. The County Agricultural Commissioner will provide all applicable PSIS leaflets to restricted materials permittees when a permit is issued. PSIS "Series A" has been written for use in agricultural settings, and PSIS "Series N" is for use in non-agricultural settings.

Generalized Effects. If at any time pesticide residues, symptoms, or health hazards appear generally throughout any area, DPR or the County Agricultural Commissioner may make a field inspection. If they determine that substantial loss, damage, or injury is likely to result from continued application of a specific pesticide within such an area, they may cancel all permits for applications of that pesticide within that area and specify that no additional permits may be issued until further notice.

Use Requirements. California restricted material use regulations apply to everyone who receives a restricted materials permit and may include, for example, restrictions regarding:

- The amount of pesticide that can be applied
- The methods of application
- Where the restricted material can be applied, and
- Additional protective clothing and safety equipment that must be worn or used.

Employers are required to supply their employees with all specified protective clothing and safety equipment and to ensure that the employees wear and use the required equipment. This employer requirement applies under all circumstances when employees handle pesticides.

Pest Control Dealer Responsibility. Licensed pest control dealers must have a copy of the valid restricted material use permit before they can sell or deliver a restricted material. The permit shows that the buyer is authorized to buy, possess or use the restricted material during the valid period. Other pest control dealer requirements are addressed in Chapter 3.

Exempt Materials. DPR exempts some pesticides from permit requirements. These are pesticides that have been determined to require no further restrictions beyond those imposed by federal regulations and the label. DPR maintains a list of exempt materials.

Refusal, Suspension, or Revocation of a Restricted Materials Permit.

The County Agricultural Commissioner can refuse, revoke, or suspend a restricted material use permit if the permit holder violates any condition

of the permit, or any provision of the laws or regulations. Violations include:

- Failure to prepare pesticide use records and keep these on file for two years, or failure to report pesticide use
- Preparing false or fraudulent records or reports, and
- Refusing to allow the County Agricultural Commissioner or DPR to enter and inspect a treatment site or storage facility, inspect application equipment, or the pesticide product or products being used.

REVIEW QUESTIONS*(answers on page 115)*

- 1. U.S. EPA may classify a pesticide as a restricted use pesticide if it**
 - A. Is ineffective unless used at twice the label-recommended rate.
 - B. Presents a significant dermal hazard to applicators.
 - C. Leaves visible residues on treated surfaces.
 - D. Does not break down within 7 days.

- 2. Any person in California who applies or supervises the application of a restricted material must**
 - A. Attend 20 hours of special training.
 - B. Notify the local UC Cooperative Extension advisor before making or supervising an application.
 - C. Obtain a medical release from a physician.
 - D. Be a DPR-certified commercial or private applicator.

- 3. Which two documents must individuals who are engaged in pest control for hire have available when making an agricultural use application of a pesticide that requires a permit?**
 - A. Copies of their pest control business license and the applicable UC Pest Management Guideline.
 - B. Copies of the applicable UC Pest Management Guideline and copy of the current restricted materials permit.
 - C. The grower's work order and pest control business license.
 - D. Copies of the written pest control recommendation or grower's work order and the current restricted materials permit.

- 4. An application for a restricted materials permit for non-agricultural use must include the**
 - A. Name and address of the nearest County Agricultural Commissioner.
 - B. Name and address of the individual who will be making the application.
 - C. Criteria for determining the need for the pesticide application.
 - D. Known health effects of the pesticide to be applied.

- 5. Restricted material use permits for the agricultural use must be**
 - A. Site and time specific.
 - B. Mailed or personally delivered to anyone living within 1/4 mile of the application.
 - C. Approved by the California Department of Pesticide Regulation.
 - D. Posted in a central location for 30 day after the application.

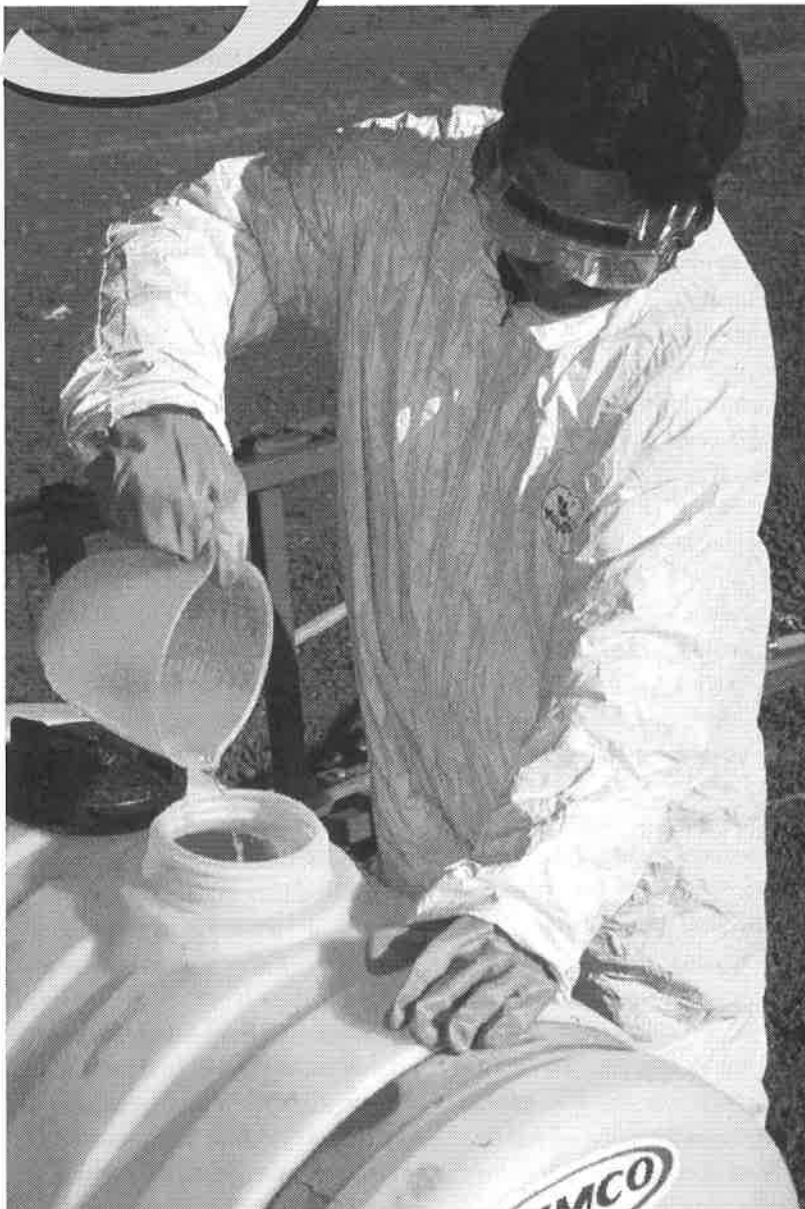
- 6. Which of the following is not required information on a Notice of Intent?**
 - A. The date the intended application will begin.
 - B. An indication of the approximate acres or units to be treated.
 - C. The pest or pests to be controlled.
 - D. A signed statement releasing the property owner or operator from liability.

- 7. The Pesticide Safety Information Series leaflets with the "N" designation are written for**
 - A. Non-certified pesticide handlers.
 - B. Non-agricultural settings.
 - C. Non-traditional methods of pesticide application.
 - D. Non-English speaking pesticide handlers.

- 8. Certain pesticides may be exempt from permit requirements in California if DPR Director determines that the pesticide**
 - A. Application may be supervised by a non-certified handler.
 - B. Will cause no hazards in California.
 - C. Is too hazardous to use in California.
 - D. Requires no further restrictions beyond those imposed by federal regulations and the label.

3

Certification & Licensing



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GENERAL CERTIFICATION AND LICENSING REQUIREMENTS

Following are the general requirements for submitting initial and renewal applications for DPR certification or licensing. Later in the chapter you will find specific information for each certificate and license type.

Initial Application. You must submit the required:

- Application form
- Application fee
- Examination fee, and
- Information and documentation, such as proof of having
 - Valid liability and workers compensation insurance
 - A valid Federal Aviation Administration (FAA) pilot certificate and medical certificate, and
 - Minimum work and educational experience.

Renewal Application. You must meet all renewal requirements before your certificate or license expires. Individuals must earn all of the required continuing education hours before December 31, of the year your certificate or license expires. Otherwise, you cannot renew and will have to submit an application for a new certificate or license. You must submit:

- The renewal application and fee
- Proof of completing continuing education hours, and

- Any other required information and documentation before December 31, of the year that your certificate or license expires.

Late Renewal Submission Penalty Fee. You will have to pay a late submission penalty fee if you submit your renewal application, renewal application, renewal fee, or any other required information and documentation after December 31, of the year that your certification or license expires. Also, if your certificate or license expires before it is renewed you cannot work under it and will have to wait until it is renewed or you obtain another one through examination.

Expired Certificate and License. You cannot work under an expired certificate or license.

Failure to Meet the Renewal Requirements. Individuals are not allowed to renew if they fail to meet the continuing education requirements before their license or certificate expires. In these circumstances, they must submit an initial application and fee, as well as any required examination fees if they wish to be licensed or certified.

Businesses are not allowed to renew if they fail to possess valid liability insurance or worker compensation insurance or do not have a valid qualified person when they submit a renewal application. If you meet the

insurance requirement and qualified person requirement but you submit the renewal application and proof of insurance after the December 31, expiration date, you will have to pay a late submission penalty fee, in addition to the renewal fee.

Registration with the County Agricultural Commissioner. With some of the certificates and licenses you must register annually with the County Agricultural Commissioner before performing any pesticide use or pest control work in that county. Some counties will charge a fee for certain certificates or licenses. In some cases registration must be done in person or it can be done via mail. For more details, check with the commissioner of each county where you must register.

Grounds for Denying, Revoking, or Suspending any DPR Certificate or License. DPR can deny an application, and revoke or suspend any of the individual and business certificates or licenses it issues for a variety of reasons, and usually after a hearing. DPR is authorized to take action when it is found that an individual or business:

- Makes any false or fraudulent record or report
- Fails to adequately supervise the use of a restricted material
- Fails to comply with the laws and regulations governing pesticides and pesticide use
- Is not qualified to conduct the pest control operations in accordance with their certificate or license
- Does not hold an appropriate and valid commercial pilot's certificate and a current appropriate medical certificate issued by the FAA
- Has violated any provisions of the laws and regulations pertaining to pesticides, any

industrial safety order of the Department of Industrial Relations, or has not complied with any order of the County Agricultural Commissioner or DPR

- Fails to notify DPR, in writing, of any change of address
- Fails to comply with the laws and regulations relating to pesticides
- Makes false or misleading statements in written records or reports
- Makes false or misleading statements regarding the pest control work
- Makes false or fraudulent statements, or misrepresenting or failing to disclose important facts when you apply for a license or renewal of a license
- Fails to put recommendations in writing or makes false or fraudulent statements in written recommendations
- Violates applicable state or federal laws or regulations, or violates regulations adopted by the local County Agricultural Commissioner
- Fails to pass the examination on laws and regulations, or fails to pass at least one pest control category examination, or
- Makes a recommendation in a category in which he or she is not licensed.

SPECIFIC REQUIREMENTS FOR INDIVIDUAL CERTIFICATES AND LICENSES

Applicator Certificates and Licenses.

Following are the specific requirements for the:

- Qualified Applicator Certificate
- Qualified Applicator License
- Pest Control Aircraft Pilot Certificate—Apprentice, and
- Pest Control Aircraft Pilot Certificate – Journeyman.

Qualified Applicator Certificate.

You must possess a Qualified Applicator Certificate (QAC) before you can use or supervise the use of restricted use pesticides/restricted materials. However, individuals that hold only a Maintenance Gardener QAC – Q is not authorized to purchase, apply, or supervise the application of restricted materials. In order to purchase, apply, or supervise the use of restricted materials in a maintenance gardening setting, the individual shall possess a valid QAC in the Landscape Maintenance Pest Control Category B.

You can be the qualified responsible person for a maintenance gardening pest control business, when

- You have the QAC Landscape Maintenance Pest Control Category B, or
- You have the QAC Maintenance Gardener Pest Control Category Q.

However, this certificate does not authorize you to act as the responsible person for a licensed pest control business.

Minimum Requirements—QAC. You must pass the core examination on Laws, Regulations and Basic Principles and at least one pest control category examination before being issued an initial QAC. The type of pest control that will be conducted must fall under the scope of the pest control category.

Continuing Education Requirements—QAC. For most pest control categories, you must complete a minimum of 20 hours of DPR-approved pest management and pesticide instruction during the two-year valid period if you wish to renew your QAC. At least four hours of this continuing education must pertain to pesticide laws and regulations. There is no grace period after the December 31, expiration date if you fail to earn the required number

of continuing education hours. If you fail to meet the minimum continuing education requirements you cannot renew. The continuing education record-keeping requirements for all license and certificate holders are addressed later in this chapter. To again possess the QAC you must again apply to take the required examinations. The following exceptions to the CE requirements apply to a QAC holder who has only the:

- Maintenance Gardener Pest Control Category Q must have a minimum of eight hours of DPR-approved pest management and pesticide instruction for each two-year valid period. Included in the eight hours of instruction must be at least two hours pertaining to pesticide laws and regulations; or
- Antifouling-tributyltin Pest Control Category M; Sewer Line Root Control Pest Control Category N; and/or Microbial Pest Control Pest Control Category P shall complete a minimum of eight hours of approved continuing education relating to pest management and pesticides, including not less than two hours pertaining to pesticide laws and regulations; or
- A QAC holder who has only the Seed Treatment Pest Control Category H must have a minimum of four hours of DPR-approved pest management and pesticide instruction for each two-year certificate period. Included in the four hours of instruction must be at least two hours pertaining to pesticide laws and regulations.

Qualified Applicator License. The Qualified Applicator License (QAL) is required for the person who is responsible for supervising the pest

control operations of a licensed Pest Control Business, whether restricted use pesticides, restricted materials or general use pesticides are being used. A person with this license may also use or supervise the use of pesticides under a licensed Maintenance Gardener Pest Control Business, if they are qualified in the Landscape Maintenance Pest Control Category B.

Minimum Requirements—QAL. Before an initial QAL is issued, or before a license is issued to a person who has not possessed a valid Qualified Applicator License within the last 12 months, applicants must pass the “Laws, Regulations, and Basic Principles” examination. In addition, they must pass one or more of the category examinations, depending on what type of pest control will be conducted by the business. A QAL holder may use or supervise the use of any pesticide, restricted use, restricted material or general use, only in the categories in which they have been found to be qualified through the examination process.

Continuing Education Requirements— QAL. For most pest control categories, to renew your QAL you must complete a minimum of 20 hours of DPR-approved pest management and pesticide instruction within each two-year license period. At least four hours of this continuing education must pertain to pesticide laws and regulations. There is no grace period. If you fail to earn the required number of continuing education hours before the license expiration date, you cannot renew. To again possess the license you must again pass the examinations. The following exceptions to the CE requirements apply to a QAL holder who has only the:

- Seed Treatment Pest Control

Category H must have a minimum of four hours of DPR-approved pest management and pesticide instruction for each two-year license period. Included in the 4 hours of instruction must be at least two hours pertaining to pesticide laws and regulations; or

- Antifouling-tributyltin Pest Control Category M; Sewer Line Root Control Pest Control Category N; and/or Microbial Pest Control Pest Control Category P shall complete a minimum of eight hours of approved continuing education relating to pest management and pesticides, including not less than two hours pertaining to pesticide laws and regulations.

The continuing education record-keeping requirements for all licensees and certificate holders are addressed later in this chapter.

County Registration. County registration is not required for a QAL. However, if you are the responsible person for a pest control business and the business plans to work in a single or various counties, the pest control business must register with each County Agricultural Commissioner where they plan to work. Your QAL card will be imprinted on the County Registration form, since you are the business’s responsible person.

Most counties require a fee for pest control business license registration. The fee applies to the registration of the principal office location and each branch office location. Registration is required annually and covers one calendar year. For information on the county registration fees, contact the County Agricultural Commissioner where your business intends to operate.

Pest Control Aircraft Pilot Certificate—(PCAPC). If you perform pest control while operating an aircraft you must hold a valid:

- DPR Pest Control Aircraft Pilot Certificate
- Commercial FAA pilot's certificate
- Medical certificate issued by the FAA, and
- Meet all other FAA requirements.

You must possess a valid PCAPC to conduct pest control as a private applicator or commercial applicator.

There are two types of pilot certificates: Apprentice and Journeyman. To earn the certificates, you must pass examination to demonstrate your:

- Ability to legally and safely conduct aerial pest control operations, and
- Knowledge of the nature and effect of aerial pest control.

Before an initial apprentice certificate is issued you must pass a core examination on Laws, Regulations and Basic Principles and the Apprentice Pilot examinations. You must pass the Journeyman Pilot examination to get the Journeyman Pilot Certificate.

Minimum Requirements for the Apprentice Pilot. Before you start to make aerial pest control applications in California you must obtain an apprentice certificate by passing the examinations. As a certified apprentice pilot you may conduct pest control activities only under the direct and personal supervision of someone who holds a valid journeyman's certificate from DPR. The journeyman pilot responsible for supervising you must be aware of the conditions at the application site and be available to direct and control the manner in which you make applications. The availability of

the journeyman must be directly related to the actual or potential hazard of the situation.

Minimum Requirements for the Journeyman Pilot. Once you are an apprentice pilot for at least one year you may take the journeyman pilot examination after you have completed a minimum of 150 hours of pest control in a fixed-wing aircraft or 50 hours of pest control in a non-fixed wing aircraft within the past two calendar years. You must have the journeyman pilot who supervised you complete and sign a "Statement of Supervision," and you must return the statement, with the application, when you apply to take the Journeyman Pilot Examination.

Pesticide Handling by Pilots. Pilots operating a pest control aircraft must not transfer, mix, or load liquid pesticides that are labeled with the signal word "DANGER/POISON," "DANGER" or "WARNING" and that contain organophosphates or carbamates unless a closed system is used.

County Registration. Before you can operate as an apprentice or journeyman pest control pilot in any county, you must register with the County Agricultural Commissioner of each county where you intend to perform work. In each county apprentice pilots must include the name of the journeyman pilot responsible for providing supervision of the pest control activities. The journeyman pilot named on the apprentice pilot's county registration must also be currently registered with that county. If the journeyman pilot named on the apprentice's registration can no longer provide the supervision, the apprentice pilot must immediately notify the County Agricultural Commissioner

and amend the registration. You must register in person in one county, but then registration with any other county may be done by mail. Check with each county for the registration fee for a pilot registering in the first county and each additional county. You are required to register annually, and registration covers one calendar year. You can request the appropriate forms for registration from the County Agricultural Commissioner where you register in person.

Continuing Education Requirements

—Pilots. Your PCAPC cannot be renewed unless you have completed a minimum of 20 hours of DPR-approved pest management and pesticide instruction within each two-year certificate period. Included in the 20 hours of instruction must be at least four hours pertaining to pesticide laws and regulation, and four hours pertaining to aerial application equipment and techniques. The continuing education record-keeping requirements for all licenses and certificate holders are addressed later in this chapter. There is no grace period. If you fail to earn the required number of continuing education hours before the certificate expiration date, you cannot renew. To again possess the certificate you must again pass the examinations.

Denial, Revocation, and Suspension of a PCAPC.

DPR can deny your application for a certificate and revoke or suspend a certificate of any pilot, after a hearing, for any of the following reasons. The pilot:

- Is not qualified to conduct the pest control operations in accordance with the Certificate
- Does not hold an appropriate and valid commercial pilot's certificate and a current appropriate medical certificate

issued by the FAA

- Has violated any provisions of the laws and regulations pertaining to pesticides, any industrial safety order of the Department of Industrial Relations, and
- Has not complied with any order of the County Agricultural Commissioner or DPR.

DPR may also place conditions on the authorities of any pest control aircraft pilot's certificate if it is determined that continuance of the certificate endangers public welfare or safety.

Non-Applicator Licenses. The following requirements apply to the listed non-applicator licenses.

Agricultural Pest Control Adviser License.

You must possess a valid Agricultural Pest Control Adviser (PCA) License before you can do any of the following:

- Provide pest control recommendations concerning any agricultural use
- Offer yourself as an authority on any agricultural use, or
- Solicit services or sales for agricultural use.

Exemptions. The following people are exempt from the pest control adviser licensing requirements:

- Officials of federal, state, and county departments of agriculture, and
- University of California personnel, provided their recommendations are for specific applications on specific parcels and in writing.

Minimum Qualifications—PCA

If you have never possessed a valid California Pest Control Adviser License you must meet the minimum education and work qualifications

listed in regulation before you can apply to take the required examinations. You must pass a core examination on Laws, Regulations, and Basic Principles and at least one pest examination to earn a control category.

Adviser Pest Control Categories and Recommendations. Agricultural Pest Control Advisers are authorized to make only written recommendations in categories in which they have been found to be qualified through the examination process.

County Registration. Before you can work as a licensed Agricultural Pest Control Adviser in any county, you must register with the County Agricultural Commissioner. You will first register in person with the County Agricultural Commissioner in your home county as indicated by the address on your Pest Control Adviser license. If your address is not in California, register in person in your county of occupational choice. You can register in additional counties by mail when the additional County Agricultural Commissioner allows it.

You must indicate on the registration form the location where your written recommendations will be available for review. You can obtain these forms from the County Agricultural Commissioner in your home county or county of occupational choice, and find out the registration fee from each county where you wish to register.

Counties may charge a registration fee for pest control advisers to register in their home county or county of occupational choice and an additional fee for each additional county registration. Registration is required annually and covers one calendar year. For further

information on county registration fees, contact the County Agricultural Commissioner where you intend to operate.

Written Recommendations. You must make all agricultural use recommendations in writing. You must sign and date one copy of each written recommendation and furnish it to the operator of the property prior to the application. When a pesticide use is recommended, you must also furnish a copy of the recommendation to the dealer and the applicator prior to the application. Each recommendation must include information applicable to the pest control situation, such as the:

- Name and dosage of each pesticide to be used or a description of the pest control method recommended. Recommendations are not always for the use of a pesticide.
- Accepted common name of the pest to be controlled
- Owner or operator of the property
- Acreage or other unit to be treated and its location
- Commodity, crop, or site to be treated
- Suggested schedule, time, or conditions for the pesticide application or other control method
- Warning of the possibility of damages by the pesticide application that reasonably should have been known by the Agricultural Pest Control Adviser to exist
- Total acres or units to be treated
- Concentration and volume per acre or other units
- Worker restricted-entry interval, if one has been established; the pre-harvest or pre-slaughter interval; and the label restrictions on use or disposition of the treated commodity,

- by-products, or treated area
- Criteria used for determining the need for the recommended treatment
- Certification that alternatives and mitigation measures that would substantially lessen any significant adverse impact on the environment have been considered including and, if feasible, adopted, and
- Signature and address of the adviser, the date, and the name and address of the business the adviser represents.

Advisers must retain a copy of each written recommendation for one year following the date of the recommendation.

Continuing Education Requirements.

To renew your Agricultural Pest Control Adviser License you must complete a minimum of 40 hours of DPR-approved pesticide or pest management instruction within each two-year license period. The 40 hours of instruction must include at least four hours pertaining to pesticide laws and regulations. There is no grace period. If you fail to earn the required number of continuing education hours before the license expiration date, you cannot renew. To again possess the license you must again pass the examinations.

Denial, Revocation, and Suspension of the Agricultural Pest Control Adviser License and County Registration. DPR can refuse your application, or revoke or suspend your Agricultural Pest Control Adviser License, after a hearing, for the following reasons:

- Failure to put recommendations in writing
- Making false or fraudulent statements in written recommendations

- Violating any applicable state or federal law or regulation, or violating any regulation adopted by the local County Agricultural Commissioner
- Failure to pass the examination on laws and regulations, or failing to pass at least one category examination, or
- Making a recommendation in a category in which you are not licensed.

The County Agricultural Commissioner may refuse, revoke, or suspend an adviser's county registration for the same reasons. If the County Agricultural Commissioner takes any disciplinary action against the registration of an adviser, the adviser may submit a written appeal to DPR within ten days of the commissioner's decision.

Pest Control Dealer Designated Agent License. Licensed pest control dealers must have a designated agent at the principal office and at each branch location. A person may qualify as a designated agent by possessing a valid Pest Control Dealer Designated Agent License. A designated agent is required to actively supervise all operations conducted at that location.

Minimum Qualifications. Before an initial license is issued, or before a license is issued to a person who has not possessed a valid Pest Control Dealer Designated Agent License within the last 12 months, applicants must pass an examination to demonstrate their knowledge of the laws and regulations governing the use and sale of pesticides and the responsibilities involved in carrying on the business of a pest control dealer.

Continuing Education Requirement.

No continuing education is required at this time for the renewal of this license.

Pesticide Broker License. Whether you reside out-of-state or within the state, you must have a valid pesticide broker license before you can

- Engage in the sale of or distribution to sell DPR-registered pesticides within California, and
- Sell or distribute to sell these pesticides to another licensed pesticide broker or licensed pest control dealer. This license does not authorize the sale of any pesticide to end users.

The following are not required to obtain a broker license:

- Registrants selling their own DPR-registered pesticide products, and
- Licensed pest control dealers.

Licensed pesticide brokers are not authorized to solicit pesticide sales by making agricultural use recommendations, personally or through others. In addition, brokers cannot legally sell or distribute to sell to users for any of the following:

- Pesticides for an agricultural use
- Any method or device for the control of agricultural pests, such as biological agents, lures, or insect trapping devices, and
- A restricted material that requires a restricted material permit or applicator certification for use or possession.

As a broker, for four years you must maintain records of purchases, sales, and distributions of pesticides into or within California. You must make these records available to the County Agricultural Commissioner or DPR upon request. These records apply to the principal and any branch locations. Also, brokers must on

a quarterly basis report the:

- Total dollars of sales and total pounds or gallons of pesticides sold into, or within California, and
- First sale of any pesticide product into or within California with a mill assessment report plus pay all mill assessments.

Continuing Education Requirement.

Continuing education is not required at this time for the renewal of the Pesticide Broker License.

County Registration. County Registration is not required at this time.

Denial, Revocation, or Suspension of

a Pesticide Broker License. DPR can deny your application, and revoke or suspend a pesticide broker license, after a hearing, for:

- Failing to notify DPR, in writing, of any change of address
- Failing to comply with the laws and regulations relating to pesticides
- Making false or fraudulent statements, or misrepresenting or failing to disclose important facts when you apply for a license or renewal of a license, or
- Making false or misleading statements in written records or reports relating to pesticides.

SPECIFIC REQUIREMENTS FOR BUSINESS LICENSES

Pest Control Business License. The Department of Pesticide Regulation is required to license anyone who advertises or solicits to, or operates a business to conduct pest control for hire in California. The following pest control activities are exempted:

- Preservative treatment of fabrics or structural materials

- Seed treatment that is incidental to (occurs while performing) the individual's regular business
- Structural pest control
- Household or industrial sanitation services
- Live capture and release of vertebrate pests, or
- If you regularly engage in the business of tree surgery, you are not required to obtain a license to remove diseased or infested tissues or to apply disinfectants to wounds or cavities incidental to tree surgery.

Each pest control business must have a qualified applicator responsible for the pest control operations of the business. The responsible qualified applicator must possess a valid QAL in pest control categories in line with the type of pest control to be conducted by the business. See the application information in the section for the QAL.

No Fee Pest Control Business License. If you do not regularly engage in the business of pest control, but you operate only in the vicinity of your own property and for the accommodation of your neighbors, you do not need to pay the pest control business license fee. However, you are still required to obtain the pest control business license and meet all of the other Pest Control Business License requirements:

- You or an employee responsible for the pest control operations must possess a valid QAL and meet all of the requirements for obtaining and renewing the QAL
- You must have the required liability insurance or bond, and
- You must have worker compensation insurance, if you have employees.

Maintenance Gardener Pest Control Business License. Any one working primarily in maintenance gardening, landscape maintenance, and interiorscape maintenance and apply any pesticide as an incidental part of their business must be licensed as Maintenance Gardener Pest Control Businesses. This license is required for any incidental pest control when it is done for hire, including the use of snail bait and other pesticides that are provided by the homeowner or property operator. The use of restricted materials is not covered by this business license.

If you contract to do landscape maintenance in parks, golf courses, or cemeteries you must obtain a Pest Control Business License if your work includes pest control. Pest control for hire in these settings is not covered under the scope of Maintenance Gardener Pest Control Business License.

The following requirements apply to each type of DPR-licensed pest control business:

- Pest Control Business
- No-Fee Pest Control Business, and
- Maintenance Gardener Pest Control Business.

Minimum Requirements. You can apply for a Pest Control Business License, No Fee Pest Control Business License and Maintenance Gardener Pest Control Business License by submitting a completed application and any required fee to DPR. The application must include the name and license/certificate number of the responsible person. If your business has employees you must also submit proof of having workers compensation insurance. You must also submit proof that you have financial responsibility, such as liability insurance or a Surety

Bond, for damages resulting from your pest control work.

County Registration. Before you can work under any of the above aforementioned pest control business licenses you must register with the County Agricultural Commissioner in each county in which you intend to conduct pest control for hire. Most counties require a fee for registration of the principal office location and for each branch office location. Registration is required annually and covers one calendar year.

Pest Control Equipment. You must conspicuously and legibly identify each piece of equipment you use for mixing or applying pesticides. You must mark each ground rig, service rig, and similar equipment you use for mixing or applying pesticides with either the name of the business or with "Licensed Pest Control Operator," "Fumigation Division," or similar wording. You must also include your pest control operator license number or that of the firm. These markings must be large enough to be readable at a distance of 25 feet.

In addition, you must register each piece of application equipment in each county where you intend to use this equipment. The County Agricultural Commissioner may arrange to have all of your firm's pest control equipment inspected when you register it to ensure that it is properly marked and in safe working condition.

Notice of Application. Before you perform pest control you must give notice to the operator of the property you will be treating and obtain that person's consent. The operator of the property must then give notice to everyone known to be on the property or likely to enter while any restrictions on entry are in effect. When notified

by the property operator farm labor contractors are responsible for giving notice to their employees. Each notice must:

- State the date of the application
- Identify the pesticide by brand name or common chemical name, and
- Be adequate to advise of the precautions, including restricted-entry provisions, from the registered label or applicable laws and regulations that must be observed.

Completion Notice. In addition to the application notice requirements described above, a pest control business that applies pesticides for the production of an agricultural commodity must also give a completion notice to the operator of the treated property. This notice must be given within 24 hours after completing the pesticide application and include the:

- Location of the property, including the site identification number, and the acreage that was treated
- Pesticide or pesticides that were applied
- Date and hour that the application was completed, and
- Applicable restricted-entry and pre-harvest intervals.

The property operator must communicate in writing to the pest control business if he or she will not be available to receive the completion notice within the 24-hour period.

This written notice from the property operator must also describe the method by which they choose to receive this notification. The method may be, but is not limited to:

- Posting or leaving the completion notice in a designated location on the operator's property

- Recording the completion notice on a phone answering machine or voicemail, or
- Sending the completion notice by FAX.

The pest control business must retain a copy of the written notification instructions they received from the property operator. The pest control business must also maintain a written record that documents the:

- Name of the operator of the property that was treated
- Location of the property, including the site identification number
- Date and time the completion notice was given, and
- Method that was used for notification and the name of the person who was notified.

These records must be retained for two years and made readily available to the County Agricultural Commissioner or DPR upon request.

The property operator must maintain records of the application notice and completion notice for each site that was treated and a copy of any written notification instructions given to the pest control business.

Recommendation and Restricted

Material Use Permit. The pest control business must keep available a copy of the written pest control recommendation, and the restricted materials permit covering each agricultural use application of a pesticide that requires a restricted materials permit.

Pesticide Accident Reporting

You must immediately report accidents to the County Agricultural Commissioner. The report must include the location of the accident, the pesticide involved, and the estimated amount of pesticide released. You must do this by radio, telephone, or any other expedient method. The

reporting requirement applies to any pesticide related accident including any:

- Forced landing of a pest control aircraft
- Mishap involving pesticide application equipment and transport vehicles, or
- Type of emergency or accidental pesticide release.

Operator Identification Numbers. Pest control businesses are required to obtain from each property operator an operator identification number when the business makes a pesticide application for producing an agricultural commodity. Property operators must obtain their operator identification number from the County Agricultural Commissioner before they can purchase and use pesticides for the production of an agricultural commodity.

Pesticide Use Records. You must maintain pesticide use records for each application made by the pest control business. In addition, use records are required when using any pesticides:

- For any agricultural use
- Listed in Section 6400 3 CCR
- For industrial post-harvest commodity treatment, or
- Used for outdoor institutional or industrial pest control.

The records must include the:

- Date of application
- Name of the operator of the property treated
- Location of the property treated
- Crop, commodity, or site treated
- Total acreage or units treated at the site, and
- Name of the pesticide, including U.S. EPA or state registration number on the pesticide label, and the amount used.

When the application is for producing an agricultural commodity the record must also include the:

- Location of the property treated, by county, section, township, range, base, and meridian
- Hour the treatment was completed
- Operator identification number issued to the operator of the property treated
- Site identification number issued to the operator of the property treated
- Total planted acreage or units at the site, and
- Name of the person who made and supervised the pesticide application.

The property operator and the pest control business must retain these records for two years and make them immediately available to the County Agricultural Commissioner or DPR upon request.

Pesticide Use Reports for Production

Agriculture. When your pest control business applies pesticides for the production of an agricultural commodity, you must submit a use report to the County Agricultural Commissioner of the county in which the application took place. This must be done by hand delivery or mail within seven days of completion of the pesticide application. If you mail the report, the postmark is the date of delivery. Within 30 days of completion of the pesticide application, the pest control business must send a copy of the pesticide use report to the operator of the property where the pest control was done. The property operator must retain a copy of the business's pesticide use report by site for two years.

Pesticide use reports must be on a DPR form or in a format approved by DPR. Reports must include the information required for "Pesticide Use

Records", plus the name and address of the pest control business that made the application.

Monthly Summary Pesticide Use

Reports. All pest control businesses that are required to maintain pesticide use records of pesticide applications for other than for producing an agricultural commodity, must report a monthly summary of pesticide use to the agricultural commissioner of the county in which the work was performed. This reporting requirement is in addition to the reporting requirements under The Healthy Schools Act. The monthly summary use report must be hand-delivered or mailed by the tenth day of the month that follows the month in which the work was performed. If the report is mailed, the postmark is the date of delivery.

The report must be made on DPR's Monthly Summary Pesticide Use Report form or in a format approved by the Director of DPR. The report must include the:

- Name and address of the person, business, or organization who applied the pesticides
- County where the pest control was performed
- Month and year of the pesticide use
- Crop, commodity, or site treated, except when using a designated use code as specified on DPR's Monthly Summary Pesticide Use Report form
- Pesticide, including the U.S. EPA or state registration number that is on the pesticide label, and the amount used
- Number of applications made with each pesticide and the total number of applications made during the month, and
- Total acres or units treated with each pesticide, except when using

a designated use code as specified on DPR's Monthly Summary Pesticide Use Report form.

Negative Pesticide Use Reports.

A licensed pest control business must submit a negative Pesticide Use Report during any month in which they performed no pest control work. This negative use report must be submitted to the County Agricultural Commissioner in each county where the business is registered. They must do this by the tenth day of the following month. If the report is mailed, the postmark is the date of delivery.

Violations. When operating any pest control business, it is against the law to:

- Operate without a valid DPR pest control business license
- Make any false or fraudulent record or report
- Operate in any county without first having registered with the County Agricultural Commissioner
- Operate equipment with incompetent or unqualified people in charge of the equipment, or
- Use fraud or misrepresentation in making application for a license or for renewal of a license.

Pest Control Dealer License. Any person or business must hold a valid DPR pest control dealer license before:

- Selling to users any pesticide for an agricultural use
- Selling to users any method or device for controlling agricultural pests, such as biological agents, lures, or insect trapping devices
- Soliciting sales of pesticides by making agricultural use recommendations through field representatives or other agents, or
- Selling any restricted use pesticide or restricted material

that requires either a restricted material use permit or applicator certification.

Pest control dealers with multiple business locations must have a license for the principal location and for each branch location. Branch location includes each sales yard, store, or sales location owned and operated by the pest control dealer. A pest control dealer is responsible for the actions of each employee regarding the solicitation and sale of pesticides and regarding all pesticide use claims and recommendations.

Licensed pest control businesses that sell only pesticides that they apply are not required to have a valid pest control dealer license. Government agencies, such as County Agricultural Commissioners that provide agricultural use pesticides, are not required to have a pest control dealer license.

County Registration. Pest control dealers are not required to register with County Agricultural Commissioners.

Minimum Requirements. Applicants must submit a correctly completed application and required fees to DPR. Your application must also show that you have a qualified individual responsible for actively supervising all sales activities at each main and branch location.

Pest Control Dealer Supervision—Designated Agent. Each licensed pest control dealer must have and maintain at the principal office and at each branch location, a designated agent to actively supervise all operations conducted at the location. The person designated as the agent must have at least one of the following valid documents:

- Pest Control Dealer Designated Agent License
- Agricultural Pest Control Adviser License
- Pest Control Aircraft Pilot Certificate (Journeyman or Apprentice), or
- Qualified Applicator License.

Appropriate Products. Each licensed pest control dealer must sell or deliver a pesticide only when the required written recommendation provided to the dealer, or written by a dealer employee, corresponds to the pesticide label. It is illegal for a pest control dealer to knowingly sell or deliver a pesticide under any of the following circumstances:

- For a use not shown in the label
- If the label cannot be complied with, and
- If the pest control recommendation is in conflict with the label.

Dealer Records—Purchases, Sales, and Distribution. A pest control dealer shall maintain records for all pesticides it purchases, sells, and distributes into and within California. These records shall be maintained for four years, for each principal and branch location.

The sale record shall be for all pesticides sold or delivered except for pesticides labeled only for home use. The pest control dealer must maintain and file these records by purchaser name at each sales office, making them available upon request to the County Agricultural Commissioner or DPR. These records must include the:

- Purchaser's name and address
- Pesticide and the amount purchased
- Date of purchase
- Operator identification number or a statement on the invoice indicating that the purchaser was not required to obtain an operator identification number

- Copy of the written recommendation, or a statement on the invoice or delivery slip that no recommendation was made by or provided to the seller, and
- Location where the pesticide was delivered, including the name of the person or business that received the shipment.

In addition to the aforementioned sales record information, dealers shall maintain for two years, records with other required documentation and information when selling pesticides:

- Used for producing agricultural commodities—records of operator identification numbers assigned to the purchasers
- With the active ingredient clopyralid—registered for lawn and turf in residential, school, park, office building, and golf course settings, or
- With the active ingredient tributyltin—registered for certain aluminum ship/vessel hulls, outboard motors, and lower drives units.

Quarterly Reports. A pest control dealer shall submit to DPR two quarterly reports showing:

- Total sales in dollars and total pounds or gallons of agricultural use pesticides, and
- A mill tax assessment when the dealer is the first to sell into or within California any pesticide that is labeled for agricultural use. The mill assessment report shall include any required mill tax payments.

Supplemental Label. When a written recommendation includes a use that is only found on a supplemental label, the dealer must deliver both the written recommendation and the supplemental label to the applicator in sufficient time to allow

the applicator to properly prepare for the application.

Dealer Responsibilities and Requirements for Certain Pesticides. It is

extremely important that a dealer know that buyers must have the authority to purchase, possess, and use certain pesticides. These pesticides include:

- Federal restricted use pesticides
- California restricted materials, and
- Certain other pesticides.

Purchasers must provide to the dealer written proof of that authority plus other documentation related to these purchases, and that this information must be kept on file. Before selling or delivering certain pesticides, pest control dealers must obtain from the purchaser a copy of or written proof of the following:

- Restricted material permit for any pesticide that requires a permit
- Private or commercial applicator certification for federal restricted use pesticides that do not require a permit and pesticides that DPR has determined to have the potential to pollute ground water. The purchaser can sign a statement attesting to having a valid applicator certification in lieu of a copy of their certification
- Operator identification number issued by the County Agricultural Commissioner for pesticides that require an operator identification number
- Vessel registration form for antifouling paints or coatings containing the active ingredient tributyltin that will be applied to aluminum ship hulls or outboard motors and lower drive units. The purchaser can in lieu

of the vessel registration, provide a sworn statement to verify proper and legal use, and

- Signed statement, attesting to the proper and legal use, from a certified commercial applicator for pesticides containing the active ingredient clopyralid.

All records that pest control dealers are required to maintain shall be made readily available when requested by the county or DPR. Periodically, the County Agricultural Commissioner or DPR will inspect the dealer's records to check their licensing status, their supervision by a qualified person, their record maintenance, their sale and delivery of appropriate pesticides, and other record requirements.

Continuing Education Information and Record-Keeping Requirements for Licensees and Certificate Holders. Your

license or certificate cannot be renewed unless you complete the specified number of hours of continuing education within each license or certificate's valid period as described in this study guide. There is no grace period. If you fail to earn the required number of continuing education hours before the license or certificate expiration date, you will not be able to renew. To again possess the license or certificate you must again pass the examinations.

Your continuing education must directly pertain to pesticides and pest management. Sales-oriented and marketing courses are not acceptable. The continuing education requirement is designed to augment your proficiency as an adviser or applicator and assure that you have up-to-date knowledge of pesticide laws and regulations, pesticides, and pest management.

DPR-approved continuing education is provided through many public and private sources and a listing of

approved instruction is available through DPR's web site, www.cdpr.ca.gov.

Some of the public sources include city and state colleges, universities, the UC Cooperative Extension Service, and the County Agricultural Commissioner. Private sources include industry professional organizations and private businesses specializing in pest management training.

The instructor or sponsoring organization of DPR-approved continuing education courses must maintain a record of licensees and certificate holders who successfully complete courses or programs. These records must be retained for three years and must contain the same information that licensees or certificate holders are required to maintain, and must be provided to DPR upon request.

Record Keeping Requirements for Licensees and Certificate Holders. As a licensee or certificate holder you are required to maintain a record of all approved continuing education hours you acquire during each license or certificate period. You must retain these records for three years, and the records must include the following:

- Your name as listed on DPR license or certificate
- Certificate or license number
- Title and location of the instruction
- Name of the instructor or sponsoring organization and the number of hours of credit you accrued, and
- Identification Code Number assigned to the course or program by DPR.

A certificate of course completion or a written statement containing the information specified in the above list, issued by the course instructor or sponsoring organization, is sufficient

to meet the record keeping requirements. Licensees or certificate holders are required to submit their continuing education records to DPR at the time of renewal.

Multiple License or Certificate Holders.

If you maintain two or more licenses or certificates you may use continuing education hours obtained for one license or certificate to satisfy the continuing education requirements for each additional license or certificate. For example, if you possess both a Qualified Applicator License (20 hours) and an Agricultural Pest Control Adviser License (40 hours), you will need a minimum of 40 hours of continuing education, including four hours pertaining to pesticide laws and regulations, to renew both licenses.

If you hold multiple licenses or certificates you should use only one license or certificate number when you sign the sponsoring organization or instructor's attendance sheet to show attendance at the meeting or course. Sign in using the highest-ranking license or certificate. The licenses and certificates are ranked as follows:

1. Agricultural Pest Control Adviser License
2. Pest Control Aircraft Pilot Certificate Holder—
(Journeyman or Apprentice)
3. Qualified Applicator License
4. Qualified Applicator Certificate.

For example, if you have an Agricultural Pest Control Adviser License and a Qualified Applicator License you should sign the attendance sheet with your Pest Control Adviser license number.

Partial Continuing Education Requirements for New Advisers and Applicators.

If you are a first-time adviser or applicator with a license or certificate that you have held for less than 12 months at renewal time,

no continuing education hours are required for renewal of the license or certificate. If you have held a new license or certificate for 12 to 20 months at renewal time, one half of the two-year period of continuing education hours is required for the renewal of your license or certificate. If you have held new license or certificate for 21 to 24 months at renewal time, all of the hours for your particular license or certificate are required for renewal of your licensing. All required continuing education hours must be completed by December 31 of the expiration year, or your license or certificate cannot be renewed.

License or Certificate Renewal

Licenses or certificates of individuals whose last name begins with a letter from A-L, and of businesses whose name begins with a letter from A-L, expire in even-numbered years.

Licenses or certificates of individuals whose last name begins with a letter from M-Z, and of businesses

whose name begins with a letter from M-Z, expire in odd-numbered years.

All licenses and certificates expire on December 31 of the "Valid Through" year on the license, or certificate. Completed renewal applications, with appropriate fees, must be postmarked by December 31 to avoid the late penalty. The late penalty is one half of the renewal fee.

Anyone who has not possessed a valid license or certificate within 12 months of the date they apply for that same kind of license or certificate must pass the appropriate examinations before DPR will issue the license or certificate they seek. A license or certificate, including a renewal, is not valid until it has been issued by DPR.

Note: You must register annually with the County Agricultural Commissioner even though your license or certificate is valid for up to two years.

REVIEW QUESTIONS

(answers on page 115)

1. **Which of the following pest control requires a DPR pest control business license?**
 - A. Preservative treatment of fabrics or structural materials.
 - B. Household or industrial sanitation services.
 - C. Control of tree pests.
 - D. Structural pest control.

2. **Which of the following qualifications must a person have to be responsible for the pest control operations of a pest control business?**
 - A. Pest control business license.
 - B. Qualified applicator license.
 - C. Pest control adviser license.
 - D. County Agricultural Commissioner license.

3. **A pest control business that has one or more employees must have**
 - A. At least two service vehicles.
 - B. Workers' compensation insurance.
 - C. 24-hour phone service.
 - D. A permit from the Office of Environmental Health Hazard Assessment.

4. **A pest control business must be registered with the**
 - A. County Board of Supervisors in the county where the business operates.
 - B. Department of Industrial Relations.
 - C. Department of Pesticide Regulation.
 - D. County Agricultural Commissioner in counties where the business operates.

5. **Each piece of mixing and application equipment owned by a pest control business must be**
 - A. Painted a conspicuous color.
 - B. Given a special identification number.
 - C. Regularly approved by the County Agricultural Commissioner.
 - D. Marked with the name of the business or other similar wording.

6. **Before making a pesticide application on someone's property, a pest control business must**
 - A. Obtain permission from the operator of the property.
 - B. File a "Notice of Intent" with the County Agricultural Commissioner.
 - C. Give notice to anyone living within 1/4 mile of the application.
 - D. Mark off the treatment area with yellow "caution" tape.

7. **Any emergency or accidental release of pesticides involving a pest control business must be reported to the**
 - A. Department of Food and Agriculture.
 - B. Department of Pesticide Regulation.
 - C. County Agricultural Commissioner.
 - D. County General Services.

8. **Before a pest control business applies a pesticide for the production of an agricultural commodity, the property operator must provide the business with**
 - A. A detailed map of the application site.
 - B. Their operator identification number.
 - C. A pesticide use report.
 - D. A copy of the property's liability insurance policy.

9. **Which type of pesticide application for hire is not covered under the provisions of a Maintenance Gardener Pest Control Business license?**
 - A. Spraying an herbicide in a cemetery.
 - B. Applying snail bait supplied by the homeowner around the homeowner's property while engaged in maintenance gardening.
 - C. Applications incidental to maintaining ornamental plants in a shopping mall.
 - D. Spraying a non-restricted herbicide during maintenance gardening at a private residence.

10. **A Pest Control Dealer License is not required for person or business who**
 - A. Has a Pest Control Business License and sells only pesticides they apply.
 - B. Solicits sales of pesticides by making agricultural use recommendations through field representatives or other agents.
 - C. Sells insect trapping devices for agricultural pests.
 - D. Sells pesticides that can be used for either agricultural or non-agricultural purposes.

REVIEW QUESTIONS*(answers on page 115)***11. A person who holds a Pest Control Dealer Designated Agent License is responsible for**

- A. Actively supervising applications for the pest control business.
- B. Ordering fertilizers from the manufacturer or supplier.
- C. Actively supervising all operations conducted at the dealer's location.
- D. Making pesticide use recommendations for customers of the business.

12. A person who holds a Qualified Applicator Certificate in the "Plant Agriculture" category cannot

- A. Supervise the use of restricted materials on agricultural crops.

- B. Sell or supervise people who sell agricultural pesticides.
- C. Apply general use pesticides or restricted materials on agricultural crops.
- D. Supervise the use of general use pesticides on agricultural crops.

13. An Agricultural Pest Control Adviser License is required if you

- A. Sell pesticides at a pest control dealer location.
- B. Apply pesticides for hire on any agricultural property.
- C. Solicit services or sales for agricultural uses.
- D. Work for the University of California and make written recommendations.

4

Standards of Care



STANDARDS OF CARE 58

REVIEW QUESTIONS 65

STANDARDS OF CARE

Applicator Responsibilities.

Whenever you apply any pesticide or conduct any other type of pest control, you are responsible for meeting the following standards of care and applicator responsibilities:

- Use only pest control equipment that is in good working order and safe to operate
- Perform all pest control in a careful and effective manner
- Use only methods and equipment suitable to ensure proper application of pesticides
- Perform all pest control under climatic conditions suitable to ensure proper application of pesticides
- Exercise reasonable precautions to avoid contamination of the environment
- Have a copy of the registered label available at each use site to show that the label allows the manner in which you are using the pesticide
- Measure or weigh concentrated pesticides accurately, using only devices that are calibrated to the smallest unit in which the pesticide is being weighed or measured
- Maintain a uniform mixture, at all times, in both application and service rigs
- Clean pest control equipment thoroughly, whenever necessary, to prevent illness or damage to

people, plants, or animals from residues of pesticides previously used in the equipment, and

- Avoid contamination of water by equipping each piece of application equipment and service rig that handles pesticides and draws water from an outside source with an air-gap separation, a reduced pressure principle back flow prevention device, or a double-check valve assembly acceptable to both the water purveyor and the local health department.

Age Requirement. No pesticide handler, employee or non-employee, under

18 years of age is permitted to mix or load a pesticide when the label or regulations require the use of any of the following:

- Air supplied respiratory protection
- A closed system, or
- Full-body chemical-resistant clothing.

Protection of People, Animals, and Property. Prior to and while applying pesticides, applicators must evaluate the equipment to be used, the meteorological conditions, the property to be treated, and surrounding properties to determine the likelihood of harm or damage. No pesticide application shall be made or continued by anyone when there is a reasonable chance of the following:

FIGURE 4-1.

Warning signs similar to the one shown here must be posted around pesticide storage areas that contain pesticides with either the signal word "DANGER/POISON", "DANGER", or "WARNING".



- Hazard of contaminating the bodies or clothing of people not involved in the application process
- Possibility of damage to non-target crops, animals, or other public or private property, or
- Possibility of contaminating non-target public or private property, including creating a health hazard that prevents the normal use of the property.

Protection of Bees. When you apply onto blossoming plants a pesticide that is known to be toxic to bees, special procedures must be followed. These procedures cover those pesticides with labeling containing the words "toxic to bees".

Notifying Beekeepers. If you intend to apply a pesticide known to be toxic to bees to a blossoming plant you must consult with the County Agricultural Commissioner prior to the application. You must also determine whether there are beekeepers with apiaries within one mile of the application site that have requested notice about

such applications. If notice has been requested, at least 48 hours before the application, you must notify the beekeepers of the following:

- Time and place the application is to be made
- Crop and acreage to be treated
- Method of application
- Name and dosage rate of the pesticide to be applied, and
- Procedure for the beekeeper to contact the person performing pest control.

The 48-hour warning period may be increased or decreased by the County Agricultural Commissioner or by agreement between the beekeeper and the person performing the pest control work.

Notification Region. Butte, Glenn, and Tehama Counties have been established as a region in which notification of apiary owners is required. Pest control businesses registered with the County Agricultural Commissioners of any of these counties are required to give notification to beekeepers prior to pesticide applications. The County Agricultural Commissioner

FIGURE 4-2.

It is illegal to store pesticides in any type of container commonly used for food, drink, or any other household products. This is to help prevent accidental pesticide poisonings or injuries, especially those involving children.



of Glenn County serves as the coordinator for the region. Once they register with any of the County Agricultural Commissioners in this region, pest control businesses must pay an annual fee to the coordinator.

Citrus/Bee Protection Area. Areas within one mile of any citrus planting that consist of one acre or more in Fresno, Kern, and Tulare Counties have been designated as citrus/bee protection areas. Special bee protection requirements apply in these counties. Beekeepers, pesticide dealers, pest control advisers, and pesticide applicators in these counties should consult with the County Agricultural Commissioner for further information.

Pesticide Storage, Transportation, and Disposal. If you improperly store, transport, handle, or dispose of pesticides and opened pesticide containers, you may cause injury to people, animals, or the environment. That is why the California Food and Agricultural Code requires that pesticides and containers that hold (or have held) pesticides must be stored, transported, handled, and disposed

of in accordance with the pesticide label and with regulations adopted by DPR. The County Agricultural Commissioner may take possession of unattended pesticides or empty pesticide containers that present a hazard to people, animals, bees, food, feed, crops, or property.

Pesticide Storage Requirements. As a pesticide applicator, on any property that you control, you are responsible for all containers and equipment that hold or have held a pesticide. To prevent unauthorized people from coming in contact with or being exposed to residues on these containers and equipment, you must exercise personal control to prevent unauthorized contact at all times, or, you must do one of the following:

- Provide a person to maintain control over the pesticide containers and application equipment, or
- Store the pesticide containers and application equipment in a locked enclosure.

In the case of liquid material packaged in a container larger than 55 gallons, the container does not have to be in a locked enclosure if the

container's closure is locked. Pesticides must be stored in accordance with the pesticide label and the labeling on all other products held in the same storage area, including non-pesticidal products. Do not store pesticides and fertilizers together. Pesticides and fertilizers can chemically react with each other and cause a fire. Also, if pesticides contaminate fertilizers this creates the possibility of crop damage or illegal residues on crops. Do not store pesticides near food, feed, seed or personal protective equipment because of the possibility of contamination.

Posting Storage Area Warning Signs.

When a storage area contains pesticides that are labeled with the signal words "DANGER/POISON"; "DANGER", or "WARNING", you must post warning signs on or around the storage area. (Figure 4-1) The signs must be visible from any direction of probable approach. The lettering on these signs must be large enough to be readable from 25 feet away. If you anticipate that people who do not read English will approach the pesticide storage area, you must repeat your warning signs in a suitable language in addition to English.

Pesticide Service Container Label

Requirements. When you store or transport containers that hold or have held pesticides, the containers must carry the registrant's label with the exception of service containers. A service container is any container other than the original labeled pesticide container that is used to hold, store, or transport concentrated or diluted pesticides. Service container labels must include all of the following:

- Name and address of the person or firm responsible for the container

- Identity of the pesticide in the container
- Signal word "DANGER/POISON", "DANGER", "WARNING", or "CAUTION" from the label of the original container.

The only exception to the service container label requirements is when a service container is being used by a person in the business of farming on their own property.

Illegal Containers. It is illegal to place or store pesticides in any type of container that is commonly used for food, drink, or any household products. (Figure 4-2) This is to help prevent accidental pesticide poisonings or injuries, especially those involving children.

Delivery of Pesticides. When pesticide containers that hold or have held pesticides are delivered to a property, they must be delivered directly to one of the following:

- The property operator or their agent who is in charge of the property, or
- The owner or qualified person of a pest control business.

If none of these people are at the property when the delivery is made, the pesticide containers must be left in a locked enclosure that is posted with appropriate warning signs, as described above.

Transportation of Pesticides. Pesticides must never be transported in the same vehicle compartment with people, food, or animal feed. You must secure pesticide containers to the vehicle during transportation in a way that will prevent spills into or off of the vehicle. Cover pesticide containers made of paper, cardboard, or similar material when necessary to protect them from moisture. All pesticide containers

must have either the original registered product label or proper service container labeling. To get information regarding other State and Federal regulations for transporting pesticides, contact the Cali-

fornia Highway Patrol or the U.S. Department of Transportation.

Pesticide Bag Disposal Requirements. Pesticide bags that have been properly emptied according to DPR's "Guidelines for Emptying and Burning



SIDEBAR 1

Rinsing Procedures for Pesticide Containers

Method 1—Triple Rinse and Drain

1. Use the following amount of water or other appropriate rinse solution for each rinse:

Size of Container	Amount of Rinse Medium
Less than 5 gallons	1/4 Container Volume
5 gallons and over	1/5 Container Volume

2. Place the required minimum amount of rinse medium in the container. Replace the closure securely, and agitate the container to make sure all the interior surfaces of the container get rinsed.

3. Drain the rinse solution from the container into the tank mix. Allow the container to drain an additional 30 seconds after it is empty.

4. Repeat the entire procedure at least two more times to provide a total of at least three rinses, or until the rinsate is clear. It is important that you drain the rinse solution into the mix tank and apply it to the crop or site that is being treated.

Method 2—Continuous or Jet-Rinse

1. Invert the emptied container over a nozzle that is located in the opening of a spray tank or nurse rig and that is capable of rinsing all inner surfaces of the container.

2. Activate the rinse nozzles, allowing the rinse solution to drain into the tank.

Continue rinsing until the rinse solution appears clear and a minimum of one-half of the container volume of rinse solution has been used. Use a minimum of 15 pounds of pressure per square inch to ensure proper rinsing. Avoid high pressures to prevent misting, splashing, or other undesirable effects potentially hazardous to people at the rinse site.

Other rinse methods, equivalent in effectiveness to the methods above, may be used if approved by the DPR.

Pesticide Bags" will not be regulated as hazardous waste. Pesticide bags that are properly emptied may be disposed of:

- At Class III landfills or
- By burning.

Pesticide bags that are not properly emptied will be regulated as hazardous waste.

Guidelines for Emptying Pesticide

Bags. To meet DPR "Guidelines for Emptying and Burning Pesticide Bags", follow these procedures:

- Open and empty the pesticide bag until no pesticide material remains in the bag that can be poured, drained, or otherwise feasibly removed, and hold the bag upside down for five seconds after continuous particle flow ceases
- Straighten out the seams to remove folds and wrinkles, so that the bag is in its original "flat" position, and again hold the bag upside down for five seconds after continuous particle flow ceases, and
- Shake the bag twice and hold for five seconds, or until particle flow ceases.

Guidelines for Burning Pesticide

Bags. Another less desirable, disposal option is burning under an agricultural burn permit that has been issued to the property operator or grower by the local air pollution control district. Burn permits allow for burning at the field location to dispose of agricultural waste, such as prunings and cardboard boxes. Pesticide bags that are properly emptied according to DPR guidelines can be burned under an agricultural burn permit, when done:

- Only at the location specified on the agricultural burn permit
- With a minimal amount of smoke blowing over areas where people or domestic animals might be, and
- In a location and in a manner that takes into account all of the following:
 - Distances to homes, parks, schools, and businesses
 - Wind speed and direction
 - Presence of temperature inversions, and
 - Length of time it will take to burn the bags.

The bag burning shall take place:

- With a rock, brick, or similar noncombustible weight on top

FIGURE 4-3.

Pesticide wastes include partially full containers of pesticide that are not used, leftover mixtures in spray tanks, rinse water from pesticide containers, rinse water from inside and outside of spray equipment, and, as shown here, empty pesticide containers.



- of the stack of bags to be burned
- By igniting the bottom-most bags
 - While only authorized people are present, such as the pesticide handler making the application or the property operator, and that they stay upwind of the fire to avoid exposure to the smoke, and
 - With authorized people controlling the site until the burning is completed and the fire is extinguished.

A pest control business that burns properly emptied bags under a grower's burn permit shall burn bags only at the application site, and only bags that were opened and emptied at the application site. Bags cannot be collected from other application sites to be burned at a particular application site.

Container Rinsing Requirements.

Containers that have held less than 28 gallons of a liquid pesticide must be at minimum triple rinsed and drained by the user at the time of use, unless they:

- Are returned to the registrant, or
- Held an undiluted, ready-to-use pesticide.

See Sidebar 1 for pesticide container rinsing procedures. Follow these procedures to be sure you have properly rinsed the containers. A closed system must also include a rinsing system that meets these requirements.

Pesticide and Container Disposal.

(Figure 4-3) Disposal sites that accept pesticides and used pesticide containers must do so in accordance with requirements established in California laws and regulations. In some coun-

ties, you may be required to obtain a special certificate or permit from the County Agricultural Commissioner before you dispose of properly rinsed pesticide containers at approved disposal sites. Check with the County Agricultural Commissioner about local requirements before you dispose of any pesticides or rinsed or un-rinsed used pesticide containers.

Un-rinsed, emptied pesticide containers may also be returned to the pesticide registrant, with the registrant's prior approval. You must tighten all lids or closures securely. You may need a Hazardous Waste Facility Permit to store old pesticide materials or un-rinsed pesticide containers awaiting disposal. Un-rinsed containers include those from which you cannot adequately remove the contents by rinsing or those that contained an undiluted, ready-to-use pesticide.

Exemptions. Following are certain limited exemptions from the storage, transportation and disposal requirements discussed in this chapter:

- Delivery, storage area posting, transportation, and rinsing:
 - Containers that hold or have held pesticides packaged, labeled, and used for home use and are in the possession of homeowners on their own property.
- Pesticide container rinse and disposal:
 - Containers that hold or have held pesticides registered as a spray adjuvant, and
 - Outer shipping containers that have not become contaminated with pesticides

Be sure to check with your local County Agricultural Commissioner if you have any questions regarding these exemptions.

REVIEW QUESTIONS*(answers on page 115)*

- 1. A person who is responsible for pesticide containers must**
 - A. Store the containers in a locked enclosure or provide a person to maintain control over the containers at all times.
 - B. Keep the containers off the ground in the back of a vehicle when they are to be unattended.
 - C. Cover the containers with a tarp if they cannot be put into a storage facility.
 - D. Keep the containers on the application equipment at all times.

- 2. The signs attached to a pesticide storage area must be readable from**
 - A. 10 feet
 - B. 15 feet
 - C. 25 feet
 - D. 50 feet

- 3. A service container that is used to hold a pesticide or pesticide mixture is**
 - A. The original pesticide container.
 - B. Any other legal container other than the original labeled pesticide container.
 - C. A special heavy-duty container provided by the pesticide manufacturer.
 - D. A returnable container approved by the Department of Pesticide Regulation.

- 4. Which of the following information is not required to be on the label of a service container?**
 - A. Identity of the pesticide in the container.
 - B. Signal word from the label of the original container.
 - C. Name of the manufacturer of the pesticide in the service container.
 - D. Name and address of the person or firm responsible for the container.

- 5. It is illegal to store pesticides in**
 - A. Service containers.
 - B. Original pesticide containers.
 - C. Spray equipment that is properly identified with labeling.
 - D. Containers that are commonly used for food, drink, or household products.

- 6. Pesticides being carried in the back of a vehicle such as a truck must be properly secured in order to:**
 - A. Prevent theft.
 - B. Allow other items to be transported with them.
 - C. Prevent spills into or off of the vehicle.
 - D. Comply with Food Quality Protection Act regulations.

- 7. Empty pesticide bags can be handled and disposed of as non-hazardous waste as long as they**
 - A. Have been properly emptied according to DPR's "Guidelines for Emptying and Burning Pesticide Bags".
 - B. Have been properly triple rinsed.
 - C. Do not have the signal word "DANGER" or "WARNING".
 - D. Have been perforated so they cannot be reused.

- 8. Proper rinsing of an empty container involves**
 - A. Filling the pesticide container three times and pouring the contents onto the crop at the application site.
 - B. Draining the empty pesticide container into the application equipment for 30 seconds.
 - C. Washing the application equipment tank with soap and water three times after an application.
 - D. Partially filling an empty pesticide container with water, shaking, and draining the contents into the spray tank, then repeating this process at least two more times.

- 9. Which containers that have held pesticides are exempt from the container storage, triple rinsing, or disposal requirements in regulation?**
 - A. Containers that hold less than 5 gallons of liquid.
 - B. Those that hold one gallon or less of liquid.
 - C. Containers that hold home use pesticides in the possession of the homeowners on their own property.
 - D. No containers are exempt from these requirements.

5

Pesticide Handler Safety



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PESTICIDE HANDLER WORKER SAFETY REQUIREMENTS

DPR has worker safety requirements in regulations for employees that mix, load, apply, store, transport, or otherwise handle pesticides for any agricultural or non-agricultural use. These regulations are written to:

- Provide safe working conditions for pesticide handlers
- Reduce the risk of exposure, and
- Ensure the availability of medical services.

Employer/Employee Responsibilities. Employers and employees are responsible for following the requirements that apply to their respective pesticide use activities. Employers must make sure that employees handle and use pesticides in accordance with the pesticide label and all applicable laws and regulations. They must provide protections such as certain information and personal protective equipment, and assure that employees follow the requirements and use the personal protective equipment. Employees must follow the requirements that pertain to them, and use all protections provided by the employer.

Hazard Communication Information for the Handler Employee.

Hazard communication regulations require employers to identify workplace hazards, to inform employees

about the hazards they face in the workplace, and to make sure employees understand the procedures they must follow to protect themselves. The regulations establish specific procedures employers must follow in maintaining and disseminating hazard communication information to employees who may be exposed to pesticides during the course of their work.

Before handler employees are allowed to handle pesticides, the employer must display in a central location a copy of, either PSIS leaflet A-8, "Safety Rules for Pesticide Handlers on Farms" or N-8, "Safety Rules for Pesticide Handlers in Non-Agricultural Settings", as appropriate. If an employee asks, the employer must read to the employee PSIS leaflet A-8 and/or N-8 in a language the employee understands.

Employers must maintain the following information at a central location and make it accessible to employees, their physicians, or their representatives:

- Pesticide use records for pesticides and pesticide-handling activities that are conducted by the employees
- Copies of PSIS leaflets for the pesticides and pesticide-handling activities that are listed in the pesticide use records, and
- An MSDS for each pesticide listed in the pesticide use records referred to above.

Employers must inform employees of the location and availability of these records and other documents before employees are allowed to handle pesticides, and at least annually thereafter. If the location of the records and other documents changes, employers must promptly inform their employees of the new location.

Application Specific Information for the Handler Employee. In general, for the commercial or research production of an agricultural plant commodity, the property operator must provide specific application information at a central location. This information must include the:

- Identification of the treated area
- Date and time of application
- Restricted entry interval, and
- Product name, EPA registration number and active ingredient.

These regulations do not cover employees involved in manufacturing, formulating, or repackaging pesticides. They are covered under the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal OSHA).

Handler Employee Training Requirements. Employers must have a written training program for employees who handle pesticides. The written program must describe the materials that will be used (e.g., study guides, pesticide labels, or videotapes) and the information that will be provided when they train their employees. Employers must maintain a copy of the written training program in a central location at the workplace where it is accessible to employees. The written copy must be available while they are using the program and for two years after they finish using it.

The employer's written training program must address each of the subjects listed below. Employers must

train each handler employee for each pesticide or chemically similar group of pesticides they handle and make sure employees understand the following:

- Pesticide product label format and the meaning of label information, such as precautionary statements about human health hazards
- Hazards of pesticides—including acute and chronic effects, delayed effects, and sensitization—as identified in pesticide product labels, MSDSs, or PSISs leaflets
- Routes by which pesticides can enter the body
- Signs and symptoms of pesticide overexposure
- Emergency first aid for pesticide overexposure
- Procedures for obtaining emergency medical care
- Routine and emergency decontamination procedures, including spill cleanup and the need to shower thoroughly with soap and warm water after the exposure period
- Appropriate use and cleaning/sanitation of any required personal protective equipment, and the need for heat-related limitations on its use (see later section in this chapter, "Chemical-Resistant Protective Clothing")
- Prevention, recognition, and first aid for heat-related illness
- Safety requirements and procedures for handling, transporting, storing, and disposing of pesticides, including engineering controls such as closed systems and enclosed cabs
- Environmental concerns such as drift, runoff, and wildlife hazards
- Warnings about taking pesticides or pesticide containers home
- Requirements relating to pesticide

safety and leaflets as found in Chapters 3 and 4 of (3 CCR).

- Purposes of, and requirements for, medical supervision when organophosphate and carbamate pesticides with the signal words "DANGER", "DANGER/POISON", or "WARNING" on the label are mixed, loaded, or applied for the commercial or research production of an agricultural plant commodity
- Location of the PSIS leaflet A-8 Rules for Pesticide Handlers on Farms and other PSIS leaflets, and MSDSs, and
- Rights of employees to:
 - Personally receive information about pesticides they may be exposed to
 - Have their physician or employee representative receive information about the pesticides they may be exposed to, and
 - Be protected against retaliatory action in response to the exercise of any of their rights.

An employee representative could be a representative of the California Rural Legal Assistance Foundation, a union representative, a family member, or any person the employee has designated to act on their behalf.

Employee handlers must complete pesticide handler safety training before they are allowed to handle any pesticide; the training must be continually updated to cover any new pesticides the employee will handle. Training must be repeated at least annually after the initial training. Handler employees holding a valid applicator certification are considered trained for the purposes established in the regulations.

Employers may waive initial pesticide handler safety training of a new employee if the employee is able to submit a current training record.

The employee's training record must show that their training met requirements in the regulations and covered the pesticides and use situations applicable to their new employment situation. Employers must record the date and extent of initial and annual required training they provide to employees and the jobs they assign. Each employee training record must be verified by the employee's signature and retained by the employer for two years at a central location at the workplace accessible to employees.

Qualified Safety Trainers for Pesticide Handlers. Anyone who trains employees handling pesticides for commercial or research production of an agricultural plant commodity must be qualified as a:

- California Certified Commercial Applicator
- California Certified Private Applicator
- Person holding a valid County Biologist License in Pesticide Regulation or Investigation and Environmental Monitoring issued by the California Department of Food and Agriculture
- Farm advisor employed by University of California Cooperative Extension
- Person who has completed an "instructor trainer" program presented by the:
 - The University of California Statewide Integrated Pest Management Project, after January 1, 1993, or
 - Other instructor-training programs approved by DPR.
- California licensed Agricultural Pest Control Adviser
- California Registered Professional Forester, or
- Trainer qualified in some other way that is approved by DPR.

Employee Medical Requirement.

Regulations describe specific ways in which employers are required to arrange for emergency care and medical supervision, keep records, and review employee work practices when necessary.

Emergency Medical Care. Employers must, in advance, make emergency medical care arrangements for employees who handle pesticides. They must inform employees of the name and location of the facility where they have arranged for this care. In addition, the name, address, and telephone number of this facility, whether it is a clinic or a hospital emergency room, must be conspicuously posted at the work site, or in the work vehicle if there is no designated work site. If the emergency facility is not reasonably accessible from the work location, the employer must post the procedures their employees shall follow to obtain emergency medical care.

Employers must ensure that an employee is taken immediately to a physician when there are reasonable grounds to suspect that the employee has a pesticide illness or injury. Reasonable grounds to suspect a possibility of a pesticide illness or injury include the presence of symptoms or indications such as:

- Headache
- Weakness
- Dizziness
- Blurred vision
- Nausea
- Abdominal cramps
- Sweating
- Tightness of the chest, and
- When exposure to a pesticide has occurred that might reasonably be expected to lead to an illness or injury.

Medical Supervision. Employers must maintain, in addition to pesticide use records and handler training records, employee use records that identify the employee, the name of the pesticide, and the date of handling whenever an employee handles a pesticide that meets the following criteria:

- Carries the signal word "DANGER/POISON", "DANGER" or "WARNING"
- Contains an organophosphate or carbamate, AND
- Is used for the commercial or research production of an agricultural plant commodity.

Employers who have employees who regularly handle (see Glossary) organophosphate or carbamate pesticides that carry the signal word "DANGER/POISON", "DANGER" or "WARNING" and that are used for the commercial or research production of an agricultural plant commodity must have a signed written agreement with a doctor. The agreement must include the names and addresses of both the doctor who will provide medical supervision and the employer responsible for the employees. Employers must give a copy of this agreement to the County Agricultural Commissioner before an employee begins to regularly handle these pesticides. The designated doctor must possess and be familiar with the publication *Medical Supervision of Pesticide Workers—Guidelines for Physicians*, which is available from the Office of Environment Health Hazard Assessment.

Cholinesterase Determinations.

Employees who regularly handle organophosphate or carbamate pesticides that carry the signal word "DANGER/POISON", "DANGER" or "WARNING", and that are used for the commercial or research

production of an agricultural plant commodity are required to have baseline red cell and plasma cholinesterase determinations. These determinations must be verified every two years. For new employees, the medical supervisor may accept previously established baseline values if these values:

- Were obtained according to the regulations and by the same laboratory methodology that the new laboratory uses, and
- Are acceptable to the new laboratory that will analyze the employee's blood samples.

Employers are responsible to make sure that employees who were not under medical supervision as their employees in the past obtain red cell and plasma cholinesterase determinations. They must do this within three working days after the end of each 30-day period during which these employees regularly handle these pesticides. After employees have had three tests at 30-day intervals, further periodic monitoring must be specified in writing by the medical supervisor. If the medical supervisor does not make a written recommendation for continued periodic monitoring of employees who regularly handle these pesticides, the testing interval must be 60 days, or every second period.

In relation to medical supervision, employers must maintain for three years the following records:

- The medical supervision agreement
- Pesticide use records, and
- All medical recommendations and test results.

The employer must keep these records available for inspection by the employee, DPR and the County Agricultural Commissioner.

If an employee's red cell or plasma cholinesterase level falls below 80 percent of their baseline,

the employer must investigate the employee's work practices, including:

- Employee hygiene
- Pesticide handling procedures, and
- Equipment usage.

This investigation also includes a review of the safety equipment and its condition. Employers must maintain a written record of their findings, any changes they made in equipment or procedures, and any recommendations they made to the employee.

Employers must remove an employee from exposure to organophosphate or carbamate pesticides if the employee's plasma cholinesterase level falls to 60 percent or less of the employee's baseline plasma cholinesterase level, or if their red cell cholinesterase falls to 70 percent or less of their baseline red cell cholinesterase level. That employee must be removed from further exposure until their cholinesterase values return to 80 percent or more of their baseline values. The employer must maintain written records of the date the employee was removed from exposure and the date the employee was returned to exposure.

Working Alone. When employees mix, load, or apply pesticides that carry the signal word "DANGER/POISON" or "DANGER" and that are used for the commercial or research production of an agricultural commodity, they must observe the following rules about working alone:

- Daylight operations: working alone is permitted only when the employee makes personal, radio, or telephone contact with a responsible adult at least every two hours
- Nighttime operations: working alone is permitted only when the employee makes personal,

radio, or telephone contact with a responsible adult at least every hour

- A pilot, mixer, loader, and flagger team is considered to be working together, and
- Two ground applicators working in the same field and able to see each other or each other's application vehicles are considered to be working together.

Change and Decontamination

Facilities. Pesticide handler safety regulations include specific requirements for employers to provide employees with facilities for changing, washing, and decontamination.

Change Area. For any employee who regularly handles pesticides with the signal word "DANGER/POISON"; "DANGER" or "WARNING", and for all employees who handle any pesticides used for the commercial or research production of an agricultural plant commodity, employers must provide an area for employees to change clothes and wash themselves at the location where they complete their work day. Employers must provide clean towels, soap, and adequate water for thorough washing. Employers must also provide a clean, pesticide-free place for employees to store any of their personal clothing that is not in use while they are at work handling pesticides.

Decontamination Facilities. Employers must ensure that employees have sufficient water, soap, and single-use towels for routine washing of their hands and face and for emergency eye flushing and washing of the entire body. The quality and temperature of the water must not cause illness or injury when it comes into contact with employees' skin or eyes, or if they swallow it. This water

must be stored separately from water used for mixing with pesticides, unless the tank holding the water for mixing with pesticides is equipped with appropriate valves to prevent back flow of pesticides into the tank. The employer must keep one change of clean coveralls available at each decontamination facility.

For all employees who handle pesticides for the commercial or research production of an agricultural plant commodity, the decontamination facility must be located at the mixing and loading site. This must be no more than 1/4 mile from, or must be at the nearest point of vehicular access to, other handlers, including flaggers. For pilots, the decontamination facilities may be at the loading site.

Decontamination facilities must not be in an area that is being treated or that is under a restricted-entry interval unless all of the following criteria are met:

- Each handler using the facility is working in the area that is being treated or that is under a restricted-entry interval
- A container is used to enclose the single-use towels and the extra change of clean coveralls, and
- Running tap water is used, or the water is enclosed in a container. If the pesticide product label requires protective eyewear, one pint of water for emergency eye flushing must be kept immediately available for each employee handling pesticides used for the commercial or research production of an agricultural plant commodity. The eye flush water must be carried by the handler or kept in the vehicle or aircraft that is being used by the handler.

Employers must provide a decontamination site that is within 100 feet of the mixing and loading site when employees handle pesticides with the



FIGURE 5-1.

Employers must ensure that each employee who handles any pesticide with the signal word "DANGER," "DANGER/POISON," or "WARNING" is provided with clean coveralls at the start of each workday.

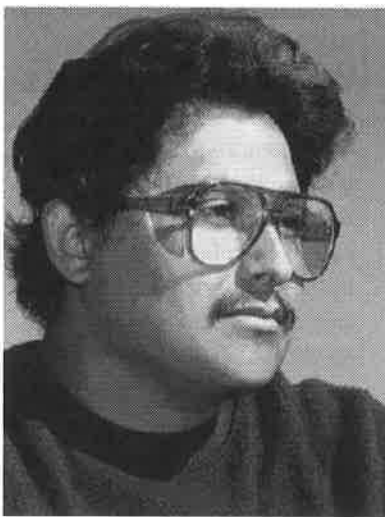


FIGURE 5-2.

Unless the label specifies the type of eyewear, you may use safety glasses that have a brow piece and side shields when handling pesticides.

signal word "DANGER/POISON", "DANGER" or "WARNING" for uses other than the commercial or research production of an agricultural plant commodity.

Personal Protective Equipment.

Employers must provide all required (PPE). They are responsible for its daily inspection, cleaning, and repair, and its replacement, when necessary. Employers must assure that all PPE is maintained and kept in a clean, specially designated place or locker when it is not in use. When applicators use any of the PPE requirement exceptions in the 3 CCR section 6738, they must keep the label-required PPE immediately available for use in an emergency.

Employers must assure that PPE is properly used and that handlers are directed not to take potentially contaminated PPE home. Also, employers must assure that appropriate measures are taken to prevent heat-related illnesses.

Coveralls. Employers must ensure that each employee who handles any pesticide with the signal word "DANGER/POISON", "DANGER" or "WARNING" is provided with, and wears, clean coveralls at the start of each workday. (Figure 5-1) Coveralls means a one- or two-piece garment of closely-woven fabric that covers the entire body except for the head, hands, and feet.

Employees are required to remove their coveralls and wash themselves at the end of each workday. They must not take potentially contaminated coveralls home. However, when an employee does not return to the employer's headquarters at the end of the workday, they can remove their coveralls and store them in a sealable container outside their own living quarters for later return to the employer.

Employers must provide for the laundering of coveralls. They must inform the person or firm doing the laundry that they will receive pesticide-contaminated clothing and that it should be laundered separately. Employees using fumigants are not required to wear coveralls unless expressly required by the pesticide label.

Eye Protection. Employers must provide employees with eye protection (Figure 5-2) and assure the employees use it when:

- It is required by the label, except as provided in 3 CCR section 6738
- Employees are mixing and loading pesticides
- Eye protection is required when employees use closed systems that operate under pressure
- When employees use other closed systems, eye protection must be available at the work site, and they must wear it when they make or break equipment connections, insert or remove probes, or at any other time when the integrity of the system is broken.
- Employees are adjusting, cleaning, or repairing application equipment or mixing and loading equipment that contains pesticides in hoppers, tanks, or lines
- Employees are conducting hand applications, except when:
 - Applying vertebrate pest control baits that are placed without being propelled from application equipment
 - Applying solid fumigants to vertebrate burrows
 - Baiting insect monitoring traps, or
 - Applying non-insecticidal lures.
- Engaging in ground application activities using towed or vehicle-mounted equipment, except when:



FIGURE 5-3.

If the type of glove required is not specified on the pesticide label, employers must provide gloves made of rubber, neoprene, or other chemical-resistant material that provides equivalent or better protection from the pesticide being handled.



FIGURE 5-4.

Chemical-resistant garments provide the maximum amount of protection from pesticide exposure.

- Injecting or incorporating pesticides into soil
- Vehicle-mounted spray nozzles are located below the employee and the nozzles are directed downward, or
- Working in an enclosed cab.
- Employees are flagging except when they are in an enclosed cab.

Protective Gloves. Employers must provide employees with gloves (Figure 5-3) and assure that all employees who handle any pesticide use them when the label requires it, except as provided in 3 CCR section 6738 or when they are:

- Mixing or loading
- Adjusting, cleaning, or repairing contaminated mixing, loading, or application equipment, or
- Making hand applications or using hand-held equipment, except when they are using equipment that prevents hand contact with rodenticide bait or with contaminated equipment.

The exception to this requirement is when the pesticide label specifies that gloves must not be worn.

Whenever gloves are required, employers must provide employees each workday with clean unused gloves or with previously-used clean gloves that:

- Are in good condition
- Have no rips or cracks, and
- Have been thoroughly washed inside and outside with soap and water.

If the type of glove required is not specified on the pesticide label, employers must provide gloves made of rubber, neoprene, or other chemical-resistant material that provides equivalent or better protection from the pesticide being handled. If chemical-resistant gloves do not provide adequate suppleness and durability, leather gloves may be worn over chemical-resistant liners. Once

leather gloves have been used for this purpose, they must not be worn in any other situation. Flocked or lined gloves are prohibited, but under certain conditions disposable separate glove liners are allowed to make wearing chemical-resistant gloves more comfortable. A glove liner is defined as a separate glove-like hand covering made from a lightweight material, with or without fingers. Flocking, which consists of closely placed small tufts of soft material glued or bonded onto the inside of gloves, is not defined as a glove liner. Flocked gloves are prohibited because they are nearly impossible to adequately decontaminate.

Chemical-Resistant Protective Clothing.

When the label or regulations specify waterproof or impervious pants and coat, or a rain suit, employers must provide, and assure that employees wear a full-body, chemical-resistant suit that covers the torso, head, arms, hands, legs, and feet. (Figure 5-4) If an employee works as an applicator in an enclosed cab or as a flagger in an enclosed vehicle, they must keep the full-body, chemical-resistant protective clothing immediately available and stored in a chemical-resistant container.

When an employee mixes, loads, or transfers pesticides with the signal word "DANGER/POISON", "DANGER" or "WARNING" through a closed system or in sealed water-soluble packets, they must wear at a minimum, coveralls, a chemical-resistant apron and chemical-resistant gloves. However, they must keep the full-body, chemical-resistant protective clothing immediately available at the work site.

No employee may handle any pesticide that requires a full-body, chemical-resistant protective suit when the ambient temperature ex-



FIGURE 5-5.

Chemical-resistant garments provide the maximum amount of protection from pesticide exposure.

ceeds 80°F during daylight hours or 85°F during nighttime hours, sunset to sunrise. The exception is when employees use cooled, chemical-resistant suits or other control methods to prevent hyperthermia.

Footwear. When the pesticide label specifies chemical-resistant footwear, (Figure 5-5) employers must assure that employees wear one of the following types of footwear:

- Chemical-resistant shoes
- Chemical-resistant boots, or
- Chemical-resistant coverings worn over boots or shoes.

Employees do not need to wear chemical-resistant footwear when they are operating aircraft.

Head Gear. When the pesticide label specifies chemical-resistant headgear, employers must assure that employees wear either a chemical-resistant hood or a chemical-resistant hat with a wide brim. (Figure 5-6) For aircraft operation, a helmet may be substituted for chemical-resistant headgear.

Apron. When the pesticide label specifies a chemical-resistant apron, employers must assure that employees wear one that covers the front of the body from mid-chest to the knees.

Respiratory Protection. When a pesticide label, restricted material permit condition or regulation requires the use of respiratory protection, employers shall:

- Have in place a written respiratory protection program with work site-specific procedures, and
- Assure that employees use respirators in accordance with pesticide labeling, restricted material permit conditions, or regulations.

The National Institute for Occupational Safety and Health (NIOSH) or the Mine Safety and Health

Administration (MSHA) must currently approve the respiratory protection equipment that is used at the work site. (Figure 5-6) The approval must be for each specific pesticide and exposure condition for which respiratory protection is used. An employer may provide respirators to employees or allow employees to use their own respirators on a voluntary basis. The employer must provide to employees information outlined in 3 CCR section 6739 about the proper use of respirators and their limitations. Under an employer-supplied voluntary respirator provision, the employer must implement a minimal written respiratory protection program. A written program is not required when a voluntary respirator program only involves the use of filtering face piece.

It is important to know that filtering face pieces ARE considered to be respirators, therefore their use for protection against pesticide exposure is subject to all provisions of section 6739.

Written Respiratory Protection Program.

The employer is responsible to understand and implement the respirator regulations applicable at the worksite. DPR can provide guidance for understanding the regulations and developing a written respiratory protection or respirator program.

The employer's written respiratory training program shall be updated to reflect any changes to the work place conditions and be retained by the employer, and shall include the following components as applicable to the work place conditions that require the use of a respirator:

- Procedures for selecting the correct respirator
- Medical evaluations of employees that must wear a respirator, including:



FIGURE 5-6.

Employers must provide approved respiratory protective equipment when pesticide labeling or regulations require it or when respiratory equipment is needed to maintain employee exposure below an applicable recognized exposure standard.

- Identifying a physician, and
 - Obtaining a written medical recommendation from the physician regarding the employee's ability to use a respirator.
 - Correct fit testing procedures to assure that employees using tight-fitting face pieces:
 - Pass an appropriate Cal/OHSA compliant fit test prior to initial use of a respirator, and
 - At least annually thereafter.
 - Procedures for proper respirator use, in routine and emergency situations
 - Procedures and schedules for respirator maintenance, including:
 - Cleaning
 - Disinfecting
 - Storing
 - Inspecting
 - Repairing, and
 - Discarding and replacing.
 - Procedures for proper use of atmosphere-supplying respirators to ensure air:
 - Quality
 - Quantity, and
 - Flow.
 - Training in respirator use hazards during:
 - Routine and emergency situations, and
 - If appropriate, to include training about atmospheres considered to be Immediately Dangerous to Life or Health.
 - Training in the proper respirator use, to include:
 - Purpose for respirator use
 - Putting on
 - Removing
 - Any use limitations and capabilities
 - Medical signs and symptoms that may interfere with respirator use, and
 - Maintenance.
 - Training shall be conducted:
 - Before an employee's initial respirator use
 - At least annually thereafter
 - When it is determined that the employee needs retraining, and
 - If changes to the work place situation or respirator type used makes previous training obsolete.
 - Procedures for evaluating the effectiveness of the written respirator program shall include:
 - A workplace evaluation
 - Assurance of program effectiveness
 - Annually consulting with employees for their views on program effectiveness, and
 - Identifying any deficiencies.
 - Recordkeeping shall include retaining written information regarding:
 - Medical recommendations
 - Fit testing, and
 - The respirator program.
- These records shall be maintained while the employee is required to use a respirator, and for three years after the end of employment conditions requiring the use of a respirator.

Personal Protective Equipment Exceptions and Substitutions. The following exceptions and substitutions are permitted for PPE that is required by the regulations or by the pesticide label:

- Handlers using a closed system for pesticides that carry the signal word "DANGER/POISON", "DANGER" or "WARNING" may replace the PPE specified by the pesticide label and instead use:
 - Coveralls,
 - Chemical-resistant gloves, and
 - A chemical-resistant apron.
- Handlers using a closed system to

- handle pesticides with the signal word "CAUTION" may replace the PPE specified by the pesticide label and instead use:
- o Work clothing.
- Handlers using a closed system that operates under positive pressure, for pesticides that carry the signal word "DANGER/POISON", "DANGER" or "WARNING" must wear:
 - o Protective eyewear
 - o Coveralls
 - o Chemical-resistant gloves, and
 - o A chemical-resistant apron.
 - Handlers using a closed system that operates under positive pressure, for pesticides that carry the signal word "CAUTION" must wear:
 - o Protective eyewear and
 - o Work clothing.
 - Handlers using any closed system must keep the PPE that is specified on the pesticide label immediately available for use in an emergency
 - Handlers properly mixing pesticides packaged in water-soluble packets are considered to meet the closed (mixing) system required in 3 CCR
 - Handlers working in an enclosed cab on ground application equipment or in an enclosed cockpit in aerial application equipment may substitute work clothing for the PPE specified by the pesticide label
 - Handlers working in an enclosed cab on ground application equipment must wear respiratory protection when required
 - Handlers working in an enclosed cockpit in aerial application equipment are exempted from wearing respiratory protection when required
 - Handlers working in an enclosed cab that is acceptable for respiratory protection may use work clothing instead of the PPE specified by the pesticide label
 - Handlers working in an enclosed cab and utilizing the PPE exceptions must keep all label-specified PPE immediately available and stored in a chemical-resistant container. Label-specified PPE must be worn if it is necessary to work outside the enclosed cab or cockpit and contact pesticide treated surfaces in the treated area. Once the PPE is worn in the treated area, the employee must remove it and store it in a chemical-resistant container before reentering the enclosed cab
 - Handlers may use a chemical-resistant suit in place of coveralls and/or a chemical-resistant apron, and
 - Handlers working as pest control aircraft pilots are not required to wear gloves while flying or otherwise in the enclosed cockpit. However, they must wear gloves when entering or exiting an aircraft contaminated with pesticide residues. Gloves used for entering or exiting the cockpit must be stored in a chemical-resistant container.
- Workplace Requirements.** Employers are responsible to provide adequate workplace lighting, to carry out equipment inspection, to notify employees who service application equipment of potential hazards, and to provide closed mixing systems when these are required.
- Lighting.* Whenever natural light in a mixing and loading area is not adequate to allow an employee to read the label and work in a safe manner, the employer must provide artificial light that is sufficient to

allow the employee to perform these activities safely.

Safe Equipment. Employers must assure that the equipment employees will use for mixing, loading, or applying pesticides is inspected before each day of use and found to be in good repair and safe to operate. Employers must repair equipment with any safety defect to remove the hazard prior to its further use.

Employers must equip all openings on tanks used for mixing or applying pesticides with tightly fitting covers that prevent splashes or spills. And, they must not allow any flexible hose that is under pressure and carrying a liquid pesticide with the signal word "DANGER/POISON", "DANGER" or "WARNING" to pass unshielded through the cockpit of an airplane or helicopter. (Figure 5-7)

Employers must install shut-off devices on the exit end of all hoses attached to mixing tanks that carry liquid pesticides with the signal

word "DANGER/POISON", "DANGER" or "WARNING". These devices must be designed so that they prevent pesticides from splashing onto the employee doing the loading when the employee stops filling the application vehicle's tank and removes the filler hose from the tank's inlet. A reversing action pump or a similar system that will empty the hose and eliminate dripping once the filling operation has stopped may be used instead.

Aerial or ground application tanks that have a capacity of 49 gallons or more and that are used to mix or apply pesticides with the signal word "DANGER/POISON", "DANGER" or "WARNING" must have either a:

- Properly functioning sight gauge or other means to indicate the liquid level inside the tank to help prevent over-filling, OR
- Tank or filler hose nozzle with a device that automatically stops



FIGURE 5-7.

Employers must equip all openings on tanks used for mixing or applying pesticides with tightly-fitting covers that prevent splashes or spills.

the filling operation when the tank is full, preventing the pesticide mixture from spilling over.

Equipment Maintenance. Employers who own or operate pesticide mixing, loading, or application equipment must provide hazard notification to equipment maintenance workers. Each employee under their control who may be involved in cleaning, servicing, or repair of this equipment must be informed of the pesticide hazards they may encounter and how to protect themselves against injury. If persons other than employee handlers will clean, service, or repair application equipment the employer must notify the person in charge of performing these services. Employers must provide employees with any necessary PPE or work clothing. During maintenance operations, employers must instruct and supervise these employees in a way that reduces hazards or exposure.

Closed Systems. The most hazardous pesticide-handling activity is hand-pouring pesticides. This activity has resulted in many serious illnesses. Employers are required to provide

closed systems for employees who, for the production of an agricultural commodity:

- Mix or load liquid pesticides with the signal word "DANGER/POISON", "DANGER" or "WARNING" (see exception below)
- Load diluted liquid mixes derived from dry pesticides with the signal word "DANGER/POISON", or "DANGER"
- Mix or load any minimal exposure pesticides,
OR
- Mix and transfer certain pesticides used to aid cotton harvest.

Proper use of a closed system reduces the potential for exposure. It is important that closed systems be properly operated, cleaned, and maintained. Closed systems are not required for employees who handle a total of one gallon or less per day of pesticides that have the signal word "DANGER/POISON" and "DANGER" and that are handled exclusively in original containers of one gallon or less. A closed system's design and construction must meet DPR Director's closed system criteria and must be adequate to prevent exposure of people to the pesticide being handled.

REVIEW QUESTIONS*(answers on page 115)*

- 1. The specific application information that an agricultural property operator must provide to workers at a central location include all the following except the**
 - A. Identification of the treated area.
 - B. Name or description of the pest.
 - C. Product name.
 - D. Date and time of application.

- 2. Which of the following is not one of the handler employee training requirements?**
 - A. Environmental concerns such as drift, runoff, and wildlife hazards.
 - B. The location of pesticide purchase receipts.
 - C. Warnings about taking pesticides or pesticide containers home.
 - D. How to obtain emergency medical care.

- 3. Engineering controls for handling pesticides include**
 - A. Water retention basins.
 - B. Wheel-move sprinklers.
 - C. Closed mixing systems.
 - D. Global positioning units.

- 4. Pesticide handler safety training for employees must be completed before**
 - A. Employees are allowed to handle any pesticide.
 - B. The first work day of each month in which a pesticide might be handled.
 - C. By the 10th of the month following the month in which pesticides were used.
 - D. The beginning of each year.

- 5. Which of the following qualifications enables a person to train pesticide handler employees in commercial or research production of an agricultural plant commodity?**
 - A. A professor of the University of California.
 - B. A California Certified Private Applicator.
 - C. A Certified Crop Consultant.
 - D. A DPR-licensed Pest Control Dealer.

- 6. Which of the following symptoms would not be reasonable grounds to suspect the possibility of a pesticide illness or injury?**
 - A. Scratches on the arms or hands.
 - B. Headache.
 - C. Blurred vision.
 - D. Abdominal cramps.

- 7. Employers must maintain employer handler use records that identify the employee, the name of the pesticide, and the date of handling whenever an employee handles a pesticide that**
 - A. Carries the signal word "DANGER" or "WARNING" and is used for landscape pest control.
 - B. Contains an organophosphate or carbamate and is used for right-of-way pest control.
 - C. Carries the signal word "CAUTION" and is used for the commercial production of an agricultural plant commodity.
 - D. Contains an organophosphate compound and is used for research production of an agricultural plant commodity.

- 8. Employers that have employees who handle organophosphate pesticides in an agricultural plant production operation must have a signed written agreement from a doctor for medical supervision if**
 - A. Any of the employees are under 21 years of age.
 - B. Any pesticides used in the operation contain the signal words "DANGER" or "WARNING".
 - C. The employees regularly handle organophosphate pesticides with the signal words "DANGER" or "WARNING".
 - D. Employees regularly handle any pesticide.

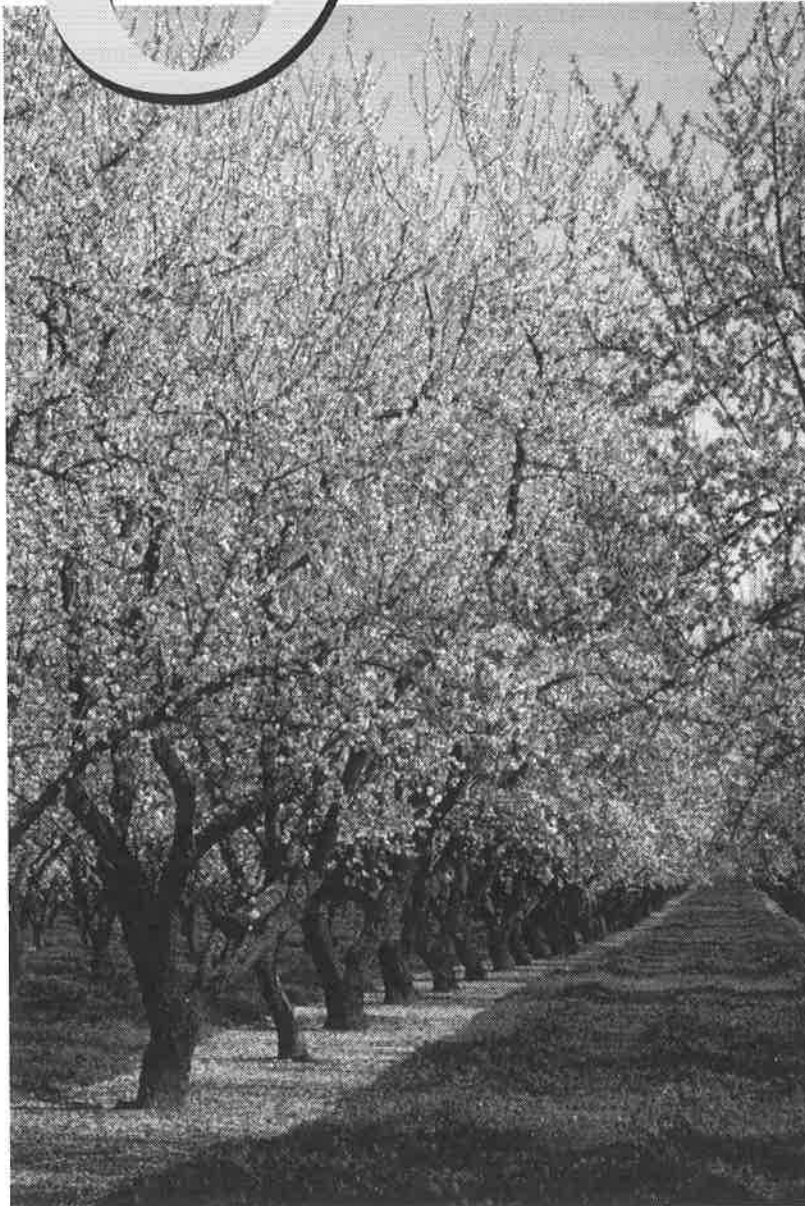
REVIEW QUESTIONS

(answers on page 115)

- 9. An employee who mixes, loads, or applies pesticides with the signal word "DANGER" in the production of an agricultural commodity may work alone at night if the employee**
- A. Makes personal contact by radio with a responsible adult at least every hour.
 - B. Makes personal contact by radio with a responsible adult at least every two hours.
 - C. Carries a cellular telephone at all times.
 - D. Receives special training.
- 10. Decontamination facilities must be equipped at a minimum with**
- A. Soap, single-use towels, and high pressure water for emergency washing.
 - B. Sufficient water, soap, and single-use towels for routine washing of the hands and face, and emergency washing of the entire body.
 - C. Soap, single use towels, and enough water for routine hand washing and emergency washing of the face.
 - D. Single-use towels, soap, warm water, and one pint of water for eye washing.
- 11. _____ are responsible for providing for the laundering of coveralls used by pesticide handler employees.**
- A. Employees.
 - B. Commercial laundries.
 - C. Field supervisors.
 - D. Employers.
- 12. An exception to the DPR-regulation requiring employee handlers to wear eye protection when handling pesticides is when**
- A. The pesticide label requires the use of goggles.
 - B. Using a pressurized closed mixing system.
 - C. Conducting all hand application operations.
 - D. Working in an enclosed cab.
- 13. Pesticide handler employees must always wear chemical-resistant gloves except when**
- A. Mixing or loading pesticides.
 - B. The pesticide label specifies that gloves must not be worn.
 - C. Repairing contaminated application equipment.
 - D. Using a backpack sprayer to spray weeds with an herbicide.
- 14. Which of the following procedures is not required in a written pesticide respirator program?**
- A. Selecting and fitting the respirator.
 - B. Repairing damaged respirator cartridges.
 - C. Cleaning and sanitizing the respirator.
 - D. Inspecting and maintaining the respiratory equipment.
- 15. Handlers who properly mix pesticides packaged in water-soluble packets are considered to be using**
- A. Personal protective equipment.
 - B. Non-engineering control devices.
 - C. A passive rinsing system.
 - D. A closed mixing system.

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Field Worker Safety



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FIELD WORKER PESTICIDE SAFETY REQUIREMENTS

Field worker safety regulations are written and implemented to protect field workers from pesticides and pesticide residues in treated fields. These regulations require employers to take certain precautionary or safety measures before field workers enter the treated field. These measures include:

- Field worker pesticide safety training
- Displaying pesticide application information
- Application notification
- Setting up decontamination facilities, and
- Providing hazard communication.

The employer is responsible for the safety of employees. The requirements described in this chapter are intended to prevent employees from being exposed to pesticides or pesticide residues.

Field Worker Training. Employers must assure that their employee fieldworkers have been trained in pesticide safety before they are allowed to work in a treated field. Field workers must be trained at least every five years in the following training topics:

- Routine decontamination and thorough washing after the exposure period
- Restricted-entry interval, posting, and the standard format of state and federal posting signs
- Where workers may encounter

pesticides and their residues

- Routes of exposure
- Pesticide hazards, chronic, acute and delayed effects, and sensitization effects
- Common signs and symptoms of pesticide overexposure
- First aid, decontamination, eye flushing, and getting emergency medical attention
- Warnings about taking pesticides or pesticide containers home
- Hazard communication requirements, and
- Employee rights to information and protection against retaliatory action for exercising employee rights.

The training must be conducted in a manner that is understood by all employees, presented orally from written materials or audio visually, using non-technical terms. The trainer must respond to employee questions. A qualified trainer must provide the training.

A qualified trainer includes a:

- California Certified Applicator
- Person holding any other valid license or certificate of personal pesticide qualification issued by DPR
- Person who has completed an "instructor training" program presented by:
 - o The University of California Statewide Integrated Pest Management Project, after January 1, 1993, or
 - o Other instructor training program approved by DPR.

- California Registered Professional Forester
- Person holding a valid County Biologist License in Pesticide Regulation or Investigation and Environmental Monitoring issued by the California Department of Food and Agriculture
- Farm advisor employed by University of California Cooperative Extension, and
- Person holding any other valid trainer qualification approved by DPR.

Hazard Communication for Field Workers. Whenever employees are working as field workers in a treated field, employers—including labor contractors—must display a completed copy of the PSIS leaflet A-9, Pesticide Safety Rules for Farm Workers, at the work site, or in certain instances at a central location. This leaflet is written in English and Spanish.

One possible way to display this information would be to place it in a binder that is readily accessible to employees. It could also be provided as a handout at the work site. If an employee is unable to read, and if the employee requests it, the employer must read, or provide someone to read, the leaflet to the employee in a language the employee understands.

The operator of the property must maintain the following records and documents in a central location at the workplace. These must be accessible to employees, including employees of a labor contractor, who may enter a treated field:

- Pesticide use records for all the pesticides that have been applied to the field within the last two years
- Copies of the PSIS leaflets that provide general information about pesticides or that are

specific to the pesticides listed in the pesticide use records, and

- An MSDS for each pesticide listed in the pesticide use records. The employer must make every reasonable effort to obtain an MSDS for the pesticides used.

Before employees are allowed to enter pesticide treated fields, the property operator must inform them of the availability and location of the pesticide use records, PSIS leaflets, and any MSDS. The PSIS leaflets provide additional information about a specific pesticide, the use of closely related pesticides, or general information about pesticide safety (e.g., first aid, respiratory protection, storage, and disposal). PSIS leaflets are written by DPR.

If employees are working for a labor contractor, the property operator must inform the labor contractor of the location of these records and other documents. The labor contractor must then inform the employees. If the location of records, documents, or information changes, the property operator must immediately inform employees or the labor contractor of their new location.

Employers are required to inform their employees that they, their physicians, and their representatives have the right to access information about pesticides to which they may be exposed. Also, employers must inform their employees that they are protected against discharge or other discrimination for exercising their rights.

Upon request, the property operator must make the above-specified records and documents available to the employee, the employee representative, the labor contractor, or the employee's physician within 48 hours.

Employer Responsibilities. Employers are responsible for supplying application information, understanding who is qualified to be in treated areas, planning emergency medical care and providing decontamination facilities for employees.

Application-Specific Information. When employees work in treated fields on property used for commercial or research production of an agricultural plant commodity, the property operator must display all of the following information at a central location:

- Identification of the treated area
- Time and date of the pesticide application
- Restricted-entry interval
- Product name, the EPA registration number(s), and the active ingredients, and
- Spray adjuvant product name and California registration number(s).

The information must be displayed when employees work within 1/4 mile of a treated field, and it must remain displayed until the area no longer meets the definition of a treated field or employees are no longer on the establishment, whichever occurs first. See the Glossary for the definition of a treated field.

Field Work During Pesticide Application. On farms or in forests, only the people making the application can be directed or allowed to enter or remain in a treated area.

In treated nurseries and greenhouses, only the people making the application can be directed or allowed to enter or remain in a treated area. The treated area boundaries of different sorts of nursery and greenhouse pesticide applications are described as follows.

If the pesticide is applied in a nursery:

- By aircraft, in an upward direction, or at a pressure of more than 150 pounds per square inch, or is applied as fumigant, smoke, fog, or aerosol, the prohibited area is the treatment site plus 100 feet in all directions within the confines of the property, or
- By ground, in a downward direction from a height greater than 12 inches from the soil or other planting medium, as a fine spray, or using pressure of more than 40 pounds per square inch, but not more than 150 pounds per square inch, or that requires respiratory protection on the product label, the prohibited area is the treatment site plus 25 feet in all directions within the confines of the property.

If the pesticide is applied in a greenhouse:

- As a space treatment with a fumigant, smoke, fog, aerosol, or mist or is a pesticide for which the product label requires respiratory protection, the prohibited area is the entire enclosed area plus any adjacent area that is not sealed sufficiently to prevent pesticide transfer from the treatment site, until the ventilation criteria have been met, or
- As a spray from a height greater than 12 inches from the soil or other planting medium, as a fine spray, or using a pressure of more than 40 pounds per square inch, the prohibited area is the treatment site plus 25 feet in all directions within the enclosed area.

Otherwise, in both the nurseries and greenhouses, the prohibited area is the treatment site.

FIGURE 6-1.

Employees may enter a treated field during a restricted-entry interval to conduct pesticide handling activities if they use the pesticide handler personal protective equipment listed on the pesticide label.



Greenhouse Ventilation Criteria.

When a greenhouse application involves a pesticide with label directions that require respiratory protection, and is applied as a fumigant, smoke, mist, fog, or aerosol, it must be ventilated until:

- The concentration is measured and found not to exceed any pesticide label standard, or
- One of the following has occurred if there is no label standard:
 - Ten air exchanges are complete,
 - Two hours of mechanical ventilation,
 - Four hours of passive ventilation,
 - Twenty-four hours, with no ventilation, or
 - Any combination of percentage portions of each method above, the sum of which equals 100%.

Emergency Medical Care. When employees are required to enter pesticide-treated fields, emergency medical care must be planned for in advance. The employer must locate the nearest medical facility where emergency

medical care will be available for all employees who will work in treated fields. Employees or their field supervisors must be informed of the name and location of the medical facility or doctor where emergency medical care is available. If the identified facility is not readily accessible from the work location, the employer must outline the procedures employees should follow in order to obtain emergency medical care.

Employers must ensure that employees are immediately taken to a doctor when there is reason to believe they have a pesticide illness or injury, or when an exposure to a pesticide has occurred that might lead to an employee's illness.

Field Worker Decontamination Facilities. Whenever fieldworkers are working in a treated field, decontamination facilities must be within 1/4 mile from—or at the nearest point of vehicular access to—the fieldworkers. The employer must assure that these facilities contain sufficient water, soap, and single-use towels for hand and face washing and for emergency eye flushing. The water must be of a

quality and temperature that will not cause illness or injury to skin or eyes, or if it is swallowed.

Decontamination facilities must not be in an area that is being treated or is under entry restrictions, unless the fieldworkers are performing early-entry activities.

Restricted-Entry Intervals. A restricted-entry interval (REI) is the period of time after a crop or commodity has been treated with a pesticide when restrictions on entry are in effect to protect employees from potential exposure to a hazardous level of pesticide residue. REIs are specified in the regulations and on the pesticide labels. In case of an inconsistency between the regulation-specified REI and label-specified REI, the longer REI must be followed. If more than one REI in regulations can be applied to a given situation, the longer one must be used.

When reference is made in an REI to pounds of a pesticide, it means pounds of active ingredient. Each day referenced in an REI is considered to be a 24-hour period beginning at the completion of the application. The regulation-required REI applies to the pesticide-crop combinations listed in the regulations.

Field Reentry After Pesticide Application. Any employee may enter a treated field without restriction after the REI expires. But no employer, labor contractor or property operator may direct any employee to enter or remain in a treated field until the label, or regulation-specified REI, has expired, whichever is longer. Exceptions are explained below:

- Employees may only enter a treated field during an REI to conduct pesticide-handling

activities, including soil incorporation, watered-in or mechanical, if they use the pesticide handler PPE listed on the pesticide label

- Employees may enter a treated field during a REI to perform no-contact activities, when the inhalation exposure level meets the label standard. Greenhouse ventilation criteria described earlier in this chapter must be met before workers are allowed to enter for no-contact activities. "No contact" means the employee will not have any contact with any treated surface, including soil, water, air, equipment, or plant surfaces. The "no contact" requirement is met if the employee is operating a tractor or other equipment and is separated from the treated surfaces by an enclosed cab, shields, or operator placement on the equipment in relation to the treated plants
- Employees may enter a treated field during a label-required REI to conduct limited-contact activities, including limited-contact irrigation, that are necessary and unforeseen only if all of the following occurs:
 - The label does not require posting and oral notification of employees
 - At least four hours have elapsed since the application was completed
 - The inhalation exposure does not exceed the label standard, or if the ventilation criteria outlined earlier in this chapter have been met
 - Exposure is minimal and limited to the feet, the legs below the knees, the hands, and the forearms below the elbows
 - Employees must wear the early-entry PPE specified

on the label for workers or the following, (if none is specified):

- Coveralls,
- Socks,
- Chemical-resistant footwear,
- Chemical-resistant gloves, and
- Protective eyewear, if required by the label.
- o Each employee spends no more than eight hours in any 24-hour period in the treated field, and
- o Employees are informed before entering that this exception is being used and about the prior provisions that apply to them, orally or by posting a notice.
- Employees may enter a treated field to perform activities that do not involve hand labor other than pesticide handling, no-contact activities, or limited-contact activities, provided that all of the following occurs:
 - o At least four hours have elapsed since the end of the application
 - o The inhalation exposure does not exceed the label standard, or the ventilation criteria outlined earlier in this chapter have been met
 - o Employees use the PPE required by the label for early entry
 - o Employees remain in the treated field for no more than 1 hour in any 24 hour period, and
 - o If they are informed before entering that this exception is being used and about the provisions that apply to them, orally or by posting a notice.

When employees operate tractors or other equipment with enclosed

cabs, or when they are prevented from coming into contact with anything that was treated, they are considered to be engaging in a “no contact” activity.

Restricted Entry Interval Adjustments. The REI adjustments described in the following paragraphs and in Sidebar 2 can be made only to REIs in regulations not in pesticide labeling. REIs may change from time to time. Read the pesticide label or consult your County Agricultural Commissioner for current information.

Shortening the Restricted-Entry Interval. The REI adjustments described below can be made only to restricted entry intervals found in the regulations, not to those prescribed on the pesticide label. In other words, REIs specified on the label must be followed, they can not be adjusted.

With prior authorization from the County Agricultural Commissioner, regulation-required REIs can be shortened as follows:

- When there is no foliage on the plant that has been treated, and when any crop cover or weed cover in the treated area is not over four inches in height, the restricted entry interval can be reduced by 50 percent, but in no case to less than the label-specified restricted entry interval, and
- When the pesticide label requires you to adjust the restricted entry interval if you make outdoor applications in a geographical area that averages less than 25 inches of rain annually, you must observe the label’s special REI requirements for these dry areas. But, if you can present your County Agricultural Commissioner with valid rainfall data from an official government

source showing that the area in your county where you want to apply pesticides averages 25 inches of rain or more annually, your County Agricultural Commissioner is allowed to shorten the REI.

Requirements for Early-Entry Field Workers. Employees may be allowed to perform tasks in a treated field after completion of the application and while a REI is in effect ONLY if the employer makes sure that the following takes place:

- Early-entry fieldworkers are informed of pesticide label requirements regarding all of the following:
 - Human hazards or precautions
 - First aid
 - Symptoms of poisoning
 - Use and care of label-required PPE for early entry workers
 - Prevention, recognition, and first aid for heat-related illnesses, and
- The importance of washing themselves thoroughly at the end of the exposure period.
- Employers provide all required PPE and provide for its cleaning according to pesticide label instructions. In the absence of any instructions the PPE must be washed in hot water with detergent
- PPE is:
 - Replaced when it cannot be properly cleaned or repaired
 - Inspected by employer before each day's use, and
 - Kept separate from personal clothing in a pesticide free, specifically designated place when not in use
 - Cleaned and dried, or stored in a well-ventilated place to dry, and
 - That contaminated PPE is kept and washed



SIDEBAR 2

***Restricted-Entry Interval Adjustments:
An Example:***

To determine what the restricted-entry interval should be when you are applying a mixture of two or more organophosphate pesticides with differing restricted-entry intervals, add 50 percent of the next longest restricted-entry interval to the longest restricted-entry interval. For example, when treating a crop with a combination of Pesticide A and Pesticide B, the restricted-entry interval would be 15 days:

Restricted-Entry Interval	Calculations
Pesticide A – 14 days	50% of 2 days = 2 x 0.5 = 1
Pesticide B – 2 days	14 + 1 = 15 days

separately from other clothing or laundry.

- All required PPE meets the applicable standard in 3 CCR
- Employees use all PPE correctly for its intended purpose
- PPE remains the property of the employer. The employer must not direct or allow employees to take contaminated PPE home.
- Employer informs anyone who cleans or launders PPE
 - That it may be contaminated
 - The hazards it presents, and
 - How to properly handle and clean it-, and
- When the pesticide label requires eye protection, that early-entry workers have in his or her possession or in their work vehicle at least one pint of eye flush water.

Warning and Posting Requirements.

When property is used for commercial or research production of an agricultural commodity, property operators must assure that their employees, including the employees of any contractor they hire, are notified of all scheduled pesticide applications. Prior to the application property operators must give the notification to any person:

- In the field
- Likely to enter during the application, or
- Who may enter during the REI any employee who walks within 1/4 mile of the treated field.

People who apply the pesticides or supervise the applications need not be given notification.

The notice must be given in a manner that is understood by the people notified. The notice must include the description and location of the treated area, the time period during which entry is restricted, and instructions to

stay out of the treated field, except as provided for early entry, until the REI expires. Oral notification is not required if the field is posted as specified in the regulations, unless the pesticide label requires both oral warnings and field posting. (Figure 6-1)

When the pesticide label requires it, property operators must assure that signs are posted around treated fields during the application and throughout the REI. Signs are not required if control measures are used to prevent employees, except for the handlers making the application, from doing any of the following:

- Walking within 1/4 mile of treated area
- Entering the treated area, and
- Working in or remaining in the treated field.

All greenhouse applications require posting of warning signs unless control measures are used to prevent employees, except for the handlers making the application, from

- Entering the greenhouses
- Working in, or remaining in, and
- Passing through the greenhouse during the application and/or the REI.

Warning signs must be posted when any pesticide application results in an REI greater than seven days after any adjustments allowed by the regulations.

Warning Signs. Warning signs must have a skull and crossbones symbol near the center. The words "DANGER," "PELIGRO," "PESTICIDES," and "PESTICIDAS" must appear in the upper portion of the sign, while the words "KEEP OUT" and "NO ENTRE" must appear in the lower portion. The wording must be readable and the symbol visible to a person with normal vision from 25

feet. The colors of the letters and symbols must contrast with their immediate background. The signs must be posted no earlier than 24 hours prior to an application and must be removed within three days after expiration of the REI, before employees enter to perform activities prohibited during the REI. The sign must remain posted and clearly legible throughout the application and an REI. When the sign is used for an REI greater than seven days, the following information must appear in the lower portion of the sign:

- Date when entry will become unrestricted,
- Name of the property operator, and
- Field identification, if any.

Warning signs must be posted so they are visible at all usual points of entry to the treated field. This includes each road, footpath, walkway, or aisle that enters the treated field. The signs must be posted along the border with any labor camp that is adjacent to the treated field. If the treated field borders an unfenced public right-of-way such as a road, trail, or path, additional signs must be posted at each end of the treated field and along the border at intervals no greater than 600 feet.

When a minimal exposure pesticide or a pesticide with the signal word

“DANGER/POISON” or “DANGER” on the label is applied through an irrigation system, signs must be posted in the same manner as previously described. However, such warning signs must also contain an octagon STOP sign symbol at least eight inches in diameter containing the word “STOP” in English. Also, the words “KEEP OUT” and “NO ENTRE” must appear above the symbol, and the words “PESTICIDES IN IRRIGATION WATER” and “PESTICIDAS EN AGUA DE RIEGO” must appear below the symbol. All letters must be at least 2-1/2 inches tall, and the color of the symbol and letters must contrast sharply with the background.

If a fumigant is applied to a field, warning signs must be posted as described above. However, the sign must instead have the skull and crossbones symbol and the following words and information:

- “DANGER/PELIGRO”
- “AREA UNDER FUMIGATION, DO NOT ENTER/NO ENTRE”
- “(Name of the fumigant) FUMIGANT IN USE”
- Date and time of the fumigation, and
- Name, address, and telephone number of the applicator.

REVIEW QUESTIONS

1. **When must pesticide safety training be given to field workers?**
 - A. Within one month after they begin work.
 - B. Immediately after each pesticide application.
 - C. Before they are allowed to work in a treated field.
 - D. When field workers request training.
2. **How often must field workers receive pesticide safety training?**
 - A. Every year.
 - B. Every two years.
 - C. Every four years.
 - D. Every five years.
3. **Who is qualified to provide training to field workers in California?**
 - A. A person who has completed an approved instructor-training program.
 - B. Another field worker who attended a field worker training session.
 - C. Any field supervisor or farm manager.
 - D. A University of California professor.
4. **What document must be displayed at the work site or central location when field workers are working in a pesticide-treated field?**
 - A. The Pest Control Recommendation signed by a licensed Pest Control Adviser.
 - B. A completed PSIS leaflet A-9.
 - C. An outline of the pesticide safety training provided to the workers.
 - D. A list of the trained workers employed by the farming operation.
5. **Before field worker employees are allowed to enter pesticide-treated fields, what information must the property operator inform them about that is mandated by California's pesticide laws?**
 - A. The location of drinking water.
 - B. The work hours, including break and lunch periods.
 - C. The availability and location of the pesticide use records, PSIS leaflets, and MSDS's.
 - D. How to protect themselves from sun exposure.
6. **Which of the following information about a pesticide-treated field is not required to be displayed at a central location?**
 - A. The time and date of the pesticide application.
 - B. The REI.
 - C. The product name, the EPA registration number, and the active ingredients.
 - D. The name of the person who made the pesticide application.
7. **When a pesticide that requires the use of a respirator is applied to a small number of plants in one section of a greenhouse, the treated area is considered to be**
 - A. 25 feet in all directions from the treated plants.
 - B. The entire enclosed area plus any adjacent area that is not sealed from the treatment site.
 - C. 100 feet in all directions from the treated plants.
 - D. The treatment site only.
8. **When employees are required to enter pesticide-treated fields, emergency medical care must be**
 - A. Obtained by the employees if needed.
 - B. Provided if needed after the employer consults with a medical advisor.
 - C. Planned and arranged for in advance by the employer.
 - D. Arranged for by the local County Agricultural Commissioner.
9. **When there is an inconsistency between the regulation-specified REI and the label-specified REI, you must always**
 - A. Average the two restricted-entry intervals.
 - B. Follow the regulation-specified interval.
 - C. Follow the label-specified interval.
 - D. Use the longer interval.

REVIEW QUESTIONS*(answers on page 115)*

10. Which of the following is one of the restrictions for employees entering a pesticide-treated area before the REI expires to conduct limited-contact activities?

- A. At least 12 hours have elapsed since the application was completed.
- B. The label requires posting and oral notification of employees.
- C. Each employee spends no more than eight hours in any 24-hour period in the treated field.
- D. Employees are wearing long-sleeved shirts, long pants, and shoes and socks.

11. Which of the following would be considered a no contact activity in a pesticide-treated area in which the REI has not expired?

- A. Performing hand labor activities.
- B. Limited-contact irrigation activities.
- C. Adjusting or repairing the pesticide sprayer.
- D. Operating a tractor from an enclosed cab.

12. When using posting as a method of notification about a pesticide REI, posting signs must be placed no further apart than

- A. 100 feet.
- B. 250 feet.
- C. 500 feet.
- D. 600 feet.

13. When the pesticide label requires eye protection, employers must also provide each early-entry worker with

- A. Sunglasses.
- B. At least one pint of eye flush water.
- C. Three pairs of goggles.
- D. Prescription eye drops.

14. Which of the following is not an employer responsibility before allowing employees into a treated field after completion of a pesticide application and while a REI is in effect?

- A. Providing instructions on where and how to store personal protective equipment at home.
- B. Providing all required personal protective equipment.
- C. Providing instructions to employees to wash thoroughly at the end of the exposure period.
- D. Providing information on recognizing, preventing, and giving first aid for heat-related illnesses.

7

Fumigation Handler Worker Safety



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GENERAL FUMIGATION HANDLER REQUIREMENTS

Employers are responsible for ensuring safe working conditions for their fumigation handler employees. They must make sure employees have the required personal protective equipment, including the proper respiratory equipment and are monitored, or protected in other ways specified below. They must have an accident response plan and train their employees how to respond in case of accidents. And, they must observe regulations regarding fumigating enclosed spaces and fields and posting of warning signs.

General Fumigation—Safe Use Requirements. Employers must provide and assure that employees wear the approved respiratory equipment when:

- Fumigant concentrations
 - o Cannot be controlled, and
 - o They expose employees to levels that exceed the Permissible Exposure Limit (PEL) as specified in the Title 8, California Code of Regulations, section 5155, or
- When the product label specifies more stringent requirements.

When an employee might be exposed to levels above the permissible exposure limit for methyl bromide, sulfuryl fluoride (Vikane), or any other fumigant for which the only type of approved respiratory

equipment is air-supplied equipment, the employer has the option to do one of the following:

- Require the employee to use air-supplied respiratory equipment, either self-contained breathing apparatus (SCBA) or an air-line respirator
- Provide continuous monitoring to warn the employee before the PEL is reached, or
- Upon written request by an employer, DPR will review and may accept a fumigation safety program that describes methods, work practices, devices, or processes that DPR determines will ensure employees will not be exposed to concentrations of fumigants in excess of the PEL.

Accident Response Plan. Employers must have an accident response plan at each work site, that provides instructions to protect employees during situations such as spills, fire, and leaks. The employer must train employees in the accident management procedures as stated in the plan.

Fumigation of Enclosed Spaces. Enclosed spaces include, but are not limited to:

- Vaults
- Chambers
- Greenhouses
- Vans
- Boxcars
- Ships
- Planes

- Vehicles, and
- Tarp-covered structures and commodities.

When you fumigate tarp-covered commodities inside of buildings, or when you fumigate areas or things inside enclosed greenhouses or other enclosed spaces, the following requirements apply to the entire structure or space:

- At least two trained employees must be present at all times
- The employees shall be trained in pesticide safety, including how to follow an accident response plan, and
- The two trained employees must be present when:
 - The fumigant is introduced,
 - When anyone enters the enclosed space to facilitate aeration, and
 - When anyone enters the enclosed space to determine the fumigant concentration.

In all of these cases, PPE must be worn when the pesticide product label or the regulations require it. The second employee must have immediate access to the label-required PPE for pesticide handlers, in case it becomes necessary to enter the fumigated enclosed space for rescue.

The only exception is when solid fumigants are introduced into the enclosed space from a position outside the enclosed space. Solid fumigants include:

- Aluminum phosphide,
- Magnesium phosphide, and
- Smoke cartridges.

In these cases only one trained employee must be present. The employer must follow the hazard communication and worker safety requirements in regulations.

Warning Signs. You must post plainly visible warning signs at all entrances to the space that will be fumigated before you start any fumigation. You must not remove warning signs until fumigation and ventilation have been completed and the premises are safe for reentry.

Warning signs must be printed in red on a white background. They must contain, in English and Spanish, the following statement in letters that are no less than two inches in height: "DANGER—FUMIGATION."

The signs must also have a skull and crossbones symbol that is no less than one inch in height, and in letters that are no less than one-half inch in height. The signs must identify the:

- Name of the fumigant
- Date and time the fumigant was introduced, and
- Name, address, and telephone number of the applicator performing the fumigation.

Unless the fumigant concentration in the area is known to be at or below the PEL, employers must not allow employees to enter fumigated enclosed areas, except properly protected employees to determine the fumigant concentration or to facilitate aeration.

Fumigants must not be released into an occupied work area. During the fumigation, meaning after any fumigant is applied and before aeration is complete, employers must manage the treated area or products so that employees who enter the area or work with the treated products are not exposed to concentrations in excess of the PEL. More detailed and specific field soil fumigation use requirements are covered in the Field Fumigation Study Guide, written for those who study for the Soil Fumigation Pest Control Category Examination.

REVIEW QUESTIONS*(answers on page 115)***1. Employers must provide and require employees to wear approved respiratory equipment when**

- A. Fumigant concentrations are kept below the Permissible Exposure Limit.
- B. Fumigant concentrations are controlled at safe levels.
- C. The fumigants being used are non-toxic to people.
- D. Fumigant concentrations cannot be controlled.

2. A fumigation accident response plan must be located

- A. In the employer's files.
- B. On the employee bulletin board.
- C. At each work site.
- D. In one of the employees' vehicles.

3. When a fumigated enclosed space is being entered to facilitate aeration, how many trained employees must be present?

- A. None.
- B. One.
- C. Two.
- D. Four.

4. Before starting any enclosed space fumigation, you must post plainly-visible warning signs

- A. At all entrances to the space.
- B. Around the main entrance to the space.
- C. At three or more locations around the space.
- D. At a central location close to the space.

8

Pesticide Residue



PESTICIDE RESIDUE 100

REVIEW QUESTIONS 102

PESTICIDE RESIDUE

DPR's residue-monitoring program is a key element in the integrated regulatory program designed to ensure the safe use of pesticides in California. This chapter will give you an overview of the laws and regulations concerning pesticide residues.

Monitoring for Pesticide Residues.

Pesticide residue is the remnant of a pesticide that can be found on a crop or commodity after application. Residues may result from any of the following:

- Direct application
- Off-site movement such as drift, volatilization, wind-blown pesticide dusts and pesticide residues on soil particles and runoff from irrigation or rainwater
- Uptake from contaminated soil, and
- Other environmental sources.

Sampling for Residues. DPR, the U.S. FDA, and County Agricultural Commissioners collect samples of various produce commodities for pesticide residue analyses. DPR collects samples throughout the year from chain store distribution centers, wholesale markets, and points-of-entry. These samples include domestic and foreign produce. County Agricultural Commissioners may collect and analyze produce samples from the fields at any time during the growing

season. The purpose of sampling is to monitor for illegal pesticide use or pesticide residues. The U.S. FDA samples domestic and imported produce in interstate commerce within California and throughout the United States. They have strengthened their import program in the last few years and now give special attention to imported foods.

Pesticide Residue Tolerances. The U.S. EPA establishes tolerances for pesticide residues in produce. Each tolerance is the highest residue level of a particular pesticide that is legally allowed on a particular commodity. The purpose of tolerances is to ensure that consumers are not exposed to unsafe levels of pesticide residues in food. Tolerances are based upon extensive crop residue data and toxicological information developed by pesticide registration applicants. This information is developed through actual crop residue trials and the use of test animals. Qualified scientists at U.S. EPA evaluate these data. In California, pesticide tolerances are enforced by the joint efforts of DPR Enforcement Branch and the CDFA Center for Analytical Chemistry. Produce is sampled by DPR scientists and analyzed for pesticide residues by CDFA chemists.

The best way for you to avoid pesticide residue problems is to read and carefully follow the label instructions and follow any laws or regulations

that may govern the use of a specific pesticide. You should always consider what is being produced on adjoining properties. Then, select the proper pesticide and method of application, and confine the pesticide to the property you are treating.

Laws and regulations do not justify or permit pesticide residue on produce unless a tolerance has been established for that specific pesticide and produce combination. In some instances, DPR may authorize an exemption from a tolerance.

Parts Per Million. Pesticide residues are normally measured in parts per million (ppm). One part per million means that there is one part of a chemical for every million parts of a commodity. In general, pesticide residues are measurable at a minimum detectable level of 0.01 ppm.

Quarantine. When an agricultural commodity is found to carry pesticide residues in excess of the legal tolerance, the commodity is quarantined and



SIDEBAR 3

Tolerances for Combinations of Related and Unrelated Pesticide Residues ***Related Pesticide Residue Combination***

Consider a lettuce crop treated with Pesticide X and Pesticide Y, both organophosphates. The established tolerance for Pesticide X on lettuce is 2 ppm, and the established tolerance for Pesticide Y is 7 ppm. One lot of packed lettuce was found to carry 1 ppm of Pesticide X and 4 ppm of Pesticide Y. To determine the percent of allowable tolerance, related chemical residues are added on a percentage basis:

Pesticide	Tolerance	Residue	Residue (Percent of Tolerance)
X	2 ppm	1 ppm	50.0
Y	7 ppm	4 ppm	57.1
			107.1

One ppm is 50 percent of 2 ppm, and 4 ppm is 57.1 percent of 7 ppm. When 50 percent and 57.1 percent are added together, the result is 107.1 percent. This lot is in violation, because the combined residues exceed 100 percent of the allowed tolerance for organophosphates.

Unrelated Pesticide Residue Combination

Consider what happens if the residue found on this lot of lettuce had been 1 ppm of Pesticide A, an organophosphate, and 2 ppm of Pesticide B, a chlorinated hydrocarbon:

Pesticide	Tolerance	Residue	Residue (Percent of Tolerance)
A	1 ppm	1 ppm	100
B	2 ppm	2 ppm	100

This time the residue on the lettuce is legal, because unrelated pesticides are not added on a percentage basis. Therefore, 100 percent tolerance of each compound is legal.

removed from sale and distribution. This procedure is also implemented if the agricultural commodity is found to have a residue for which there is no tolerance established. The grower, the packer, and the shipper are all subject to prosecution. The quarantined lot cannot be moved or disposed of without approval from DPR.

Seizure. If you treat a crop, commodity, or site with a pesticide that is not registered for use on that crop, commodity, or site, it is considered

a public nuisance. It may be seized by DPR to prevent its harvest or sale and to prevent planting of the site.

Commercial Laboratories. Many growers and chemical firms use the services of commercial laboratories that provide pesticide residue analysis. All laboratories that analyze produce for pesticide residues must be accredited by the California Department of Public Health.

REVIEW QUESTIONS

(answers on page 115)

1. A pesticide residue tolerance is the

- A. Minimum amount of pesticide that is allowable on a particular commodity at the time of application.
- B. Maximum amount of pesticide that is allowable on a particular commodity at the time of application.
- C. Maximum amount of pesticide that is allowable on a particular commodity at the time of harvest.
- D. Maximum amount of pesticide that is allowable on a particular commodity at market distribution centers, wholesale markets, and points-of-entry.

2. What is the best way to avoid exceeding the legal pesticide tolerance on a commodity to which you are making a pesticide application?

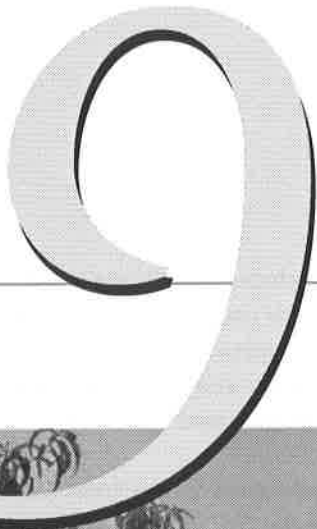
- A. Make the application as close as possible to harvest.
- B. Use adjuvants that retard the breakdown of the pesticide.
- C. Carefully follow label instructions and any laws or regulations that may govern the use of the specific pesticide.
- D. Make applications at night or early mornings.

3. If an agricultural commodity is found to carry pesticide residues in excess of the legal tolerance it will be

- A. Banned from sale in certain states.
- B. Allowed to be sold only in certified farmers' markets.
- C. Allowed to be sold only outside of the United States.
- D. Quarantined and removed from sale and distribution.

4. If an agricultural commodity is found to have residues of a pesticide that is not registered for that commodity, it will be

- A. Sold for livestock feed only.
- B. Considered a public nuisance.
- C. Held in storage until the residues dissipate.
- D. Allowed to be sold only outside of the United States.



The Endangered Species Act, The Healthy Schools Act, and Ground and Surface Water Protection



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THE ENDANGERED SPECIES ACT

The federal Endangered Species Act of 1973 was implemented to provide protections for endangered and threatened plant and animal species as listed by the U.S. Fish and Wildlife Service. It is also designed to conserve the ecosystems upon which these listed species depend.

Under this act, all federal agencies must ensure that any actions they authorize or carry out will not further jeopardize the continued existence of endangered or threatened species. Habitat and prey critical to these species' survival also must not be harmed. U.S. EPA's pesticide registration process is covered under these requirements, which impacts pesticide users through labeling requirements.

U.S. EPA Responsibilities. Accordingly, U.S. EPA uses its pesticide registration and compliance programs to mitigate adverse impacts to endangered species, their habitats, or their prey from legal pesticide uses. For each pesticide it registers, U.S. EPA must conduct a biological assessment to analyze the potential effects of that pesticide on listed species, their habitat, or their prey. Either the National Marine Fisheries Service or the U.S. Fish and Wildlife Service will review the biological assessment and prepare a conclusion of its review. If it

is concluded that the registered pesticide uses may adversely affect a listed species or their habitat, reasonable and prudent alternatives will be proposed to U.S. EPA.

Endangered Species Protection Program. U.S. EPA created an enforceable program, the Endangered Species Protection Program (ESPP) to:

- Provide endangered species and habitat maximum protection from pesticide use, and
- Minimize any adverse impact to pesticide users when implementing protections for endangered species from any potential adverse effects of pesticide use.

To implement portions of the ESPP, pesticide labels might direct users to read special county bulletins. U.S. EPA follows a species approach to protection, prioritized according to the vulnerability of each endangered or threatened plant or animal. U.S. EPA also determines the lowest level of pesticide use that may affect each species.

California State Plan. In California, DPR has a state plan to protect federally and state listed species from pesticide uses. The plan is implemented through an online database application, the Pesticide Regulation Endangered Species Custom Real-time Internet Bulletin Engine (PRESCRIBE). PRESCRIBE helps pesticide users find out if

FIGURE 9-1.

Ground water contamination, resulting from normal, registered use of pesticides, can cause unreasonable risks to human health and the environment.



there are any endangered species or specie habitat in the vicinity of their use site, and the use limitations that apply to the pesticide product(s) they intend to use.

DPR's Endangered Species Project activities include:

- Mapping sites occupied by federally and state threatened or endangered species
- Evaluating the risks from pesticides to species and their habitat
- Classifying risks from pesticides registered in California
- Developing protection strategies to minimize risks from pesticides as needed
- Updating and maintaining the PRESCRIBE online database application, and
- Providing public outreach and applicator training on endangered species and their habitats.

Of all the federally listed species in California, the San Joaquin kit fox has the greatest overlap with agricultural areas, mostly in the San Joaquin Valley. Other species interspersed with agricultural areas in California include birds, mammals, reptiles, amphibians, fishes, invertebrates, and many plants.

DPR coordinates its endangered species protection strategies with the U.S. Fish & Wildlife Service, the National

Marine Fisheries Service, the California Department of Fish and Game, the California Department of Food and Agriculture, and the County Agricultural Commissioners.

THE HEALTHY SCHOOLS ACT

California's Healthy Schools Act (HSA) established requirements designed to protect the health and safety of children and staff in certain public schools and child day care facilities. Schools and child care facilities that must comply with the HSA shall meet specific pesticide use requirements.

All pest control businesses performing pest control at these facilities are also required to meet specific requirements that are in addition to the general pesticide use requirements that they must meet when performing pest control at other sites. The HSA also prohibits the use of any pesticide:

- With a conditional, interim, or cancelled registration,
- Used under an experimental use permit, or
- With uses that are otherwise being phased-out.

Requirements for Pest Control Businesses. In addition to the usual application requirements for pest control at other sites, the pest control business that is hired by a school or

child care facility that must comply with the HSA, shall meet specific requirements for:

- Providing an application notification and post application warning signs
- Keeping pesticide use records, and
- Submitting an annual HSA use report to DPR.

The pest control business must comply with pesticide use requirements under the HSA.

General Requirements for Schools and Child Care Facilities. Generally, schools and child care facilities that must comply with the HSA shall:

- Provide staff and parent notification of pesticides intended to be applied and for scheduled applications
- Assure that application warning signs are posted, and
- Keep pesticide use records of any pesticides applied.

Certain pesticides are exempt from these requirements, including self-contained baits and traps, crack and crevice gels and pastes, and certain other pesticides that are exempt from U.S. EPA registration.

DPR School Integrated Pest Management (IPM) Program. DPR promotes effective least toxic pest management practices at schools and child care facilities covered by the HSA through their School IPM Programs. DPR works with school districts in California by providing them with IPM training and outreach to encourage the adoption of IPM practices. DPR interacts with organizations representing child care providers, including making presentations about the program plus providing educational information and encouragement to use IPM practices at child care facilities.

GROUND WATER PROTECTION

Extensive monitoring and testing have found that normal, registered use of certain pesticide products have resulted in ground water contamination. (Figure 9-1) It has been determined that this contamination poses unacceptable risks to human health and the environment. DPR's ground water protection regulations are designed to prevent further ground water contamination and to keep existing contamination from worsening. The various ground water protection regulations impose specific use requirements for certain pesticide products that have contaminated or have the potential to contaminate ground water in certain areas of concern. These pesticides of concern include those with registered labeling for use in the following settings:

- Agricultural,
- Outdoor institutional, or
- Outdoor industrial.

Ground water protection regulations identify these pesticides, identify certain geographic areas and their physical characteristics, and impose use requirements for these areas that include:

- Obtaining a restricted material permit
- Possessing an applicator certification, and
- Restricting use based on geographic or other use site criteria.

Ground Water Protection Area.

A geographic area, as mentioned above, is identified as a ground water protection area (GWPA). It is a geographical area of approximately one square mile that is vulnerable to movement of pesticides to ground water. A GWPA is based on the detection of pesticides:

- In ground water due to legal agricultural use, or
- On soil types at depth to the ground water that are characteristic of areas where pesticides have been detected in ground water.

There are two types of GWPA's:

- Leaching – where pesticide residues move from the soil surface downward in soil with percolating water to ground water; and
- Runoff – where pesticide residues are carried in runoff water to more direct routes to ground water such as:
 - o Dry or drainage wells
 - o Poorly sealed production wells
 - o Soil cracks, or
 - o Other areas where leaching can occur.

GWPA's have been established in numerous counties, mostly in the Sacramento and San Joaquin Valleys, but also in other areas of the state.

Use Requirements and Restrictions.

When a restricted material permit is required to use these pesticides:

- You must select a management practice option or use requirements specified in the regulations or approved by the Director, and
- The County Agricultural Commissioner must concur and designate the selected practice as an enforceable condition on the permit.

These use requirements are designed to prevent the pesticides of concern from reaching ground water from leaching or runoff.

There are limited exemptions to obtaining a restricted materials permit. The specific use requirements are based on the pesticide use settings as designated by type of GWPA.

SURFACE WATER PROTECTION

DPR's surface water program addresses agricultural and non-agricultural pesticide activities to reduce pesticides in surface waters.

The program relies on:

- Stakeholder outreach to promote management practices that reduce pesticide runoff
- DPR's registration process to evaluate potential adverse effects to surface water quality, and
- Implementing mitigation options designed to meet water quality goals.

Dormant Insecticide Contamination

Prevention. Insecticide applications are commonly made on certain dormant vine and tree crops to combat overwintering arthropod pests and diseases. Since these applications typically coincide with the winter storm season, some dormant spray insecticides can cause problems when they or their residues wind up in nearby rivers and streams from runoff or when drift occurs.

To mitigate these problems, property operators must follow DPR regulations to control dormant spray runoff and drift. The regulations cover all application methods and at minimum:

- Limit applications of certain types of pesticides
- Limit applications to hydrologically-isolated sites, or
- Require any runoff to be held on site for a specified time before release into a sensitive body of water or other aquatic site, such as canals, streams, and rivers.

In addition, the property operator must follow the requirements that include:

- Getting a written recommendation from a licensed PCA

- Providing a buffer zone around any sensitive aquatic site and
- Following wind speed restrictions.

In addition, aerial applications are allowed only if:

- Soil conditions do not allow field entry, or
- Approaching bloom conditions require an aerial application.

Dormant spray applications are prohibited if the soil is already saturated, or field runoff is likely

to occur if it rains and a storm is forecasted to occur within 48 hours after a scheduled dormant spray application. A hydrologically isolated site is any treated area that does not produce runoff that can enter any irrigation or drainage ditch, canal, or other body of water. Any surface water body is a sensitive aquatic site unless it resides exclusively on private property.

REVIEW QUESTIONS*(answers on page 115)***1. Ground water contamination resulting from legal, registered uses of pesticides**

- A. Does not occur.
- B. Accounts for only a minor amount of the pesticide ground water contamination problem.
- C. Can cause unacceptable risks to human health and the environment.
- D. Occurs but causes no risks to humans or the environment.

2. In the Department of Pesticide Regulation surface water protection program a hydrologically isolated site is

- A. Defined differently in each county depending on local treatment area and surface water conditions.
- B. An area of surface water protected from pesticide run off from treatment areas by at least 150 feet of impermeable soil.
- C. Considered to mean any pesticide treatment site that is completely surrounded by surface water.
- D. Any treatment area that does not produce pesticide run off that can enter any surface water, such as in an irrigation canal or drainage ditch.

3. The Healthy Schools Act is a

- A. Federal program with requirements to promote integrated pest management to protect non-pest species from pesticides applied on school grounds.
- B. California legislative mandate to protect children and staff from pesticide exposure in certain schools and child care facilities.
- C. State mandated program that covers only schools and child care facilities located on State property.
- D. Federal program that covers all schools and child care facilities that receive any federal funding.

4. When a pest control business must meet requirements in the Healthy Schools Act, the pest control business shall

- A. Submit a specific form to report weekly pest control activity conducted at all schools or day care facilities.
- B. Complete and post an annual pest control notice at all entrances of K-12 schools and all child care facilities.

- C. Provide specialized notification and pesticide safety training for all interested persons working at schools and day care facilities serviced by the pest control business.
- D. Submit a school and child care pesticide use report to DPR at least annually.

5. The goal of the use requirements in the ground water protection regulations is to

- A. Minimize the impact of rainfall on pesticides applied to orchards.
- B. Encourage the use of mechanical weed control in ground water protection areas.
- C. Reduce run off and leaching of certain pesticides into ground water.
- D. Discourage the use of restricted materials on soils that contain water wells.

6. The Department of Regulation surface water protection regulations are designed to

- A. Accurately record and track pesticide use by location during the rainy season.
- B. Prohibit use of pesticide products that are identified as generators of volatile organic compounds.
- C. Control run off and drift of dormant season pesticides applied to tree and vine crops.
- D. Provide local County Agricultural Commissioners with pre-application notification of all pesticides applied just prior to and after rain fall.

7. Under the Endangered Species Act, the _____ is responsible for ensuring that registered pesticides will not harm endangered species or their habitats.

- A. California Department of Pesticide Regulation.
- B. U.S. Department of Agriculture.
- C. California Environmental Protection Agency.
- D. U.S. Environmental Protection Agency.

8. Protection of endangered or threatened plants or animals is prioritized by the U.S. Environmental Protection Agency according to

- A. Location in relation to agricultural sites.
- B. Type of organism.
- C. Vulnerability of each endangered or threatened organism.
- D. Distribution of each endangered or threatened organism throughout the U.S.

10

Minimal Exposure Pesticides



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MINIMAL EXPOSURE PESTICIDE USE REQUIREMENTS

Because of specific hazards that are not mitigated by instructions on their labels, pesticides with certain active ingredients are classified as minimal exposure pesticides. By regulation, people who handle these pesticides must follow special use requirements, in addition to those on the labels, developed to reduce handler exposure and mitigate hazards associated with using these pesticides.

Conditions of Use. The following conditions apply to certain minimal exposure pesticides:

- Applications of oxydemeton-methyl to ornamental landscape trees and shrubs must be made by trunk injection or soil injection methods only, and
- Applications of oxydemeton-methyl and propargite are not allowed within a greenhouse.

Minimal Exposure Pesticide Safety Requirements. These additional safety requirements take effect regardless of the toxicity category of the pesticide products used. Employers are responsible for providing change and decontamination facilities, proper protective clothing, and proper mixing equipment and respirator protection for employees who handle minimal exposure pesticides.

Change Area. For all employees who handle minimal exposure pesticides for any period of time, regardless of the toxicity category of the product being used, employers must provide an area where they can change clothes and wash themselves at the location where they complete their workday. Employers must provide clean towels, soap, and adequate water for thorough washing, and they must instruct their employees to shower thoroughly with warm water and soap as soon as possible after the end of each work shift. Employers must also provide a clean, pesticide-free place for employees to store any of their personal clothing that is not in use while they are at work handling minimal exposure pesticides.

Decontamination Facilities. Employers must provide decontamination facilities at locations where minimal exposure pesticides are mixed or loaded, regardless of the toxicity category of the product being used. Employers must ensure that employees have sufficient water, soap, and single-use towels for routine washing of their hands and face and for emergency eye flushing and washing of the entire body. The quality and temperature of the water must not cause illness or injury when it comes into contact with employees' skin or eyes, or if it is swallowed. This water must be stored separately from water used for mixing with pesticides, unless the tank holding the water for mixing

with pesticides is equipped with appropriate valves to prevent back flow of pesticides into the tank.

Work Coveralls. Employers must ensure that employees who handle minimal exposure pesticides are provided with, and wear, coveralls. This is true regardless of the toxicity category of the product. Employers must assure that:

- Employees start each workday wearing clean coveralls
- They keep at least one change of clean coveralls available at the mixing and loading site
- Employees change out of their coveralls and wash themselves at the end of their workday
- Employees do not take home potentially contaminated coveralls they remove at the work site or at headquarters, and
- Employees whose workday does not require them to return to their employer's headquarters must remove and store their contaminated coveralls in a sealable container outside of their own living quarters and return them later to their employer.

In additions, employers must provide for the laundering of coveralls. They must inform the person or firm doing the laundry that they will receive pesticide-contaminated clothing and that it should be laundered separately.

Full-Body Chemical-Resistant Protective Clothing. Employers must provide, and ensure that employees wear, full-body chemical-resistant protective clothing when employees handle minimal exposure pesticides. This clothing must cover the torso, head, arms, hands, legs, and feet of the employee. Employees working in the following situations are not required to wear full-body

chemical-resistant protective clothing, but this clothing must be immediately available for use in an emergency for:

- Employees using a closed system or sealed water-soluble packets while mixing, loading, or transferring minimal exposure pesticides. These employees must instead wear a chemical-resistant apron, chemical-resistant gloves, and chemical-resistant boots
- Employees working as applicators or flaggers in enclosed vehicles
- Applicators using vehicle-mounted or towed equipment to inject or incorporate minimal exposure pesticides into the soil, and
- Applicators using equipment with vehicle-mounted spray nozzles that are directed downward and located below the level of the employee.

Closed Systems. Employers must provide and ensure the use of a closed system for all employees who mix, load, or transfer liquid formulations of minimal exposure pesticides, or who load diluted liquid mixtures derived from dry formulations of minimal exposure pesticides, regardless of their toxicity category. Closed systems are not required for employees who handle a total of one gallon or less of minimal exposure pesticides per day exclusively in original containers of one gallon or less.

Respiratory Protection. Employers must provide, and require employees to wear, respiratory protection when they engage in:

- Hand application or ground application of minimal exposure pesticides
- Flagging during an application of a minimal exposure pesticide, except flaggers in enclosed vehicles, or

- Mixing and loading dry formulations of minimal exposure pesticides, except when mixers or loaders use sealed water-soluble packets.

The following employees are exempt from this respiratory protection requirement:

- Applicators using vehicle-mounted or towed equipment to inject or incorporate minimal exposure pesticides into the soil, and

- Applicators using equipment with vehicle-mounted spray nozzles that are directed downward and located below the level of the employee.

The respiratory equipment employers provide to their employees must meet the requirements in DPR regulations. Employers must ensure that all protective clothing and equipment is cleaned inside and out or discarded at the end of each day's use.

REVIEW QUESTIONS

(answers on page 115)

1. A minimal exposure pesticide is a pesticide

- A. That can be handled by anyone with the potential for little or no exposure.
- B. With labeling instructions that do not mitigate specific hazards.
- C. With labeling instructions that mitigate specific hazards.
- D. That will not cause significant human health or environmental injury.

2. All employees who handle minimal exposure pesticides must have available to them

- A. A full face cartridge respirator.
- B. A designated location in the pesticide storage area to keep their personal clothing.
- C. Specially designed application equipment that includes a pesticide-approved enclosed cab.
- D. An area where they can change clothes and wash themselves at the end of their work day.

3. For minimal exposure pesticides bearing the signal word CAUTION, employers

- A. Do not need to provide decontamination facilities at the mixing and loading area.
- B. Must provide decontamination facilities at the mixing and loading area.
- C. Must provide decontamination facilities within 1/4 mile of the mixing and loading area.
- D. Must provide decontamination facilities within 1 mile of the mixing and loading area.

4. Respiratory protection is not required if an employee is

- A. Flagging during an application of a minimal exposure pesticide.
- B. Applying minimal exposure pesticides with a hand-held spray wand.
- C. Mixing and loading dry formulations of a minimal exposure pesticide.
- D. Using equipment with vehicle-mounted spray nozzles that are directed downward and located below the level of the employee.

ANSWER SHEET FOR REVIEW QUESTIONS

Introduction

1. B
2. C
3. D
4. A

Chapter 1

1. C
2. B
3. B
4. C
5. D
6. A
7. D
8. D
9. A
10. B

Chapter 2

1. B
2. D
3. D
4. C
5. A
6. D
7. B
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Chapter 3

1. C
2. B
3. B
4. D
5. D
6. A
7. C
8. B
9. A
10. A
11. C
12. B
13. C

Chapter 4

1. A
2. C
3. B
4. C
5. D
6. C
7. A
8. D
9. C

Chapter 5

1. B
2. B
3. C
4. A
5. B
6. A
7. D
8. C
9. A
10. B
11. D
12. D
13. B
14. B
15. D

Chapter 6

1. C
2. D
3. A
4. B
5. C
6. D
7. B
8. C
9. D
10. C
11. D
12. D
13. B
14. A

Chapter 7

1. D
2. C
3. C
4. A

Chapter 8

1. D
2. C
3. D
4. B

Chapter 9

1. C
2. D
3. B
4. D
5. C
6. C
7. D
8. C

Chapter 10

1. B
2. D
3. B
4. D

Glossary

agricultural commodity. an unprocessed product of farms, ranches, nurseries, and forests, except livestock, poultry, and fish. Agricultural commodities include:

- fruits and vegetables
- grains, such as wheat, barley, oats, rye, triticale, rice, corn, and sorghum
- legumes, such as field beans and peas
- animal feed and forage crops
- rangeland and pasture
- seed crops
- fiber crops, such as cotton and flax
- oil crops, such as safflower, sunflower, corn, and cottonseed
- trees grown for lumber and wood products
- nursery stock grown commercially
- Christmas trees
- ornamentals and cut flowers, and
- turf grown commercially for sod.

Agricultural Pest Control Adviser.

A person who offers a recommendation on any agricultural use, who holds himself or herself as an authority on any agricultural use, or who solicits services or sales for any agricultural use.

agricultural use. the use of any pesticide or method or device for the control of plant or animal pests,

or any other pests, or the use of any pesticide for the regulation of plant growth or defoliation of plants. This term excludes the sale or use of pesticides in properly labeled packages or containers that are intended for any of the following:

- home use
- use by structural pest control operators
- industrial or institutional use
- use under a veterinarian's prescription (animal pests only), and
- uses by certain local districts or agencies that operate under a cooperative agreement with the California Department of Public Health, as is the case with many mosquito abatement districts.

"Agricultural use" includes, but is not limited to, commercial production of animals or plants, forests, parks, golf courses, cemeteries, roadsides, rights-of-way, and nurseries. School yards are not included within the definition of agricultural use.

apiary. includes bees, combs, hives, appliances, or colonies, wherever they are kept, located, or found.

applied to the soil or applied to the ground. means the label of

a pesticide product includes terminology such as:

- soil fumigant
- soil applied
- soil treatment product
- can be used as a soil drench
- application to soil
- inject into the soil
- incorporate in top x inches of soil; pre-plant incorporation
- use on soil for control of soil borne diseases
- surface application; band treatment, surface blend
- side dressing both/one side of row and cultivate into soil
- should be mixed uniformly into top x inches of soil
- pre-emergent to the weed
- broadcast to the soil, and
- apply in seed furrow

assure or ensure. to take all reasonable measures so that the behavior, activity, or event in question occurs. When the behavior, activity, or event in question involves or concerns an employee, reasonable measures by an employer include determining that the employee has the knowledge to comply; providing the means to comply; supervising the work activity; and having and enforcing a written workplace disciplinary action policy covering the employer's requirements, as well as other measures required by pesticide law or regulation.

authorized representative. a person designated in writing by the operator of the property to represent the operator of the property in obtaining a restricted materials permit.

back flow. the process that allows pesticide-contaminated water moving into a well or other water source from the mix/load, application, or other similar equipment such as a nurse tank. Back flow is prevented by using on the

equipment listed above an air gap, check valve, or other means of preventing movement of pesticide-contaminated water into a well or other water source.

bees. honey-producing insects of the genus *Apis*. The term includes all life stages of these insects.

branch location. any location, other than the principal place of business, operated by a pesticide dealer or agricultural pest control business to carry out licensed activities in California.

carbamate pesticide. a pesticide containing esters of N-methyl carbamic acid, which inhibit cholinesterase.

Certified Commercial Applicator.

a person holding a valid

- qualified applicator license or qualified applicator certificate issued by DPR
- journeyman pest control aircraft pilot's certificate issued by DPR
- vector control technician certificate issued by the Vector Biology and Control Section of the Department of Public Health, and
- structural pest control operator or field representative license issued by the Structural Pest Control Board.

Certified Private Applicator. a person holding a valid private applicator certificate issued by the County Agricultural Commissioner or by DPR in any county where there is no County Agricultural Commissioner.

chemical-resistant or waterproof material. a material that allows no measurable movement of the pesticide through it during use. When a particular material is specified on the pesticide product

label, personal protective equipment constructed of that material must be used.

cholinesterase. an essential enzyme found in human beings that deactivates the chemical *acetylcholine* that is responsible for transmitting nerve impulses between nerves and between nerves and muscles. Without proper cholinesterase activity, which allows the nerve signals to stop at the appropriate time, nerves and muscles do not function properly.

cholinesterase determination. a blood test that determines the level of active cholinesterase in the body.

closed system. equipment for removing a pesticide from its original container, rinsing the emptied container, and transferring the pesticide product, mixtures, dilutions, and rinse solutions through connecting hoses, pipes, and couplings that are sufficiently tight to prevent exposure of any person to the pesticide or rinse solution. Rinsing is not required when the pesticide is used without dilution. The system's design and construction must meet DPR closed system criteria.

commercial applicator. a person who uses, or supervises the use of, a pesticide for any purpose or on any property other than as provided by the definition of private applicator.

conflict with the label. any deviation from instructions, requirements, or prohibitions of the registered label concerning storage, handling, or use except

- a decrease in dosage rate per unit treated
- a decrease in the concentration of the mixture applied

- application at a frequency less than specified
- use to control a target pest not listed on the label, provided the application is to a commodity/site listed on the label and the use of the product against an unnamed pest is not expressly prohibited
- employing a method of application not prohibited, provided other label directions are followed
- mixing with another pesticide or with a fertilizer, unless such mixture is prohibited, and
- an increase in the concentration of the mixture applied, provided it corresponds with the current published recommendations of the University of California.

continuous monitoring. the measurement of the air concentration of a specific pesticide on an uninterrupted, real-time basis by instrumental methods.

coverall. a one- or two-piece garment of closely-woven fabric or equivalent that covers the entire body, except the head, hands, and feet, and must be provided by the employer as personal protective equipment. Coverall differs from, and should not be confused with, work clothing that can be required to be provided by the employee.

display. to make information available to the employee so that he or she may readily see and read the document, during normal business hours, without having to make a specific request of any person. An employee shall not be hindered or impeded from examining documents required to be displayed. This definition does not preclude using a binder or filing cabinet, that otherwise meets these criteria, to contain documents for display.

- early entry.** entry into a treated field or other area after the pesticide application is complete, but before the restricted-entry interval or other restrictions on entry for that pesticide have expired.
- employee.** any person who, for any kind of compensation, performs work, services, or activities covered by pesticide laws and regulations.
- employer.** any person who exercises primary direction and control over the work, services, or activities of an employee. A foreman, crew leader, supervisor, or similarly situated person represents the employer when hiring an employee or when exercising, or having responsibility for exercising, the primary direction and control, but is not considered the employer himself or herself.
- enclosed cab.** a chemical-resistant barrier completely surrounding the occupant(s) of the cab that prevents contact with pesticides or treated surfaces outside the cab and meets those portions of the requirements in American Society of Agricultural Engineers Standard S-525 (Rev. 11/97) that pertain to dermal protection.
- enclosed cab acceptable for respiratory protection.** an enclosed cab that incorporates a dust/mist-filtering and/or a vapor- or gas-removing air purification system, as appropriate for the exposure situation. Enclosed cabs certified by the manufacturer as meeting American Society of Agricultural Engineers Standard S-525 (Rev. 11/97) are acceptable under this definition. DPR may, upon request, approve other enclosed cabs as acceptable under this definition.
- examination.** written examination.
- feasible.** capable of being accomplished in a successful manner, within a reasonable period of time, taking into account economic, environmental, social, and technological factors.
- feasible alternatives.** other chemical or non-chemical procedures that can reasonably accomplish the same pest control function with comparable effectiveness and reliability, taking into account economic, environmental, social, and technological factors and timeliness of control.
- feasible mitigation measure.** a condition attached to the approval of an activity that, if implemented, would substantially reduce any adverse impact, taking into account economic, environmental, social, and technological factors and timeliness of control.
- field.** any area including a greenhouse, nursery, forest, and forest nursery upon which one or more agricultural plant commodities are grown for commercial or research production. Field does not include range or pasture grazed by animals.
- field worker.** any person who, for any kind of compensation, performs cultural activities in a field. Fieldworker does not include people performing tasks as a crop advisor, including field checking or scouting, making observations of the well-being of the plants, or taking samples, nor does it include local, state, or federal officials performing inspection, sampling, or other similar official duties.
- FIFRA.** this is the acronym for the "Federal Insecticide, Fungicide, and Rodenticide Act," the federal law governing the registration,

sale, possession, and use of pesticides.

food. any article that is used for food or drink for human or any other animal, or for a component of any such article.

greenhouse. a structure or space, of sufficient size to permit entry, that is enclosed with a nonporous covering and used in the commercial or research production of an agricultural plant commodity. The term includes polyhouses, mushroom houses, rhubarb houses, and similar structures.

ground application equipment.

equipment such as:

- hand sprayers
- backpack sprayers
- air-blast sprayers
- field soil injection equipment
- dusters
- drills
- granular applicators, and
- ground-rig sprayers.

hand labor. any cultural activity, performed by hand or with hand tools, that causes substantial contact with surfaces (such as plants or soil) that may have pesticide residues. These activities include hand harvesting, detasseling, thinning, hand weeding, topping, planting, sucker removal, pruning, disbudding, roguing, and packing produce into containers in the field. Hand labor does not include operating, moving, or repairing irrigation equipment or performing the duties of a crop advisor, field checker, or scout, making observations of the wellbeing of the plants, or taking samples.

handle. includes:

- mixing, loading, transferring, or applying a pesticide by any

method including through an irrigation system

- assisting with the application of any pesticide, including flagging
- maintaining, servicing, repairing, cleaning, or otherwise handling equipment used in these activities that may contain residues
- working with opened pesticide containers, including emptied but not rinsed
- adjusting, repairing, or removing treatment site coverings
- incorporating pesticides into the soil, including mechanical or watered-in
- entering a treated area during any application or before the inhalation exposure level listed on the pesticide product label has been reached or greenhouse ventilation criteria have been met, and
- performing the duties of a crop advisor, including field checking or scouting, making observations of the well-being of the plants, or taking samples during an application or any restricted-entry interval listed on the pesticide product label.

Handle does not include official duties performed by local, state, or federal officials, including inspection, sampling, or other similar official duties.

home use. use in a household or its immediate environment.

industrial use. use for or in a manufacturing, mining, or chemical process; or use in the operation of factories, processing plants, and similar sites.

institutional use. use within the confines of, or on property necessary for the operation of, buildings such as hospitals, schools,

libraries, auditoriums, and office complexes.

laws. statutes passed by the California Legislature and signed by the Governor. Pesticide and pest control laws are found in the California Food and Agricultural Code.

LC50. the lethal concentration of active ingredient in air or water that will kill 50% of the test animals. LC50 is usually expressed in micrograms (1/1,000,000g) per liter of air or water (mg/l). LC50 is used to measure acute inhalation toxicity.

LD50. the lethal concentration of active ingredient that will kill 50% of a large population of test animals. LD50 is usually expressed as the milligrams (mg) of pesticide per kilogram (kg) of body weight of test animals. LD50 is used to measure oral toxicity and acute dermal toxicity.

limited contact. when performing necessary and unforeseen tasks such as irrigation in a pesticide-treated area, and contacting foliage or other plant parts or other surfaces or objects that contain pesticide residues, exposure is minimal and limited to the feet, legs below the knees, hands, and arms below the elbows.

medical supervision. occupational health guidance and necessary associated health evaluation by a physician licensed to practice medicine.

mill assessment. an assessment, described in the California Food and Agricultural Code, on each dollar's worth of pesticides sold in California. The assessment partially funds the state's pesticide regulatory program.

mitigation measure. a condition

attached to the approval of an activity which, if implemented, would substantially reduce any adverse impact, taking into account economic, environmental, social, and technological factors and timeliness of control.

notice of intent. an oral or written notification to the County Agricultural Commissioner prior to the use of a pesticide pursuant to a permit.

nuisance. any lot of produce that is found to carry pesticide residue in excess of any maximum, or in excess of a permissible tolerance, together with its containers, is a public nuisance.

nursery. any operation engaged in the outdoor commercial or research production of cut flowers or ornamental cut greens or any plants that will be used in their entirety in another location.

operator of the property. a person who owns the property or is legally entitled to possession of property, through a lease, rental agreement, trust, or other management arrangement.

organophosphate pesticide. a pesticide containing organophosphorus esters, which inhibit cholinesterase.

parts per million (ppm). the number of parts of toxicant per million parts of the subject in question. They may include residues in soil, water, air, fruits and vegetables, and whole animals.

permissible exposure limit (PEL). The permitted maximum exposure to an airborne contaminant in an 8-hour workday.

person. an individual, partnership, association, corporation, business entity, or organized group of

persons, whether incorporated or not.

personal protective equipment

(PPE). apparel and devices worn to minimize human body contact with pesticides or pesticide residues that must be provided by an employer and are separate from, or in addition to, work clothing. PPE may include chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respiratory protection devices, chemical-resistant aprons, chemical-resistant headgear, protective eyewear, or a coverall (one- or two-piece garment).

pest control business. any person who advertises, solicits, or operates as a pest control business. The activities include, but are not limited to:

- ground and aerial applications
- farm management companies when their services include pest control, and
- packing houses, shippers, storage facilities, household or industrial sanitation services.

There shall be at least one person in a supervisory position who holds a QAL at each principal and branch location.

maintenance gardener pest control business.

any person who performs pest control for hire incidental to his or her business of maintenance gardening. The incidental pest control is limited to ornamental and turf plantings indoors, in commercial parks, or surrounding structures.

pest control dealer. any person, including any manufacturer, distributor, or retailer, who engages in any of the following business activities:

- selling pesticides to users for an agricultural use

- selling to users any method or device for the control of agricultural pests, such as biological agents, lures, or insect-trapping devices
- soliciting sales of pesticides by making agricultural use recommendations through field representatives, or other agents, and
- selling to a user a pesticide classified as a restricted material that requires either a permit for possession and use or that may be used only by or under the direct supervision of a certified applicator.

pest management guides. guides prepared by DPR and the University of California that include pest management information on specific crops and that have been adopted as a standard by the director.

pesticide. as defined and regulated in the Food and Agricultural Code, any

- substance or mixture of substances, including their mixtures and dilutions considered to be a pesticide and
- any other substance or product that a person uses for the purposes intended for a pesticide

pesticide broker. any person in or outside of California engaged in the sale or distribution of any pesticide products in California. A pesticide broker license must be issued for each principal and branch location. This license does not apply to people who sell agricultural use, restricted use or restricted material pesticides to the end user. The sale of agricultural use, restricted use and restricted material pesticides to the end user requires the seller to obtain a pest control dealer license.

pesticide residue. the remnant of a pesticide or degradation product that can be found on or in a crop or commodity after an application, or from other exposure to the pesticide chemical. Residues are usually expressed in parts per million (ppm) or in parts per billion (ppb) on a weight basis.

Pesticide Safety Information Series (PSIS). a series of leaflets produced by DPR that summarize health and safety aspects of various pesticides and groups of pesticides.

pre-harvest interval. a period of time after an application of a pesticide to a crop, during which harvest is prohibited so the crop will meet the established pesticide residue tolerance.

principal location. any location designated as the principal location by the applicant for a pesticide dealer or agricultural pest control business to carry out licensed activities in California.

private applicator. (a) a person who uses or supervises the use of a pesticide for the purpose of producing an agricultural commodity on property owned, leased, or rented by him or her, or his or her employer; or (b) a householder who uses or supervises the use of a pesticide outside the confines of a residential dwelling, for the purpose of controlling ornamental, plant, or turf pests on residential property owned, leased, or rented by that householder.

producing an agricultural commodity. the growing of a crop, including harvesting, up to the point where further pesticide applications would be considered industrial use, such as packing house applications or fumigations at the packer/shipper facility.

protective clothing. clothing that minimizes human body contact with a pesticide and is separate from or in addition to normal wearing apparel. Protective clothing may include work clothing, chemical resistant boots, gloves, a hat, and a chemical-resistant apron.

Qualified Applicator Certificate holder. a person who has qualified by examination in one or more pest control categories to use and supervise the use of restricted materials. However, such qualification shall not entitle the holder to supervise the operations of a pest control business licensed pursuant to section 11701 of the California Food and Agricultural Code, except as provided in section 11704.

Qualified Applicator License holder. a person who has qualified by examination in one or more pest control categories to use and supervise the use of restricted materials, and to supervise the pest control activities of a pest control business licensed pursuant to sections 11701 to 11709, inclusive, of the California Food and Agricultural Code, and who is responsible for safe and legal operations under such license.

recommendation. the giving of any instruction or advice on any agricultural use as to any particular application on any particular piece of property.

registrant. a person who has registered a pesticide by obtaining a certificate of registration from DPR.

regularly handle. is when an employee is handling pesticides during any part of the day for more than six calendar days in any 30 consecutive day qualifying period

beginning on the first day of handling. Any day spent mixing or loading pesticides while exclusively using a closed system or mixing only pesticides sealed in water-soluble packets is not included for any employee who has a baseline blood cholinesterase level established pursuant to requirements in 3 CCR.

regulations. adopted by DPR after a public comment period and a hearing, approval by the Office of Administrative Law, and filed with the Secretary of State. Regulations are designed to interpret and carry out the purposes of a law, and are found in Title 3, California Code of Regulations. County Agricultural Commissioners may adopt regulations governing local pest control operations. These county regulations must be approved by DPR before they become effective.

restricted-entry interval (REI). The period of time after a field is treated with a pesticide during which restrictions on entry are in effect to protect people from potential exposure to hazardous levels of residues. A restricted-entry interval may be found on pesticide product labels or in regulation.

Section 3. a section of the law in FIFRA governing the registration of pesticides.

Section 18. a section of law in FIFRA that allows emergency exemption registrations. Pesticides registered under section 18 are considered to be a restricted material.

Section 24. a section of law in FIFRA that allows states certain limited authorities when registering pesticides that hold a federal registration.

service container. any container other

than the original labeled pesticide container that is used to hold, store, or transport pesticides.

site specific. a pesticide permit that identifies the specific area to be treated, the size of that area, and the commodity or commodities or site(s) on that area to be treated.

solicits services or sales. in accordance with the California Food and Agricultural Code, means sells, or offers for sale, any pesticide, method, or device outside of a fixed place of business.

spray adjuvant. any substance, with or without toxic properties of its own, that is intended to be added to a pesticide during mixing as an aid to the application or to effect the action of the pesticide. These substances include any:

- wetting agent
- spreading agent
- deposit builder
- adhesive
- emulsifying agent
- deflocculating agent
- water modifier, and
- any other similar agent.

structural use. a pesticide use on or in a structure that requires a license under Chapter 14 (commencing with section 8500), Division 3 of the Business and Professions Code.

substantial drift. when the quantity of pesticide outside of the area treated is greater than that which would have resulted had the applicator used due care. This definition is in accordance with the California Food and Agricultural Code and Title 3, California Code of Regulations.

time-specific. a pesticide permit that specifies the date the intended application is to commence or a permit with a notice of intent

requirement. The pesticide use may commence within four days following such date if delays are caused by uncontrollable conditions such as adverse weather or unavailability of equipment. The commissioner shall require a notice of intent from either the grower, the grower's authorized representative, or the pest control business when necessary to make the permit time- and site-specific.

tolerance. the established amount of a pesticide in parts per million or parts per billion, that may legally remain in or on any food or crop if they are to be consumed by people or livestock. Tolerances are established by the U.S. Environmental Protection Agency.

treated field. a field that has been treated with a pesticide or had a restricted-entry interval in effect within the last 30 days. A treated field includes associated roads, paths, ditches, borders, and headlands, if the pesticide was also directed to those areas. A treated field does not include areas inadvertently contaminated by drift or over-spray.

use. any pesticide activity or related activity including:

- pre-application activities, such as:
 - arranging for the application
 - mixing or loading, and
 - making necessary preparations for the application, including responsibilities related to notification, handler training, decontamination facilities, use and care of personal protective equipment, medical monitoring and assistance, and heat stress management

- application of the pesticide, and
- post-application activities, such as:
 - control of the treated area to reduce exposure, including responsibilities for restricted entry intervals, warnings, decontamination facilities, medical assistance, and field-worker training
 - management of the treated area, crop, or crop by-products, including responsibilities for pre-harvest intervals and plant back restrictions
 - transportation, storage, and disposal of excess pesticides, spray mix, equipment wash water, and pesticide containers, and
 - cleaning of application equipment and other pesticide containing materials.
- use does not include:
 - activities where involvement is only incidental to other tasks such as emergency responders
 - providing incident management, commercial transportation of pesticide related waste for disposal or recycling, or a waste disposal or recycling facility accepting or handling these wastes, and
 - manufacturing, formulating, or packaging, including bulk repackaging by a registered pesticide producing establishment.

use dilution. a use dilution specified on the label that produces the desired concentration of the pesticide for application.

work clothing. garments such as long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, and socks. Work clothing is not considered personal

protective equipment, although pesticide product labels or regulations may require specific work clothing during some activities. Work clothing differs from and should not be confused with a coverall. While coveralls must be provided by the employer, work clothing can be required to be provided by the employee. Short-sleeved shirts and short pants

are considered acceptable work clothing only under conditions expressly permitted by pesticide product labels.

work place. the identity of the work area, e.g., the business operation or employer's headquarters.

work site. the location of the work activity, e.g., the mixing and loading site, the field, etc.

