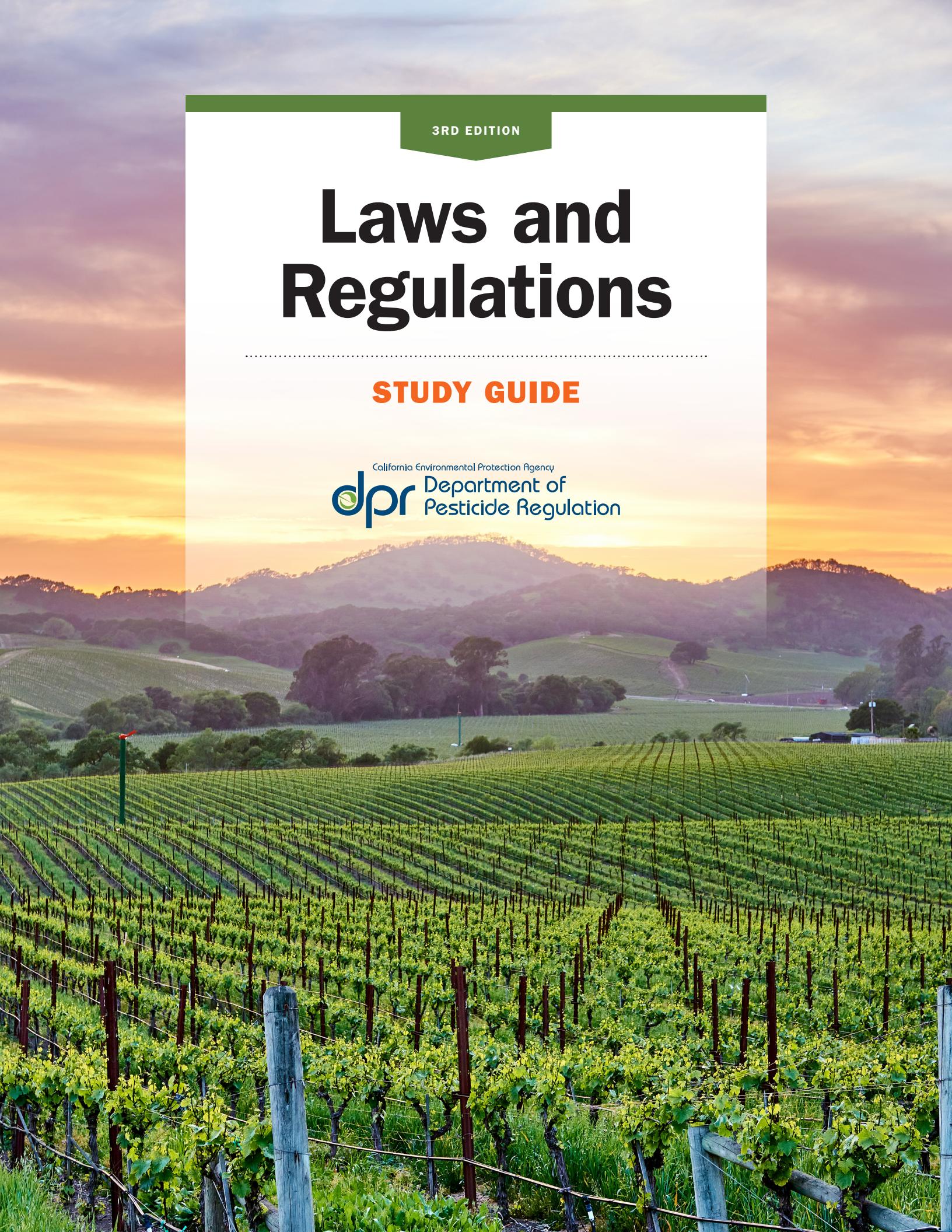


3RD EDITION

Laws and Regulations

STUDY GUIDE



3RD EDITION

Laws and Regulations

STUDY GUIDE 2020



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 California Department of
Pesticide Regulation Licensing and
Certification Program

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MISSION

The Department of Pesticide Regulation's (DPR) 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 six boards, departments, and offices within the California Environmental Protection Agency.

Licensing and Certification Program

(916) 445-4038

Enforcement Branch

(916) 324-4100

County Agricultural Commissioner Directory:

<https://www.cdfa.ca.gov/exec/county/countymap>

Enforcement Regional Offices:

Northern California

(916) 603-7700

Central California

(559) 297-3511

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(714) 279-7690

<http://www.cdpr.ca.gov/docs/enforce/romap.pdf>

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Acronyms used in Introduction:

3 CCR

Title 3, California Code of Regulations

16 CCR

Title 16, California Code of Regulations

40 CFR

Code of Federal Regulations, Title 40

CAC

County Agricultural Commissioner

CDFA

California Department of Food and Agriculture

CDPH

California Department of Public Health

DPR

Department of Pesticide Regulation

FAC

California Food and Agricultural Code

FIFRA

Federal Insecticide, Fungicide, and Rodenticide Act

PCA

Agricultural Pest Control Adviser License

PCAPC

Pest Control Aircraft Pilot Certificate

QAC

Qualified Applicator Certificate

QAL

Qualified Applicator License

SPCB

Structural Pest Control Board

UC IPM

University of California, Statewide Integrated Pest Management Program

U.S. EPA

United States Environmental Protection Agency

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 the review questions to test your understanding of the information presented in that chapter. These questions are in the same format as the questions on the Department of Pesticide Regulation (DPR) examinations, which consists of multiple choice selection and fill-in-the-blank. However, they are not the same questions that are on the examinations. Check your answers with the correct answers in the back of the study guide. If you missed any of the questions, go back and reread the appropriate sections of the chapter that covers that information.

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 workplace, as well as the licensing of Pest Control Dealers and Pest Control Businesses.

Laws

The California Legislature passes pesticide use laws to address specific concerns over pesticide sales and use. The Governor will implement the law by signing it into effect.

Regulations

DPR is responsible for writing and implementing regulations that carry out the requirements of the law. 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 pest control laws are in the FAC. These laws govern most pesticide use, with the emphasis placed on

agricultural pesticide use, although they also cover some structural pest control activities. Sidebar 1 on page 3 details the purposes of pesticide and pest control laws and regulations. For structural pest control, the Business and Professions Code and Title 16, California Code of Regulations (16 CCR) contain the laws and regulations specific to structural pest control. These regulations are written and implemented by the Structural Pest Control Board.

Each County Agricultural Commissioner (CAC) has limited authority to propose additional county-specific 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 permit conditions, which are covered later in this study guide.

Pesticide Regulatory Agencies – Broad Overview

U.S. Environmental Protection Agency (U.S. EPA)

The 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
- Environmental Monitoring and Protection

Certification of Pesticide Applicators

The 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 includes federal restricted use pesticides and certain other pesticides. Supervising means being aware of the conditions at the use site and the ability to exercise control over a non-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.

Department of Pesticide Regulation (DPR):

DPR is the state lead agency for developing and implementing a statewide pesticide regulatory program. DPR regulates 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 in California. This includes certifying and licensing individuals and businesses that work in the agricultural and non-agricultural pesticide and pest control industries, and enforcing all pesticide use 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:

SIDE BAR 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 the Department of Pesticide Regulation 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 labeling; 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.

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, Statewide Integrated Pest Management Program (UC IPM): DPR works with UC IPM to develop pest control certification and licensing study guides, examination questions, pesticide safety education programs, pest management guidelines, and other pesticide and pest management information.

California Department of Food and Agriculture (CDFA): Ensures the state's food safety, protects the state's agriculture from invasive species, and promotes the California agricultural industry.

Structural Pest Control Board (SPCB): Certifies structural pest control applicators, licenses structural pest control businesses, and conducts certain types of field enforcement of structural pest control laws and regulations.

California Department of Public Health (CDPH), Vector-Borne Disease Section: Certifies vector control pesticide applicators employed by a government vector control agency (Vector Control Technicians) and develops vector control pest control study guides.

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

*Department of Pesticide Regulation
Licensing and Certification Program*
916-445-4038
<http://www.cdpr.ca.gov/docs/license/liccert.htm>

*Structural Pest Control Board
Licensing Unit*
916-561-8704
<http://www.pestboard.ca.gov>

*Department of Public Health
Training and Certification*
916-552-9730
<http://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Vector-Control-Technician-Certification-Program.aspx>

California Certification and Licensing

DPR-issued Commercial Pest Control Licenses and Certificates for Individuals

Note that these commercial DPR licenses do not allow you to do structural pest control for hire; for that you would need a license from SPCB. In order to obtain a commercial pest control license or certificate from DPR, applicants must pass a core examination and pass at least one pest control category examination to hold the following commercial pest control certificates/licenses:

- Qualified Applicator Certificate (QAC)
- Qualified Applicator License (QAL)
- Pest Control Aircraft Pilot Certificate (PCAPC); and
- Agricultural Pest Control Adviser (PCA)

DPR's Licensing and Certification Program develops and administers the examinations, and issues and renews these licenses or certificates.

The core examination requires individuals 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 individuals in preparing for the laws and regulations portion of the core examination. This guide does not contain the complete text of the sections within the FAC or 3 CCR as cited above, nor is it 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 pesticide use. To prepare for the basic principles of safe and effective pesticide use portion of the core examination, study the most current edition of 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 each category. To prepare for the pest control category examinations there are other specific study materials individuals should review. Individuals might need to pass more than one category examination, depending on the scope of work planned.

DPR also issues a Pest Control Dealer Designated Agent License for individuals who will supervise the activities of a Pest Control Dealer but who do not have a QAL, PCAPC, or PCA. Individuals must pass an examination on laws and regulations and basic principles of safe and effective pesticide use.

CAC-issued Certificates for Individuals (Private Applicators)

Generally, if an individual meets the definition of a “private applicator” (see Glossary) they must hold a valid Private Applicator Certificate. Although DPR develops the examination, the local CAC administers the examination and issues the certificate. This study guide is not intended for preparation for the PAC examination.

DPR-issued Licenses for Businesses. There are no examinations required to obtain any of these DPR-issued business licenses:

- Pest Control Business License
- Maintenance Gardener Pest Control Business License
- Pest Control Dealer License
- Pesticide Broker License

However, certain requirements must be met when applying for any of these business licenses. The requirements are explained later in the study guide.

Knowledge of Pesticide Laws and Regulations.

All persons conducting pest control or any other pesticide-related activity are responsible for knowing and following all of the laws and regulations regarding pesticide use and pest control that pertain to their activities. Before engaging in these pesticide-related activities, individuals should review and understand these laws and regulations. The CAC and DPR have other written compliance assistance material available to help individuals understand and comply with the laws and regulations. Individuals should contact the local CAC or DPR for the following:

- Help in getting copies of the laws and regulations, Pesticide Safety Information Series, 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: Contact the DPR’s Enforcement Branch at 916-324-4100 or DPR’s Licensing and Certification Program at 916-445-4038. Information can also be reviewed on DPR’s web site: <<http://www.cdpr.ca.gov>>.

For assistance from the local CAC: Contact information can be obtained from the California Department of Food and Agriculture’s website at: <<https://www.cdfa.ca.gov/exec/county/countymap/>>. Click on the local county to access the CAC’s website.

Review Questions

(Answers on pg 104)

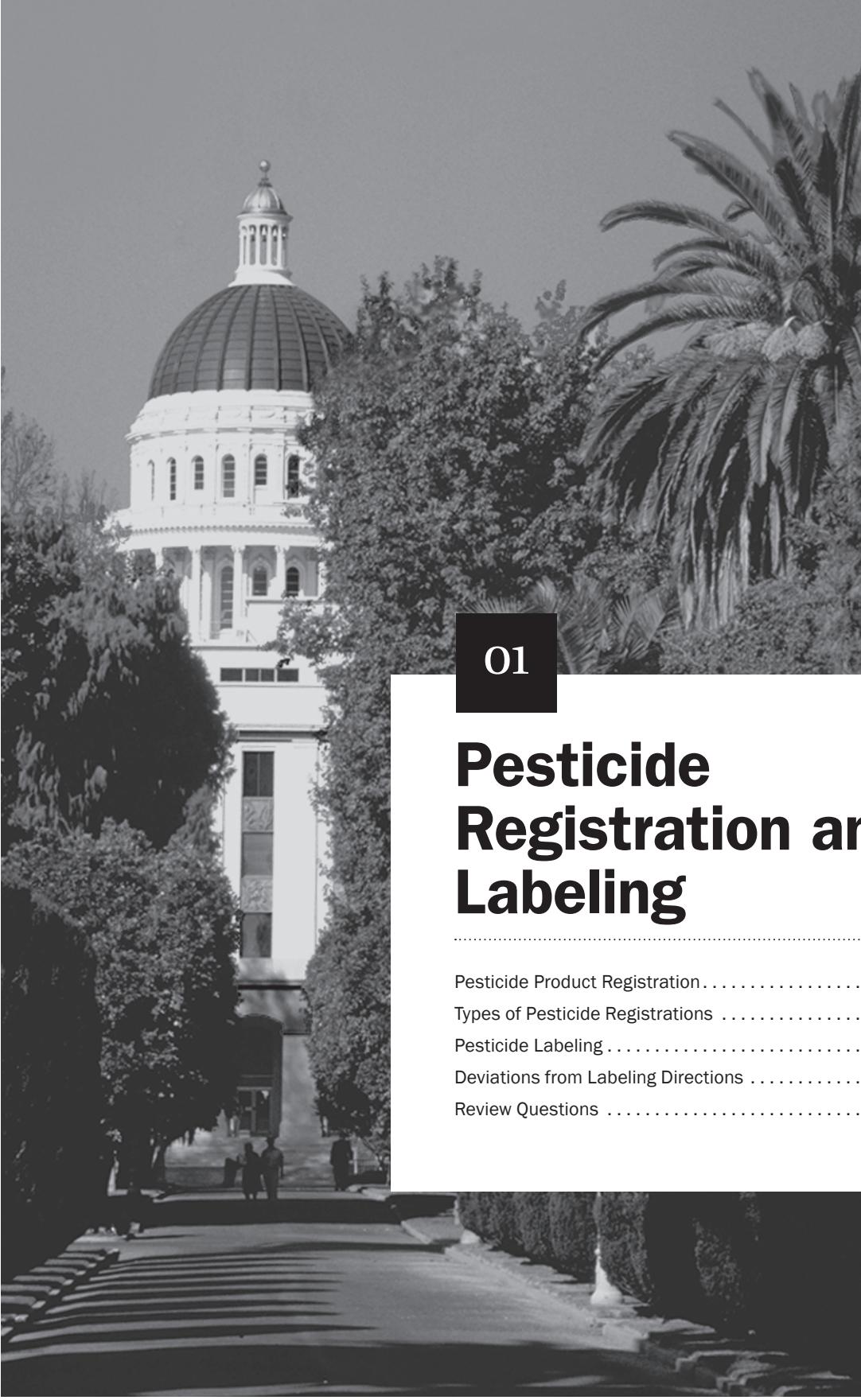
1. The difference between California's laws and the Department of Pesticide Regulation's regulations is that laws are _____.

 - 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 the Department of Pesticide Regulation to carry out the laws
 - C. supplements to federal regulations
 - D. adopted by the Department of Pesticide Regulation 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
3. A cooperating agency that helps the Department of Pesticide Regulation 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



01

Pesticide Registration and Labeling

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Acronyms used in Chapter 1:

3 CCR

Title 3, California Code of Regulations

40 CFR

Code of Federal Regulations, Title 40

CAC

County Agricultural Commissioner

DPR

Department of Pesticide Regulation

FIFRA

Federal Insecticide, Fungicide, and Rodenticide Act

PPE

personal protective equipment

REI

Restricted Entry Interval

SDS

Safety Data Sheet

SLN

Special Local Need registration

UC

University of California

U.S. EPA

United States Environmental Protection Agency

Pesticide Product Registration

Except for certain exempt pesticide products, anyone who wants to produce or bring into California a pesticide product for sale, possession, or use, must first register that pesticide product with the United States Environmental Protection Agency (U.S. EPA) and then the Department of Pesticide Regulation (DPR). Additionally, certain pesticide products that are not required to undergo the U.S. EPA registration process are required to be registered by DPR for use in California, including: spray adjuvants, certain materials impregnated with pesticides, and certain products exempt from federal registration (also known as federal 25b products). 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 "Pesticide Registrants," must fulfill numerous regulatory requirements and submit scientific data to support proposed uses of the pesticide. The pesticide registration process includes producing pesticide product labeling that meets all federal and state requirements. Pesticide labeling is a legal document that contains important information including use directions, requirements, prohibitions, and other safety and hazard information.

Pesticide Classifications, Differences between U.S. EPA and DPR

U.S. EPA's and DPR's registration procedures include evaluating 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 the directions and requirements on the pesticide labeling, 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 U.S. EPA registration, DPR also evaluates scientific data for each pesticide during its registration process to determine if more restrictions are required due to concerns specific to California. These pesticides are designated "California restricted materials" and are listed in Title 3 of the California Code of Regulations (3 CCR) section 6400.

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. Persons using or supervising the use of a restricted use pesticide or a restricted material must possess private or commercial applicator certification. More detailed information about applicator certification is presented in Chapter 3 of this study guide.

State Pesticide Product Registration and Accepted Labeling

DPR issues a Certificate of Registration for each pesticide product after reviewing and accepting data and required documentation, including the labeling. The labeling that was accepted during the registration evaluation becomes the registered labeling. The labeling for each container of pesticide sold and used in California must be identical to the registered labeling for that pesticide on file with DPR. A pesticide's sales, and possibly its use, are illegal if the pesticide product container labeling sold does not match the registered labeling on file with DPR.

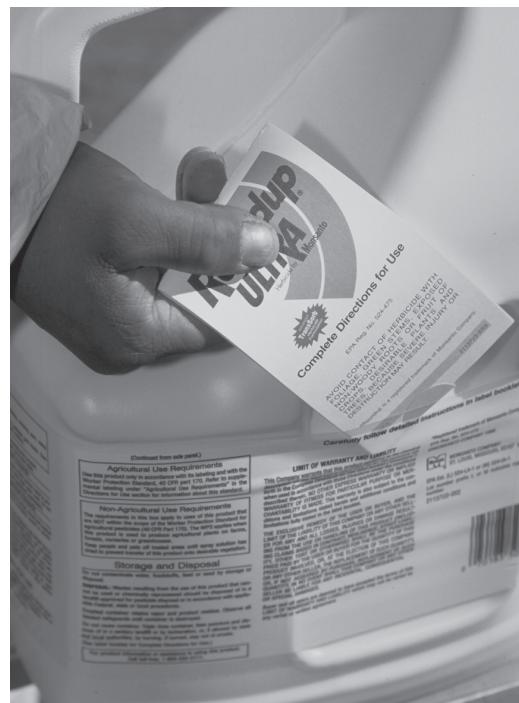


FIGURE 1-1: Labeling booklets are often attached to pesticide packages. Before purchasing a pesticide, make sure the complete labeling is provided.

Product That Is No Longer Registered

A Pesticide Registrant cannot sell a pesticide product in California if the:

- Pesticide 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 Pesticide 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 labeling. Regulatory requirements still apply to the use of these non-registered pesticide products, including:

- Applicator certification (if required);
- Obtaining possession and use 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 provisions 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 Labeling

Any changes made to the registered labeling, 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 labeling can be sold or used in California. Pesticide users must comply with the labeling directions delivered with the pesticide products at the time of use.

Types of Pesticide Registrations

The Federal Insecticide, Fungicide, and 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 are often referred to by the FIFRA section containing the requirements as:

- 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 labeling and support data) for each type. These three most common types are discussed below.



FIGURE 1-2: Pesticide labeling is a complex legal document that must be read and understood before making a pesticide application. Make pesticide applications in strict accordance with the labeling instructions, making sure not to conflict with more restrictive state regulatory requirements.

Registration of Pesticides (Section 3)

FIFRA Section 3 grants the U.S. EPA the authority to register pesticide products with the corresponding labeling containing basic registered uses, use directions, requirements, and prohibitions. This is often referred to as the Section 3 labeling. Regulations in Title 40 of the Code of Federal Regulations (40 CFR) provide the specific guidelines necessary to carry out federal law. Later in this chapter there is a more detailed discussion of the required labeling information and format that are found in FIFRA and 40 CFR, as well as in California laws and regulations.

Emergency Exemptions (Section 18)

FIFRA Section 18 authorizes U.S. EPA to allow an unregistered use of a pesticide for a limited time if U.S. 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 exemption," "Section 18," or simply "exemption." 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. 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 18 exemptions:

- Specific
- Public Health
- Quarantine, and
- Crisis

In California, all users are required to possess and maintain a valid restricted materials use permit from the County Agricultural Commissioner's (CAC) Office for possession and use of a pesticide under a valid Section 18 exemption. All emergency uses under a Section 18 exemption are subject to strict regulatory controls. It is important to note that use of a product under a Section 18 exemption includes special requirements and responsibilities. Use directions for a Section 18 exemption prescribe application rates, safety precautions, and other important application information applicators must follow.

Special Local Need Registrations (SLNs) [Section 24(c)]

FIFRA Section 24 grants states pesticide regulatory authority to issue a new use registration for a federally registered pesticide in subsection (c). These SLNs give 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 labeling. The 24(c) registration 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 24(c) labeling. If applying a pesticide under an SLN from another state or region, individuals and businesses are subject to civil and criminal penalties. Contact the local CAC to find out which SLN registrations pertain to specific crops and areas. Individuals can search and review California SLNs on our website at: <<http://apps.cdpr.ca.gov/sln/>>. Individuals 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 the institution prior to performing these activities. Pesticide registrants doing experimental work on property under their control do not need to obtain a Research Authorization.

Pesticide Labeling

Explanation of the Terms—Label, Labeling, and Supplemental Labeling.

FIFRA and 40 CFR contain lengthy definitions for the terms “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, all of the obstructed information must be reprinted on the outside of the container to be visible.

“Labeling” includes the label 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 labeling booklet that is attached to the pesticide container outer wrapper or a shipping bag or box (Figure 1-1);
- Section 24(c) labeling; and
- Any other documents included with or referenced on the label.

Pesticide labeling may refer to other documents, such as a Safety Data Sheet (SDS) or a commodity treatment schedule. Agricultural use pesticide labeling also refers to the Worker Protection Standard provisions of 40 CFR part 170. These and other documents referred to on pesticide labeling become part of the pesticide labeling.

“Supplemental labeling” refers to newly-approved uses, use directions, or other instructions that have been added since the last accepted Section 3 labeling. These are partial labeling distributed with the product by the Pesticide Registrant or distributors. Since these are partial labeling, they must bear a statement referring the user to the product labeling for complete directions, precautions and a statement that the labeling

must be in the possession of the user. Both the product labeling and the supplemental labeling are required to safely and effectively apply the product. The supplemental labeling must be incorporated into the container labeling at the next printing or within 18 months.

40 CFR outlines the format for pesticide labeling and required information. Pesticide labeling 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 or 24(c) labeling or use directions issued under FIFRA Section 18 exemption.

When to Read the Pesticide Labeling

Read the pesticide labeling (Figure 1-2):

- **Before buying the pesticide.** Make sure the pesticide is registered for the 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 the pest. Find out what personal protective equipment (PPE) and special application equipment are needed.
- **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.
- **Before disposing of unused pesticide and empty containers.** Learn how to prevent environmental contamination and hazards to people. Before disposal, check with the CAC for local restrictions and requirements.

RESTRICTED USE PESTICIDE

12

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

⑤ insecticide by ToxCo®

Active Ingredient:	By Weight
Methomyl (S-methyl-N-[(methylcarbamoyl) 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.)

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.)

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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 cab 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.

FIGURE 1-3:
This example of a pesticide label illustrates the sections described in the text.

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, alteration 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.				

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(Restricted-entry information continued on supplemental labeling.)

The Information Provided in Pesticide Labeling

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

1. **Brand Name.** A brand name is the name the manufacturer gives to the product. This is the name found in the DPR Product Label Database and used to advertise and promote the product.
2. **Chemical Name.** Chemical names describe the chemical structure of a pesticide active ingredient. Chemists follow international rules for naming chemicals.
3. **Common Name.** Manufacturers give most pesticides common or generic names because the chemical names of pesticide active ingredients are often complicated. 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 labeling lists common names for the active ingredient(s).
4. **Formulation.** Pesticide labeling often lists 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.
5. **Ingredients.** Pesticide labeling lists on the front panel 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 and therefore are not considered active ingredients but are intentionally included in the product. Examples include solvents, preservatives, stabilizers, etc. These may be toxic, flammable, or pose other safety or environmental problems. However, some may be harmless, such as clay. Inert ingredients are not required to be listed on the labeling. 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)-striazine. If this were a liquid formulation, the labeling would also indicate how many pounds of active ingredient there are in 1 gallon.
6. **Contents.** Pesticide labeling list the net contents, by weight or liquid volume, contained in the package.
7. **Pesticide Registrant.** Pesticide labeling contains the name and address of the Pesticide Registrant of the product. Use the contact information to contact the manufacturer for any reason. In some cases a company manufactures/produces a pesticide for another company or person who is the Pesticide Registrant, and whose name appears on the labeling. The labeling will then qualify that the Pesticide Registrant is not the manufacturer with wording such as, "Manufactured for..." or "Produced for..."
8. **Registration and Establishment Numbers.** U.S. EPA assigns registration numbers to each pesticide they register; DPR assigns registration numbers to products it registers (primarily spray adjuvants). This registration number is needed for pesticide use records or pesticide use reporting. An establishment number identifies the unique site of manufacturing or repackaging and includes a two- or three-letter code designated to the state or country where the producer is located.
9. **Signal Word.** An important part of pesticide labeling 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/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 lower toxicity. The lowest toxicity pesticides may not include a signal word.
10. **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 PPE to wear while handling, 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.

11. **First Aid Statement.** The first aid statements provide emergency first aid information. They describe the emergency first aid procedures for ingestion, skin and eye exposure, and inhalation of the pesticide product. This section details when to seek medical attention and may include information to the physician on illness treatment.
12. **Statement of Use Classification.** U.S. EPA restricted use pesticides have a special statement printed on the top of the front page of the labeling.
13. **Directions for Use.** The directions for use are an important part of the pesticide labeling that must be followed to keep the user 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 registered labeling (see the section below titled, "Deviations from Labeling 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 the applicator would find special restrictions that must be observed. These include crops that may or may not be planted in the treated area (plant back restrictions). They also include restrictions on feeding crop residues to livestock or grazing livestock on treated plants.
14. **Agricultural Use Requirements.** This special section appears under the Directions for Use on pesticide labeling approved for use in production agriculture (i.e., farms, greenhouses and nurseries, and forests). It contains four parts:
- Reference to the federal Worker Protection Standard (Code of Federal Regulations, Title 40, part 170), which has been incorporated into 3 CCR.
 - The Restricted-Entry Interval (REI) for workers, (in this example label, the REI is listed with each crop as pointed out by #15 below). The 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 labeling, see Chapter 6 and the section on REIs. Check with the local CAC for more information. Labeling of pesticides used for field fumigation have a different standard, the Entry Restricted Period, during which time only protected handlers may be in the treated field.
 - Information on the PPE required for early-entry workers.
 - Finally, it may contain a worker notification statement. If the pesticide requires both oral notification and posting (double notification), a statement such as "Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas" will be included. The Agricultural Use Requirements section may differ from other requirements on the labeling or those listed in 3 CCR. The pesticide must be used in accordance with the most restrictive requirements.
15. **Use sites.** A list of crops, commodities or sites on which the pesticide is registered for use. This generally may include pests, rates, dilution, pre-harvest intervals and/or grazing restrictions. If the labeling has the REI for each crop (instead of in the Agricultural Use Requirements box), the information will also be included here.
16. **Misuse Statement.** The misuse statement reminds users, "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." In short, the labeling is the law.
17. **Storage and Disposal.** Directions for properly storing and disposing of the pesticide and empty pesticide containers are another important part of pesticide labeling. 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 also cause explosions or fires.
18. **Warranty.** Manufacturers usually include a warranty and disclaimer on pesticide labeling. This information informs individuals of their rights as a purchaser and limits the liability of the manufacturer. Note: Companies are not required to include a warranty statement; however, exclusion of a warranty statement is not common.

Deviations from Labeling Directions

Pesticides can sometimes be used in a manner that seems to conflict with or deviate from labeling 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 labeling instructions. Researchers recommend these rates to protect beneficial organisms.

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

1. **Decrease in rate per unit treated.** Some guidelines call for less pesticide than the amount listed on the labeling, 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 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 someone legally increase the amount of pesticide beyond the maximum rate stated on the pesticide labeling.
2. **Decrease in the concentration of the mixture applied.** Pesticide labeling 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 pesticide labeling requires.
3. **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 labeling. If there are current, published UC guidelines for doing this, the concentration

may be increased; however, it is still illegal to apply more than the labeled rate for that crop and pest. These guidelines are pesticide-specific, be sure to comply with all other labeling instructions.

4. **Application at a frequency less than specified.** Pesticide labeling often prescribes how often to apply a pesticide. Manufacturers recommend this frequency to maintain adequate control of the pest being treated. It is permissible to make applications less frequently than recommended. If 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 labeling recommendations may result in inadequate control. Before reducing application frequency, carefully monitor the pest population. The pesticide may be applied repeatedly if the labeling 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 product labeling.
5. **Use to control a target pest not listed on the labeling when the commodity or site is listed.** It may be preferable to use a pesticide on a commodity or site listed on the product labeling, but the target pest is not listed. As long as the labeling does not forbid use of this pesticide against the pest on the commodity or site, it is allowed. Be certain the labeling lists the intended commodity or target site. Follow all other instructions.
6. **Use of any method of application not prohibited, provided other labeling directions are followed.** Occasionally, pesticide labeling may not specify exactly how to apply the pesticide. Should this be the case, it is possible to use any practical method as long as the pest control can be performed in a careful and effective manner; however, be sure the method chosen allows all other labeling directions to be followed. Applying a pesticide by ground or by air is an example. If there is no prohibition against aerial application on the labeling, either method may be used; however, all labeling directions must be complied with. It may not be possible to apply a pesticide by air when the labeling prohibits the lower dilution rate required for aerial application. Chemigation must be

specifically allowed by the product labeling in order to use the pesticide in an irrigation system. If the pesticide requires dilution, it may not be compatible with a “thermal fogging” application method.

7. **Tank-mixing with another pesticide or fertilizer, unless prohibited.** It may be preferable to combine one pesticide with other pesticides or with fertilizers. This type of application saves time and reduces application costs. Unless specifically prohibited by labeling directions on any of the pesticides, it is permissible to apply pesticides in combination; however, even if the labeling does not prohibit mixtures, there may be 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 labeling prohibits such a mixture. Labeling restrictions may specify general classes of chemicals such as sulfur-containing materials, alkaline chemicals, or oils.

8. **Exceptions to or substitutions for personal protective equipment (PPE) requirements.** Consistent with federal standards, California's regulations provide for exceptions and substitutions from labeling-required PPE, and for the use of engineering controls rather than PPE. The exemptions apply equally to employees, owners and immediate family using the PPE specified by the labeling, as well as employees using PPE required by California's regulations. Please see each PPE section in Chapter 5 for more details.

Review Questions

(Answers on pg 104)

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 Special Local Need 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 Section 3 labeling in the state it was issued
 - D. any feasible use of the pesticide in the specified local area
5. Which of the following is considered a labeling booklet?
- A. sales literature distributed by the Pesticide Registrant
 - B. a sample of pesticide labeling produced by the Pesticide 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 pesticide labeling 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 pesticide labeling 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 what section of pesticide labeling?
- A. precautionary statements
 - B. statement of practical treatment
 - C. contents
 - D. directions for use
9. Making an application of a pesticide product at a lower rate than specified in labeling 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 labeling 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

02

Restricted Materials

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Acronyms used in Chapter 2:

3 CCR
Title 3, California Code of Regulations

CAC
County Agricultural Commissioner

DPR
Department of Pesticide Regulation

FAC
California Food and Agricultural Code

PSIS
Pesticide Safety Information Series

U.S. EPA
United States Environmental Protection Agency

Certain pesticides are potentially more hazardous than others even when they are used according to the registered label. The United States Environmental Protection Agency (U.S. EPA) has designated these as “Restricted Use Pesticides” on an individual product basis. The Department of Pesticide Regulation (DPR) does not have that authority and instead has designated “Restricted Use Pesticides” and additional pesticides with certain active ingredients as California restricted materials. The possession or use of some restricted materials is regulated more closely and permitted only under a restricted material permit issued by the County Agricultural Commissioner (CAC).

Federal Restricted Use Pesticides

Federal “Restricted Use Pesticides” are restricted when U.S. EPA determines that when the pesticide is applied in accordance with its directions for use without additional restrictions, it may generally cause:

- Acute oral, dermal (skin), ocular (eye), or inhalation (lung) toxicity hazards to applicators or others;
- Significant sub-chronic, chronic, or delayed toxic effects on humans; or
- A potential environmental effect, such as groundwater contamination or hazards to non-target species.

When there is the potential for these or other effects, U.S. EPA will designate it as a “Restricted Use Pesticide” to be used only by a certified applicator or, if allowed by the label, someone under his/her direct supervision.

California Restricted Materials

California classifies pesticides with certain active ingredients and all 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 fieldworkers;

- 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; or
- Subsequent crops through persistent soil residues.

By Title 3, California Code of Regulations (3 CCR) section 6400 DPR designates the following pesticides as “restricted materials”:

- Any pesticide labeled as a “Restricted Use Pesticide”;
- Any pesticide used under a Section 18 Emergency Exemption;
- Groundwater protection pesticides listed in 3 CCR section 6800(a); and
- Certain other pesticides listed in this section.

Supervision Standards for Certified Applicators

California restricted materials, which includes all federal restricted use pesticides, shall be used only by or under the supervision of a certified commercial or private applicator, unless the pesticide labeling 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.

Some federal restricted use pesticides require the certified applicator 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:

- Ensure that non-certified handlers are following the labeling directions;
- Provide guidance if the labeling is unclear;
- Intervene if the non-certified handler fails to follow safe and effective handling procedures or labeling directions; and
- Respond if an emergency or unusual situation occurs;



FIGURE 2-1: Some federal restricted use pesticides may 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.

Restricted Material Permit Systems

Under DPR's guidance, the CACs issue restricted material permits and enforce regulations about the possession and use of California restricted materials. These regulations prescribe the time when, and the conditions under which, a restricted material 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.

Permit Exemptions

As stated above, California restricted materials include federal restricted use pesticides. However, 3 CCR states that a restricted material permit is not required for a certified applicator using or possessing a federal restricted use pesticide unless that pesticide is listed elsewhere in 3 CCR section 6400 or the CAC has determined that a permit for the restricted use pesticide is required.

Restricted Material Permits

All other restricted materials require a permit from the CAC before purchase, possession or use for agricultural and non-agricultural use. CACs may issue permits for possession only, for possession and use, or for Pest Control Business use only. Before a restricted material permit is issued, the CAC must consider local conditions, including but not limited to:

- Location of schools, homes, hospitals, recreational areas, livestock enclosures, and other sites;
- Problems related to the proximity of dissimilar crops;
- The possibility of resurgence of primary or secondary pests that may result from improper pesticide choice (i.e. 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). (For example, 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 (storage and container disposal requirements are addressed in Chapter 4).

After evaluating an applicant's qualifications and local conditions, the CAC may issue a permit to possess and use restricted materials to the certified commercial or private applicator. Use of restricted materials requiring a permit must always be carried out in accordance with all permit conditions. The specific conditions will be spelled out in each restricted material permit, but every permit issued is conditioned on compliance with the registered labeling and applicable laws and regulations.

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.

Pest Control Businesses applying agricultural use pesticides requiring a permit must have available a copy of the:

- Permit covering the use of each pesticide; and
- Written pest control recommendation from a licensed Agricultural Pest Control Adviser OR grower's work order which contains the elements of a written recommendation.

A Pest Control Business must operate in accordance with the permit conditions issued by the CAC.

Non-Agricultural Restricted Material Permits

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

- Name and address of the applicant (operator of the property 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 Permits

Restricted material permits for agricultural uses must be site and time specific. A permit is valid for possession or use only by the person named in the permit. Permits must be issued to the operator of the property named in the permit, but may be signed by the:

- Operator of the property to be treated, or
- Operator of the property's authorized representative (including an authorized licensed Agricultural Pest Control Adviser)

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

- 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, including but not limited to:
 - » Hospitals
 - » Schools and playgrounds
 - » Residential areas
 - » Labor camps and other housing for workers
 - » Parks, lakes, waterways, and wildlife management areas, or
 - » Nearby livestock or crops;
- Identification of each commodity, crop, or site to be treated;
- Anticipated pest problems for each crop pest or pests to be controlled;

FIGURE 2-2: Some federal restricted use pesticides may 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.



- 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, and the name, business address, and the certificate or license number and expiration date of the certified private or commercial applicator responsible for supervising the possession or use of the restricted material(s).

Restricted Material Permit Evaluation

Before issuing a restricted material permit, the CAC must consider the environmental impact of the proposed pesticide use. If the CAC determines 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 CAC must consider and make use of their knowledge of local conditions, applicable sections of the laws and regulations, University California Integrated Pest Management (UC IPM) 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, when issued by the CAC each permit must contain the following information:

- Any appropriate conditions or limitations on the use of the pesticide(s), 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 CAC 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 permit does not specify the date and time of the application(s), the operator of the property is responsible for assuring that a Notice of Intent is provided to the CAC at least 24 hours before beginning the application. The application cannot take place until after 24 hours have passed, unless the CAC determines that:

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

For some pesticides, the CAC by permit condition may require the Notice of Intent 48 hours in advance.

The Notice of Intent may be submitted by the operator of the property, the operator of the property'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 material permit, the Notice of Intent can refer to the permit, otherwise the Notice of Intent must include the:

- Restricted material 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(s) 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 Permit Duration

A restricted material permit is usually valid for one year or for a single growing season, unless it is revoked or suspended; however, permits for

perennial agricultural plantings, non-production agricultural sites, or non-agricultural sites may be issued 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. A new permit from the CAC must be obtained in order to use the restricted materials in storage.

Pesticide Safety Information Series (PSIS) Leaflets

DPR has developed PSIS leaflets to provide general information about pesticide use including first aid, closed systems, respiratory protection, and pesticide storage and disposal. 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 CAC 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 regulations apply to everyone who receives a restricted material permit and may include, for example, restrictions regarding:

- The amount of pesticide that can be applied;
- The methods of application or required equipment; and
- Where or when the restricted material can or cannot be applied.

Pest Control Dealer Responsibility

Licensed Pest Control Dealers must have a copy of the valid restricted material 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.

Refusal, Suspension, or Revocation of a Restricted Material Permit

The CAC can refuse, revoke, or suspend a restricted material permit if the permit holder violates any condition of the permit, fails to pay a civil penalty, fails to comply with a lawful order of the CAC, or any provision of the laws in California Food and Agricultural Code (FAC) or regulations adopted pursuant to those laws. 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 CAC or DPR staff to enter and inspect a treatment site or storage facility, inspect application equipment, or the pesticide product or products being used.

Exempt Materials

DPR exempts some pesticides from certain requirements. These are pesticides that DPR has determined to require no further restrictions beyond those imposed by federal regulations and pesticide labeling. These are not restricted materials and are exempt from the container control and pesticide storage requirements described in Chapter 4. DPR maintains a list of exempt materials in 3 CCR section 6402.

Review Questions

(Answers on pg 104)

1. The U.S. Environmental Protection Agency 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 a class on protecting pollinators
- 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 certified commercial or private applicator

3. Which two documents must Pest Control Businesses 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 material 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 material permit

4. An application for a restricted material 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 permits for 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 days 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 of the property from liability.

Continued on next page.

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 the Department of Pesticide Regulation 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



03

Certification & Licensing

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Acronyms used in Chapter 3:

CAC	County Agricultural Commissioner
CE	Continuing Education
DDA	Pest Control Dealer Designated Agent
DPR	Department of Pesticide Regulation
FAA	Federal Aviation Administration
MGB	Maintenance Gardener Pest Control Business License
PCA	Agricultural Pest Control Adviser
PCB	Pest Control Business License
PCAPC	Pest Control Aircraft Pilot Certificate
QAC	Qualified Applicator Certificate
QAL	Qualified Applicator License

General Certification and Licensing Requirements

Following are the general requirements for submitting initial and renewal applications for the Department of Pesticide Regulation (DPR) certification or licensing. Later in this chapter is specific information for each certificate and license type.

Initial Application

Applicants must submit the required:

- Application form
- Application fee
- Applicable examination fee(s), and
- Information and documentation, such as proof of possessing:
 - » Minimum education or work experience
 - » A valid Federal Aviation Administration (FAA) pilot certificate or medical certificate, or
 - » Valid liability and workers' compensation insurance

Renewal Application

Certificate and license holders must meet all renewal requirements before their certificate or license expires. Renewal applicants must submit:

- The renewal application and appropriate fee;
- Proof of completed continuing education (CE) hours; and
- Any other required information and documentation before December 31 of the year that the certificate or license expires.

The CE record-keeping requirements for all certificate and license holders are addressed later in this chapter.

Late Renewal Submission Penalty Fee

A late submission penalty fee is required if the renewal application, renewal fee, or any other required renewal information is submitted after December 31 of the year that the certificate or license expires.

Pest Control Businesses

PCBs must meet the insurance requirement and qualified person requirement. If the renewal application and proof of insurance are submitted after the December 31 expiration date, the PCB will have to pay a late submission penalty fee in addition to the renewal fee.

Failure to Meet the Renewal Requirements

If an individual certificate or license holder fails to earn the required number of CE hours before the certificate or license's expiration date, the holder will not be able to renew. In these circumstances, to again possess the certificate or license an initial application and fee, as well as any required examination fees, must be resubmitted and the applicant must pass all the applicable examinations.

Businesses are not allowed to renew if they fail to possess valid liability insurance, workers' compensation insurance, or do not have a valid qualified person when they submit a renewal application.

Expired Certificate and License

Certificate and license holders cannot advertise, work, do business, or accrue CE hours under an expired certificate or license.

Registration with the County Agricultural Commissioner (CAC)

Some pest control certificates and licenses require holders to register annually with the CAC before performing any pesticide use or pest control work in that county. Some counties will charge a fee for certain certificates or licenses. For more details, check with the CAC office in each county where pest control operations are planned.

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. The grounds for each license or certificate are covered in each section below.

Specific Requirements for Individual Certificates and Licenses

Applicator Certificates and Licenses

The following are the specific requirements for:

- Qualified Applicator Certificate
- Qualified Applicator License, and
- Pest Control Aircraft Pilot Certificate

Qualified Applicator Certificate (QAC)

If a pesticide applicator does not meet the definition of “private applicator” (see glossary) they must possess a QAC before they can use or supervise the use of restricted use pesticides/ restricted materials. Generally, this certificate does not authorize an individual to act as the responsible person for a licensed PCB, except as noted below. This certificate is typically used by those that work for a business but are not the designated qualified person, or used by individuals that work for their employer on their employer’s property (e.g. school district employees, county maintenance personnel).

Minimum Requirements—QAC

Applicants 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 intended type of pest control that will be conducted must fall under the scope of the pest control category.

Note: Individuals that hold a QAC with only the Maintenance Gardener Pest Control Subcategory Q are not authorized to purchase, apply, or supervise the application of restricted materials and are only allowed incidental use of pesticides. In order to purchase, apply, or supervise the use of restricted materials in a maintenance gardening setting, the qualified individual must possess a valid QAC in the Landscape Maintenance Pest Control Category B.

An individual can be the qualified person responsible for a Maintenance Gardening Pest Control Business when:

- They have the QAC Landscape Maintenance Pest Control Category B; or
- They have the QAC Maintenance Gardener Pest Control Subcategory Q.

CE Requirements — QAC

For most pest control categories, QAC holders must complete a minimum of 20 hours of DPR-approved pesticide and pest management education during the two-year valid period if they wish to renew their QAC. At least 4 hours of this CE must pertain to pesticide laws and regulations. The CE record-keeping requirements are addressed later in this chapter. There is no grace period. The following exceptions to the 20 hour CE requirements apply to a QAC holder who has only the following categories or subcategories (Figure 3-1):

- Sewer Line Root Control category, Microbial Pest Control category, and/or Maintenance Gardener Pest Control Subcategory Q holders — must obtain a minimum of 8 hours of DPR-approved CE relating to pest management and pesticides, including at least 2 hours pertaining to pesticide laws and regulations; and
- Seed Treatment Pest Control category holders — must obtain a minimum of 4 hours of DPR-approved CE relating to pest management and pesticides, including at least 2 hours pertaining to pesticide laws and regulations.

FIGURE 3-1:

Certificate Category	Pesticide Laws and Regulations CE hours required for renewal	Pesticides and Pest Management CE hours required for renewal
Sewer Line Root Control	2	6
Microbial Pest Control	2	6
Maintenance Gardener Pest Control (Subcategory Q)	2	6
Seed Treatment Pest Control	2	2

County Registration

QAC holders are not required to register with the CAC.

Denial, Revocation, and Suspension of a QAC

DPR can deny an application and revoke or suspend a QAC for any of the following reasons:

- Failure to adequately supervise the use of a restricted material;
- Failing to comply with the laws and regulations relating to pesticides; or
- Making false or fraudulent records or reports.

Qualified Applicator License (QAL)

An individual must possess a QAL if they:

- Intend to use or supervise the use of restricted use pesticides/restricted materials and are not otherwise certified with a QAC or Private Applicator Certificate (see glossary); or
- Will be the qualified person who is responsible for supervising the pest control operations of a licensed Pest Control Business.

The Pest Control Business may use any pesticide or conduct pest control only in the categories in which the QAL has been found to be qualified through the examination process. 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. Please note, a qualified person with a Category B can use restricted use pesticides, but only incidentally under a licensed Maintenance Gardener Pest Control Business.

Minimum Requirements — QAL

Applicants must pass the core examination on "Laws, Regulations, and Basic Principles" and

at least one pest control category examination before being issued an initial QAL. The intended type of pest control that will be conducted must fall under the scope of the pest control category.

CE Requirements — QAL

For most pest control categories, to renew a QAL an individual must complete a minimum of 20 hours of DPR-approved pesticide and pest management instruction within each two-year license period. At least 4 hours of this CE must pertain to pesticide laws and regulations. There is no grace period. The CE record-keeping requirements are addressed later in this chapter. The following exceptions to the CE requirements apply to a QAL holder who has only the following categories or subcategories (Figure 3-2):

- Sewer Line Root Control category and/or Microbial Pest Control category holders — must obtain a minimum of 8 hours of DPR-approved CE relating to pest management and pesticides, including at least 2 hours pertaining to pesticide laws and regulations; and
- Seed Treatment Pest Control category holders — must obtain a minimum of 4 hours of DPR-approved CE relating to pest management and pesticides, including at least 2 hours pertaining to pesticide laws and regulations.

County Registration

County registration is not required for a QAL. However, if a QAL is the responsible person for a Pest Control Business, the Pest Control Business must register annually with each CAC prior to performing pest control in the respective county. A copy of the QAL card will be included with the County Registration form for a Pest Control Business. The Pest Control Business can only operate in the pest control categories the QAL possesses. If the QAL adds new categories, the Pest Control Business should update their registration

FIGURE 3-2:

License Category	Pesticide Laws and Regulations CE hours required for renewal	Pesticides and Pest Management CE hours required for renewal
Sewer Line Root Control	2	6
Microbial Pest Control	2	6
Seed Treatment Pest Control	2	2

with the CAC. For more on Pest Control Business registration, see below.

Denial, Revocation, and Suspension of a QAL

DPR can deny an application and revoke or suspend a QAL for any of the following reasons:

- Failing to comply with the laws and regulations relating to pesticides;
- Making false or fraudulent records or reports; and
- Failing to supervise the operations, activities, and employees of the business that ensures compliance with pesticide laws and regulations.

Pest Control Aircraft Pilot Certificate (manned and unmanned) - (PCAPC)

If performing pest control while operating an aircraft an individual must hold a valid:

- PCAPC, and
- Appropriate FAA certification

Individuals must have a valid PCAPC to conduct aerial pest control as a private applicator or commercial applicator.

To earn a PCAPC, pilots must pass an examination to demonstrate their:

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

Manned vs. Unmanned Pest Control Aircraft Pilot Certificate

An individual holding a valid Manned Pest Control Aircraft Pilot Certificate (Journeyman or Apprentice) with the appropriate FAA certifications may:

- conduct pest control activities using a manned aircraft; and
- conduct pest control activities using an unmanned aerial system (UAS).

An individual holding a valid Unmanned Pest Control Aircraft Pilot Certificate (Journeyman or Apprentice) with the appropriate FAA certifications may:

- conduct pest control activities using an unmanned aerial system (UAS).

Minimum Requirements for an Apprentice Pilot

Before making aerial pest control applications in California individuals must obtain an apprentice pilot certificate by passing the "Laws, Regulations, and Basic Principles" examination and the "Apprentice Pilot" examination. Once certified as an apprentice pilot, they may conduct pest control activities but only under the direct and personal supervision of someone who holds a valid journeyman pilot certificate from DPR. The journeyman pilot responsible for supervising the apprentice pilot must be aware of the conditions at the application site and be available to direct and control the manner in which the apprentice pilot makes the applications. The availability of the journeyman pilot must be directly related to the actual or potential hazard of the situation. Please note, a journeyman unmanned pilot may NOT supervise an apprentice manned pilot.

Minimum Requirements for the Journeyman Pilot

Once an individual has been licensed as an apprentice pilot for at least one year and has 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 the individual may take the "Journeyman Pilot" examination. The journeyman pilot(s) who supervised the individual must complete and sign a "Statement of Supervision," and this must be returned with the application when applying to take the "Journeyman Pilot" examination.

Pesticide Restrictions for PCAPCs

PCAPCs must not transfer, mix, or load organophosphate or carbamate pesticides that are labeled with the signal words "DANGER" or "WARNING" unless a closed system is used. Employers are required to follow the organophosphate and carbamate medical supervision requirements for handlers, whether or not an enclosed cockpit is used.

County Registration

Before operating as an apprentice or journeyman pest control pilot, individuals must register with the CAC of each county where they intend to perform work. Apprentice pilots must also provide the CAC with the name of the journeyman pilot responsible for providing supervision of their 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 pilot's registration can no longer provide the supervision, the apprentice pilot must immediately notify the CAC and amend the registration. PCAPCs must register in person in one county, but registration with any additional counties may be done by mail. Check with each county for the registration fee for a PCAPC registering in the first county and each additional county. PCAPCs are required to register annually, and registration covers one calendar year. A PCAPC can request the appropriate form for registration from the CAC where they intend to register in person.

CE Requirements — PCAPC

A PCAPC cannot be renewed unless the individual has completed a minimum of 20 hours of DPR-approved pesticide and pest management education within each two-year certification period. Included in the 20 hours of CE must be at least 4 hours pertaining to pesticide laws and regulation, and 4 hours pertaining to aerial application equipment and techniques. The CE record-keeping requirements for all license and certificate holders are addressed later in this chapter. There is no grace period.

Denial, Revocation, and Suspension—PCAPC

DPR can deny an application for a certificate and revoke or suspend a certificate of any PCAPC, and a CAC can refuse, revoke, or suspend a county registration for any of the following reasons:

- An individual is not qualified to conduct the pest control operations in accordance with the certificate;
- An individual does not hold the appropriate certification(s) from FAA to perform aerial pesticide applications;
- An individual violated any provisions of the laws and regulations pertaining to pesticides; and
- An individual has not complied with any order of the CAC or DPR.

Pending a hearing, DPR may suspend or place conditions on a PCAPC if the Director determines that continuance of the certificate endangers public welfare or safety.

Non-Applicator Licenses

The following are the specific requirements for the:

- Agricultural Pest Control Adviser License (PCA), and
- Pest Control Dealer Designated Agent License

Agricultural Pest Control Adviser License (PCA)

A valid PCA license must be possessed before an individual can do any of the following:

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

Exemptions—PCA

The following people are exempt from the PCA licensing requirements, provided their recommendations are for specific applications on specific parcels and are in writing:

- Officials of federal, state, and county departments of agriculture, and
- University of California personnel

Minimum Qualifications—PCA

In order to possess a valid California PCA license, an individual must meet the minimum education and work qualifications listed in regulation before applying to take the required examinations. A core examination on "Laws, Regulations, Basic Principles," and "Integrated Pest Management" and at least one pest control category examination must be passed to earn a PCA license.

Adviser Pest Control Categories and Recommendations

PCAs are authorized to make only written recommendations in categories in which they have been found to be qualified through the examination process.

Public Agencies

Government organizations responsible for administering public property where the public and more importantly, children, congregate should be held to a higher standard of pest control expertise. Public agencies not exempted above are required to have a licensed PCA's written recommendation prior to making a pest control decision for agricultural use (such as a pesticide application at a park, public forest, etc.). There must be a written recommendation if the application was conducted by an agency employee, even if there was no specific instruction from any person.

County Registration—PCA

A PCA must register with the CAC before working as a licensed PCA in the respective county. A PCA must first register in person with the CAC in their home county as indicated by the address on their PCA license. If the address is not in California, the PCA may register in person in the county of occupational choice. A PCA must register in all counties they plan to advertise or work in. The PCA must indicate on the registration form the location where their written recommendations will be available for review. Counties may charge

a registration fee for PCAs to register in their county. Registration is required annually and covers one calendar year. For further information on county registration fees, contact the CAC where operations will occur.

Written Recommendations

PCAs must make all agricultural use recommendations in writing, must not write a recommendation in conflict with the registered labeling for the product recommended, and must sign and date one copy of each written

SIDE BAR 2

Information Included In a Written Recommendation:

- 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
- Operator of the property and location
- 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
- Restricted entry interval, if one has been established, and the pre-harvest or pre-slaughter interval
- If the pesticide is a non-fumigant high volatile organic compound product subject to restrictions, the exemption for use under Title 3 of the California Code of Regulations section 6884(b) must be identified
- A warning of the possibility of damages that are reasonably known to exist (including, but not limited to hazards, the labeling restrictions on use, plant back 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 and, if feasible, adopted
- Signature or mark of the adviser, the adviser's address, the date, and the name and address of the business the adviser represents

recommendation and furnish it to the operator of the property prior to the application. When use of a pesticide is recommended, a copy of the recommendation must be provided to the Pest Control Dealer and the applicator prior to the application, or to the operator of the property if the Pest Control Dealer and applicator are unknown. Each recommendation must include information applicable to the pest control situation.

Generally, PCAs must retain a copy of each written recommendation for one year following the date of the recommendation. However, if the recommendation is for the use of a high-volatile organic compound non-fumigant product, the recommendation must be kept for two years. See Sidebar 2 for information to include in a written recommendation.

CE Requirements—PCA

To renew a PCA license, a minimum of 40 hours of DPR-approved pesticide and pest management education must be completed within each two-year license period. The 40 hours of education must include at least 4 hours pertaining to pesticide laws and regulations. There is no grace period.

Denial, Revocation, and Suspension — PCA License or County Registration

DPR can refuse an application, or revoke or suspend a PCA license, and the CAC can refuse, revoke or suspend a county registration for the following reasons:

- Failing 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 CAC;
- Failing to pass the core examination, or failing to pass at least one category examination;
- Making a recommendation in a category in which they are not licensed; and
- Unprofessional conduct.

Pest Control Dealer Designated Agent License (DDA)

Licensed Pest Control Dealers must have a DDA at the principal office and at each branch location. A DDA is required to actively supervise all Pest Control Dealer operations conducted at that

location. If an individual does not possess a QAL, a PCA, or a PCAPC they must possess a valid DDA to supervise Pest Control Dealer operations.

Minimum Qualifications—DDA

Before an initial license is issued, or before a license is issued to a person who has not possessed a valid DDA 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.

No CE is required for the renewal of this license.

Specific Requirements for Business Licenses

Business Licenses

Following are the specific requirements for:

- Pest Control Business License
- Fee Exempt Neighborhood Operator Pest Control Business License
- Maintenance Gardener Control Business License
- Pest Control Dealer Business License, and
- Pesticide Broker License

Pest Control Business License (PCB)

Anyone advertising, soliciting, or operating a business to conduct pest control for hire in California must be licensed by DPR. 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, and
- If regularly engaging in the business of tree surgery, it is not required that a license be obtained to remove diseased or infested tissues or to apply disinfectants to wounds or cavities incidental to tree surgery

Each Pest Control Business branch must have a qualified applicator responsible for the pest control operations of the branch. The responsible qualified applicator must possess a valid QAL in pest control categories covering the pest control work to be conducted by the business. The qualified applicator may not supervise more than one Pest Control Business location.

Fee Exempt Pest Control Business License

Persons who do not regularly engage in the business of pest control, but operates only in the vicinity of their own property and for the accommodation of their neighbors, may be exempted from the Pest Control Business License fee. However, they are still required to obtain the Pest Control Business License and meet all of the minimum requirements listed below.

Maintenance Gardener Pest Control Business License (MGB)

Maintenance gardeners provide routine landscape care indoors, in commercial parks with multiple commercial establishments (i.e. business parks, office parks, shopping centers, and outdoor malls), and structures surrounding distinct and separate ornamental and turf plantings (i.e. fountains, fences, statues). Ornamental and turf plantings that may be considered part of a larger landscaped open space, such as a cemetery or golf course, are not covered by a MGB. If an entity incidentally applies pesticides as part of their routine landscape care, they must be licensed by DPR. If the qualified applicator responsible for the pest control operations of the business has a QAC in Subcategory Q, the business can apply general use pesticides, but will not be able to apply restricted materials. If the qualified applicator has a QAC or QAL with Category B, the business will be able to apply restricted materials.

If a business contracts to do landscape maintenance in parks, golf courses, or cemeteries they must obtain a PCB; pest control for hire in these settings is not covered under the scope of a MGB.

The following requirements apply to each type of DPR-licensed Pest Control Business:

- Pest Control Business, and
- Maintenance Gardener Pest Control Business

Minimum Requirements

Submit a completed application and any required fee to DPR. The application must:

- Include the name and license/certificate number of the responsible person;
- Proof of having workers compensation insurance (if the business has employees); and
- Proof of financial responsibility, such as liability insurance or a Surety Bond, for damages resulting from pest control work.

County Registration

Before advertising, soliciting work, or conducting pest control for hire in a county, the business must register with the CAC. Registration of each principal and branch office location operating in the county is required. Registration is required annually and covers one calendar year. Most counties require a fee for registration. For information on the county registration fees, contact the CAC where the business intends to operate. In addition, businesses must register each piece of application equipment in each county where they intend to use this equipment.

Denial, Revocation, and Suspension

—PCB

DPR can refuse an application, revoke, or suspend a PCB for the following reasons:

- It does not have at each principal office and branch location a qualified applicator to actively supervise the business's operations;
- It does not have or maintain adequate, safe, equipment and facilities;
- It does not have adequately trained personnel; and
- It violated any provisions of the laws and regulations pertaining to pesticides.

Denial, Revocation, and Suspension — Pest Control Business Registration

CAC can refuse an application or revoke or suspend a Pest Control Business' county registration for the following reasons:

- The pest control equipment is unsuitable
- Equipment operators are incompetent or unqualified, or
- It has not complied with any provisions of the laws and regulations pertaining to pesticides or with any lawful order of the CAC

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 CAC;
- 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 Business License

A valid DPR Pest Control Dealer License is required if any individual or business (including Internet and mail order businesses) whether inside or outside of California, is:

- 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; and
- Selling to users any restricted use pesticide or restricted material that requires either a restricted material 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 locations include 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.

Exceptions to Pest Control Dealer Licensing

Licensed Pest Control Businesses that sell only the pesticides that they apply are not required to have a valid Pest Control Dealer License. Government agencies, such as CACs that sell agricultural use pesticides, are also not required to have a Pest Control Dealer License.

County Registration

Pest Control Dealers are not required to register with the CAC.

Minimum Requirements

Applicants must submit a completed application and required fees to DPR. The application must

also show that there is 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 Designated Agent performs the following duties for the Pest Control Dealer:

- Actively supervises employees who sell pesticides, and
- Exercises responsibility in carrying out the business of a Pest Control Dealer

The Designated Agent needs to be available to direct and control sales of pesticide products by unlicensed Pest Control Dealer employees. An individual may be a Designated Agent for only one location. The Designated Agent cannot work full time as a PCA while “overseeing” Pest Control Dealer operations remotely. The person designated as the agent must have at least one of the following valid documents:

- DDA
- PCA
- PCAPC, or
- QAL

Appropriate Products

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 on the product labeling;
- If the instructions on the product labeling cannot be complied with (for example, if the labeling requires a closed system and the Pest Control Dealer knows the user does not have one); or
- If the pest control recommendation is in conflict with the labeling.

Supplemental Labeling

To ensure that appropriate labeling is delivered with the pesticide, the Pest Control Dealer must deliver both the written recommendation and any applicable supplemental labeling to the applicator in sufficient time to allow the applicator to properly prepare for the application.

Dealer Record Availability

All records that Pest Control Dealers are required to maintain shall be made readily available when requested by the CAC or DPR, regardless of the Pest Control Dealer's location. Periodically, the CAC or DPR may inspect or request the Pest Control 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.

Sales Records (Invoices)

Each principal and branch location must maintain a sales record 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 CAC 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;
- 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.

Other Records

In addition to sales records, Pest Control Dealers shall maintain the following records for two years:

- A copy of the restricted material permit for any pesticide that requires a permit;
- A record of applicator certification for federal restricted use pesticides that do not require a permit and pesticides that DPR has determined have the potential to pollute groundwater (the purchaser can sign a statement attesting to having a valid applicator certification in lieu of a copy of their certification);
- The operator identification number issued by the CAC for pesticides that require an operator identification number;
- A record of having sent a list of sales to out-of-county operator identification numbers to the CACs of those counties;

- A sworn statement from a certified applicator for sales of the active ingredient cloyralid—if the product is registered for lawn and turf in residential, school, park, office building, and golf course settings;
- Vessel registration or sworn statement and special records for sales of the active ingredient tributyltin—registered for certain aluminum ship/vessel hulls, outboard motors, and lower drive units; and
- A written statement of use prohibitions for purchasers with an operator identification number in the San Joaquin Valley ozone nonattainment area if purchasing a non-fumigant high volatile organic compound for agricultural use.

Principal Location Responsibilities

The principal (main) Pest Control Dealer location also has specific responsibilities. The principal location must:

- Retain records of all purchases, sales, and distribution of pesticides including those of its branch locations for four years;
- Report assessable sales to DPR quarterly for the principal and all branch locations; and
- Report annually to DPR all pesticides purchased from a person who is not a licensed Pest Control Dealer or a Pesticide Registrant.

Quarterly Reports

The quarterly report must show sales into or within California, be in the form prescribed by DPR, and include:

- Total sales in dollars and total pounds or gallons of agricultural use pesticides; and
- A mill tax assessment when the Pest Control 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.

Denial, Revocation, or Suspension of a Pest Control Dealer License

DPR can deny an application, and revoke or suspend a Pest Control Dealer License, after a hearing, for failing to comply with the laws and regulations relating to pesticides. Among other things, it is a violation of the law to do the following:

- Fail to demonstrate qualifications to act in the capacity of a Pest Control Dealer;
- Fail to notify DPR of any transfer or change of address;

- Make false or fraudulent statements;
- Misrepresent or fail to disclose any material fact in making application for a license or renewal of a license; or
- Make any false or misleading statements or promises concerning any pesticide or method of pest control.

Pesticide Broker License

A valid DPR Pesticide Broker License is required if any individual or business (including Internet and mail order businesses) whether inside or outside of California, first sells or distributes pesticides into California. This excludes Pesticide Registrants selling their own DPR-registered pesticide products or licensed Pest Control Dealers. This licensing requirement applies to all pesticides sold into California. The requirements apply to both agricultural pesticides and pesticides sold for non-agricultural use (e.g. home residential, industrial, and institutional settings).

Licensed Pesticide Brokers can only sell agricultural use pesticides or California restricted materials (including federal restricted use pesticides) to Pesticide Registrants, other licensed Pesticide Brokers, or licensed Pest Control Dealers. Pesticide Brokers are not authorized to solicit pesticide sales by making agricultural use recommendations, personally or through others.

At the principal location, a licensed Pesticide Broker must maintain records of purchases, sales, and distributions of pesticides into or within California for all principal and branch locations for four years. These records must be made available to DPR upon request. Pesticide Brokers must also, 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.

There is no fee to renew this license. County registration is not required for this license.

Denial, Revocation, or Suspension of a Pesticide Broker License

DPR can deny an application, and revoke or suspend a Pesticide Broker License, after a hearing, for failing to comply with the laws and regulations relating to pesticides. Potential violations include:

- Failing to notify DPR, in writing, of any change of address;
- Making false or fraudulent statements, or misrepresenting or failing to disclose important facts when applying for a license or renewal of a license; and
- Making false or misleading statements in written records or reports relating to pesticides.

CE and Recordkeeping

A certificate or license cannot be renewed unless the specified number of hours of CE, as described in this study guide, has been completed within each certificate or license's valid period. There is no grace period. If a certificate or license holder fails to earn the required number of CE hours before the certificate or license's expiration date, they will not be able to renew. To reacquire the license or certificate, they must retest and pass all the applicable examinations.

CE must be in the context of pesticides and pest management. Sales-oriented and marketing courses are not acceptable. CE is offered to licensed and certified pest control applicators to allow them to renew their license or certificate for another renewal period, without the need for examination. The CE requirement is designed to augment a license or certificate holder's proficiency as an adviser or applicator and assure that they have up-to-date knowledge of pesticide laws and regulations, pesticides, and pest management. Topics that may be related to, but not focused on, pesticide or pest management information do not qualify for DPR CE (e.g. plant health, irrigation, fertility).

DPR-approved CE is provided through many public and private sources and a listing of approved courses is available through DPR's web site: <http://www.cdpr.ca.gov/docs/license/cont_ed_cfm/classes.htm>.

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

The instructor or sponsoring organization of DPR-approved CE courses must maintain a record of license and certificate holders who successfully complete courses or programs. These records

must be retained for three years, must contain the same information that certificate or license holders are required to maintain, and must be provided to DPR upon request.

Recordkeeping Requirements

DPR certificate and license holders are required to maintain a record of all CE hours acquired during each certificate or license period. These nine record items must be maintained for each course for three years:

1. Name as listed on DPR license or certificate
2. DPR certificate or license number
3. Course title
4. Course sponsor's name
5. Course location
6. Course date
7. Number of hours attended in each CE category (Laws and Regulations, Aerial, or Other)
8. Certificate or license holder's signature; and
9. Course identification code

CE course sponsors are required to give each attendee a certificate of course completion containing the information specified in the above. Certificate and license holders are required to submit their proof of completed CE to DPR at the time of renewal. DPR may ask for additional information, copies of your certificate of completion records for the past three years, at any time.

Holders of Multiple Licenses or Certificates

If a certificate or license holder maintains two or more certificates or licenses, they may use CE hours obtained for one license or certificate to satisfy the CE requirements for each additional license or certificate. For example, if an individual possesses both a QAL (20 hours) and a PCA (40 hours), they will need a minimum of 40 hours of CE, including 4 hours pertaining to pesticide laws and regulations, to renew both licenses.

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

1. PCA
2. PCAPC
3. QAL
4. QAC

For example, if an individual has a PCA and a QAL, they should sign the attendance sheet with their PCA license number.

Partial Continuing Education Requirements for New Advisers and Applicators

If an individual is a first-time adviser or applicator with a license or certificate that has been held for less than 12 months at renewal time, no CE hours are required for renewal of the certificate or license. If an individual has held a new certificate or license for 12 to 20 months at renewal time, one half of the two-year period of CE hours is required for the renewal of the certificate or license. If an individual has held a new certificate or license for 21 to 24 months at renewal time, all of the CE hours for the particular certificate or license are required for renewal. All required CE hours must be completed by December 31 of the expiration year, or the certificate or license cannot be renewed.

Certificate or License Renewal

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

Anyone who wishes to receive a license or certificate from DPR must have either:

- Passed the appropriate examination for the license or certificate for which they have applied; or
- Held, within the last 12 months, a valid copy of the same DPR license or certificate for which they have applied

Licenses and certificates are not valid until issued or renewed by DPR.

Unlawful Acts in Meeting a Licensing Requirement

It is unlawful for any person to cheat on or subvert a licensing examination. "Subvert" includes, but is not limited to, the unauthorized possession, reproduction, or distribution of any portion of the licensing examination. It is also unlawful to make any false or fraudulent statement, record, report, or use and fraud or misrepresentation in connection with meeting any licensing requirement. These offenses are punishable by a civil penalty of up to \$5,000.

Review Questions

(Answers on pg 104)

- 1. Which of the following pest control activities requires a Department of Pesticide Regulation 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.** Agricultural 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 each county where the business operates
- B.** Department of Industrial Relations
- C.** Department of Pesticide Regulation
- D.** County Agricultural Commissioner in each county where the business operates

5. Which type of pesticide application is covered under the provisions of a Maintenance Gardener Pest Control Business License?

- A. spraying an herbicide in a cemetery
- B. regularly applying snail bait around a homeowner's property
- C. applications incidental to maintaining ornamental plants in a shopping mall
- D. spraying a restricted herbicide at a golf course

6. A Pest Control Dealer License is not required for a 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

7. 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 Pest Control Dealer's location
- D. making pesticide use recommendations for customers of the business

8. 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

9. 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 pest control services or pesticide sales for agricultural uses
- D. work for the University of California Integrated Pest Management program



04

Pest Control Work Requirements

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Acronyms used in Chapter 4:

3 CCR

Title 3, California Code of Regulations

CAC

County Agricultural Commissioner

DPR

Department of Pesticide Regulation

HSA

California's Healthy Schools Act

IPM

Integrated Pest Management

PCA

Agricultural Pest Control Adviser

REI

Restricted Entry Interval

U.S. EPA

United States Environmental Protection Agency

Standards of Care

Applicator Responsibilities

Whenever applying a pesticide, or conducting any other type of pest control, applicators are responsible for meeting the following standards of care:

- 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 pesticide labeling available at each use site to show that the pesticide labeling allows the manner in which the pesticide is being used;
- 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.

Field Posting

If warning signs are required to be posted around a field, the operator of the property is generally responsible for posting warning signs as described in Chapter 6; however, it is illegal to begin an application before the warning signs have been posted.

Age Requirement

When pesticides are used for research or commercial production of agricultural commodities, employers shall assure that their pesticide handlers are at least 18 years old. In addition, employers may not direct or allow fieldworkers younger than 18 years to enter a treated field during the Restricted Entry Interval (REI).

In all other pesticide use situations, no pesticide handler, under 18 years of age, is permitted to mix or load a pesticide when the pesticide labeling 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:

- 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.

Cleaning Application Equipment

Application equipment should be cleaned following the pesticide labeling instructions. Pesticide labeling may provide instructions on specific cleaning product(s) to use or processes to follow. Failure to follow such directions could be considered a use in conflict with labeling and unintentionally create an illegal residue or phytotoxic effect in subsequent applications. Absent any pesticide labeling instructions, thorough washing with a product intended for cleaning application equipment is usually adequate for decontamination. The wash water from application equipment is considered hazardous waste, unless it is applied onto the application site.

Notification Requirements

Notice of Application

Before a Pest Control Business can perform pest control, they must obtain consent from the operator of the property and provide a Notice of Application. The content of the Notice of Application varies depending on whether or not the pesticide use is for the production of an agricultural commodity. The responsibilities of the operator of the property for further notifications also vary depending on whether or not the pesticide use is for the production of an agricultural commodity. Notification requirements are discussed in more depth in Chapter 6. See Sidebar 3 for Notice of Application Requirements.

Notice of Completed Applications

In addition to the Notice of Application requirements described above, a Pest Control Business that applies pesticides for the production of an agricultural commodity must also give a Notice of Completed Application to the operator of the property treated. The Notice of Completed Application must be given orally or in writing, 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 spray adjuvant name(s), United States Environmental Protection Agency (U.S. EPA) or California registration number(s);

SIDE BAR 3

Notice of Application Requirements

Each person performing pest control for the commercial or research production of an agricultural commodity shall assure that the operator of the property receives a Notice of Application prior to conducting the pesticide application. The Notice of Application must include:

- The date(s), start time(s), and estimated end time(s) of the scheduled application
- The location and the description of the field to be treated
- The pesticide product name(s), United States Environmental Protection Agency registration number(s), and active ingredient(s)
- Spray adjuvant product name(s), and California registration number(s), if applicable
- The applicable restricted entry interval
- If the pesticide product labeling requires the posting warning signs around the treated field(s), oral notification, or both
- Any other precautions printed on the pesticide product labeling, or in applicable laws and regulations, related to the protection of employees or other persons during or after application

If there is a change in the Notice of Application, the person(s) performing pest control shall assure the operator of the property receives notice of this change prior to the pesticide application. Any employer notified of a scheduled application shall assure that notice of the scheduled application is given to his or her employees working on the property unless they will apply the pesticide(s) or supervise the application.

- Date(s) and time(s) that the application was started and completed; and
- Applicable restricted-entry and pre-harvest intervals, unless the operator of the property has a copy of an Agricultural Pest Control Adviser's (PCA) recommendation for the application.

The operator of the property must maintain a written record of the Notice of Completed Application with the above information for each application, and provide the application specific information to employees as described in Chapter 6.

The Pest Control Business must maintain a written record of notifications made for two years. These records must include 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.

Pest Control Business Work Requirements

Equipment Identification

Pest Control Businesses must conspicuously and legibly identify each ground rig, service rig, and similar equipment used for mixing or applying pesticides with:

- The name of the business; or
- “Licensed Pest Control Operator,” “Fumigation Division,” or similar wording and the Pest Control Business’ License number.

These markings must be large enough to be readable at a distance of 25 feet.

Recommendation and Restricted Material Permit

Pest Control Businesses must have available a copy of the written pest control recommendation adopted by the operator of the property, or a work order that contains the elements of a written recommendation, and the restricted material permit covering each agricultural use application of a pesticide that requires a restricted material permit. Pest Control Businesses must operate in accordance with the restricted material permit.

Pesticide Accident Reporting

Pest Control Businesses must immediately report accidents to the County Agricultural Commissioner (CAC). The report must include the location of the accident, the pesticide(s) involved, and the estimated amount of pesticide released. This must be done 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, and
- Type of emergency or accidental pesticide release

Operator identification, Pesticide Use Records, and Pesticide Use Reporting

Operator Identification Numbers

If the operator of the property is required to maintain pesticide use records (see below), the operator of the property must obtain an operator identification number from the CAC before they can purchase and use pesticides. For pesticide applications for the production of an agricultural commodity, Pest Control Businesses are required to obtain the operator of the property’s operator identification number when the Pest Control Business makes a pesticide application.

Pesticide Use Records

The following users must maintain pesticide use records:

- Pest Control Businesses, and
- Other users who apply:
 - » Pesticides for any agricultural use
 - » Any pesticide listed in Title 3, California Code of Regulations (3 CCR) section 6400 (restricted materials)
 - » For industrial post-harvest commodity treatment, or
 - » Pesticides listed in 3 CCR section 6800(b) (groundwater protection list) and used for outdoor institutional or industrial pest control

These records must be retained for two years and made immediately available to the CAC or Department of Pesticide Regulation (DPR) upon request.

All pesticide use 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 the production of 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 (Note: for both Notice of Completed Applications and Application Specific Information, the start and stop time are required);
- 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 from the business who made and supervised the pesticide application.

When the application is to a school or childcare facility, pesticide use records must also include:

- Application completion time;
- Name and address of school site; and
- Application location at the school site, including but not limited to classrooms, playgrounds, cafeterias, vehicles, and athletic fields.

Pesticide Use Reports—Production Agriculture

When pesticides are applied for the production of an agricultural commodity, a pesticide use report must be submitted to the CAC in which the application took place. Pesticide use reports must include the:

- Information required for agricultural commodity pesticide use records; and
- Name and address of the Pest Control Business that made the application.

Pest Control Businesses must submit these reports to the CAC within seven days of completion of the pesticide application. Operators of the property must submit pesticide use reports by the tenth day of the following month unless the pesticide use was otherwise reported to the CAC by the Pest Control Business.

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 treated. The operator of the property must retain a copy of the Pest Control Business' pesticide use report sorted by site for two years.

Pesticide Use Reports—Non-production Agriculture and Non-Agriculture

For pesticide applications not for the production of an agricultural commodity, a monthly summary pesticide use report must be submitted to the CAC in which the work was performed. This reporting requirement is in addition to the reporting requirements for schools and daycare sites detailed below. The monthly summary use report must be submitted by the tenth day of the month that follows the month in which the work was performed.

The monthly summary use 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 undiluted 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.

Pesticide Use Reports—Submission to the CAC

Pesticide use reports must be on a DPR form or in a format approved by DPR. If the report is mailed, the postmark is the date of delivery. For pesticide use reports which must be submitted to the CAC, it is encouraged to submit pesticide use reports electronically through CalAgPermits. Contact the CAC for information about CalAgPermits.

Pesticide Use Reports—School and Daycare Sites

Pest Control Businesses (including maintenance gardeners) must include pesticide applications at

school sites in their monthly pesticide use report to the CAC. At least annually (by January 30), a detailed report of pesticide use at school sites must be submitted directly to DPR. School site pesticide use reporting to DPR is maintained in a separate database from what is submitted to the CAC. Information, training, the pesticide use reporting form, and instructions are available on DPR's School and Child Care IPM website at <<http://apps.cdpr.ca.gov/schoolipm/main.cfm>>.

Negative Pesticide Use Reports

A Pest Control Business must submit a negative pesticide use report during any month in which they performed no pest control work. This negative pesticide use report must be submitted to the CAC in each county where the business is registered by the tenth day of the following month. If the report is mailed, the postmark is the date of delivery.

The Healthy Schools Act

California's Healthy Schools Act (HSA) is a right-to-know law that provides parents and staff with information about pesticide use taking place at public schools and child care centers (except family day care homes). The law encourages the adoption of effective, lower risk pest management practices, also known as integrated pest management (IPM). It also establishes requirements designed to protect the health and safety of children and staff in certain public schools and child care facilities. Schools and child care facilities that must comply with the HSA shall meet specific pesticide use requirements.

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.

General Requirements for Schools and Child Care Facilities

Schools and child care facilities that must comply with the HSA shall:

- Identify an IPM coordinator;
- Develop an IPM plan;
- Provide staff and parents an annual notification of pesticides intended to be applied;

- Create a registry of parents and staff wishing to be notified 72 hours prior to scheduled applications;
- Assure that application warning signs are posted 24 hours prior to application with information on when, where and why the application was made. The signs must remain up for 72 hours after the application is complete;
- Keep pesticide use records of any pesticides applied for four years and make the records available to the public, if requested;
- Submit an annual HSA pesticide use report to DPR for pesticides applied by the school; and
- Complete annual DPR-approved IPM training that focuses on the safe use of pesticides at schools and child care facilities.

Certain pesticides are exempt from HSA requirements, including self-contained baits and traps, crack and crevice gels and pastes, antimicrobial pesticides and certain other pesticides that are exempt from U.S. EPA registration.

Requirements for Pest Control Businesses

In addition to the usual application requirements for pest control at other sites, a Pest Control Business that is hired by a school or child care facility must comply with the HSA and meet specific requirements including:

- Providing an application notification and posting application warning signs;
- Not using prohibited pesticides;
- Keeping pesticide use records;
- Submitting an annual HSA pesticide use report to DPR; and
- Complete a DPR-approved IPM training course that focuses on the safe use of pesticides at schools and childcare facilities at least once per license renewal period.

DPR's School and Child Care IPM Program

DPR promotes effective least toxic pest management practices at schools and child care facilities covered by the HSA through their School and Child Care IPM Programs. DPR works with school districts and organizations representing child care providers in California and provides them with:

- Compliance assistance with the HSA;
- Presentations and outreach about the Schools and Child Care IPM program; and

- IPM training and educational information about pesticides and pest management to encourage the adoption of IPM practices and the safe use of pesticides in school settings.

Agricultural Pesticide Use Around Schools and Child Daycares

For pesticide applications made for the production of an agricultural commodity within 1/4 mile of public K-12 schools and licensed child day-care facilities, except family daycare homes (collectively referred to as school sites), California requires:

- Annual notification to the school site of expected pesticide applications; and
- Restrictions on times and distances certain application methods more prone to drift can be used.

The requirements apply to all pesticides used for the production of an agricultural commodity, including pesticides exempt from registration and spray adjuvants.

Annual Notification

Operators of the property within 1/4 mile of a school site applying pesticides for the production of an agricultural commodity must provide

annual notification of the pesticides expected to be used. The notification must be submitted to the school site and the CAC by April 30, and must include:

- The operator of the property's contact information;
- Additional information specified in the regulation; and
- A list of all pesticides expected to be used within 1/4 mile of the school site during the following July through June.

New pesticides may be added by providing notification to the school site and the CAC at least 48 hours prior to application. A new operator of the property (through purchase or lease of a field) must provide the first notification within 30 days of assuming control of the property and at least 48 hours prior to the first pesticide use. Notification applies to all sites producing an agricultural commodity, even those in enclosed spaces such as greenhouses, mushroom houses, or hoop houses.

Application Restrictions

The regulation establishes pesticide application restrictions Monday through Friday, from 6:00 a.m. to 6:00 p.m., within a specified distance of a school site. Two types of restriction distances for outdoor applications apply: either 1/4 mile (1,320 feet) or 25 feet, depending on the type of application equipment used and type of pesticide applied (Figure 4-1).

FIGURE 4-1: Minimum distance to school site by equipment and pesticide type

Application Equipment Type	Dust	Fumigant	Granule	All Other Pesticides
Airblast Sprayer	1/4 mile	Prohibited	Doesn't occur	1/4 mile
Aircraft	1/4 mile	Prohibited	1/4 mile	1/4 mile
Backpack Sprayer	1/4 mile	Prohibited	None	None
Bait Station	None	Prohibited	None	None
Ground-Rig Sprayer	1/4 mile	1/4 mile	None	25 feet
Hand Pump Sprayer	1/4 mile	1/4 mile	None	None
Soil Injection	None	1/4 mile	None	25 feet
Sprinkler Chemigation	Doesn't occur	1/4 mile	Doesn't occur	1/4 mile
All Other Equipment	1/4 mile	1/4 mile	None	25 feet

Exceptions to Application Restrictions

There are no distance restrictions when the application is made within an enclosed space, unless a fumigant is applied which is prohibited within 1/4 mile of a school site. Additionally, backpack sprayers that incorporate an air blast sprayer are prohibited within 1/4 mile of a school site.

The application restrictions above do not apply if school classes are not scheduled or the child daycare facility is closed the entire day of the application. This allows applications during the day on holidays and school breaks.

Additionally, there is an option for an agreement between a school site, the operator of the property, and the CAC with alternative application restrictions that provide the same or a greater level of protection as provided by the regulations.

Pollinator Protection

Protection of Bees

Protection of bees and pollinators is important to the health and abundance of California crops. When applying a pesticide labeled with the phrase "toxic to bees" to blossoming plants, the following special procedures are required.

Notify Beekeepers

If planning an application to a blossoming plant using a pesticide toxic to bees the CAC must be consulted prior to the application to 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 by the beekeeper(s) the beekeeper(s) must be notified of the following at least 48 hours before the application:

- 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 notification period may be increased or decreased by the CAC or by agreement between the beekeeper(s) 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 these CACs are required to give notification to beekeepers prior to pesticide applications. The Glenn CAC serves as the coordinator for the region. Once registered with any of the CACs in this region, Pest Control Businesses and beekeepers must pay an annual fee to the coordinator.

Citrus/Bee Protection Area

In Fresno, Kern, and Tulare Counties, areas within one mile of any citrus planting that consist of one acre or more have been designated as citrus/bee protection areas. Special bee protection requirements apply in these counties. Beekeepers, Pest Control Dealers, PCAs, and pesticide applicators in these counties should consult with the CAC for further information.

Pesticide Storage, Transportation, and Disposal

General Requirements

If pesticides and opened pesticide containers are improperly stored, transported, handled, or disposed of, injury may occur 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 labeling and with regulations adopted by DPR. The CAC may take possession of unattended pesticides or empty pesticide containers that present a hazard to people, animals, bees, food, feed, crops, or property.

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 operator of the property or their agent
- The qualified person of a Pest Control Business or their employee

If none of these people are at the property when the delivery is made, the pesticide containers



FIGURE 4-2: Warning signs similar to the one shown here must be posted around pesticide storage areas that contain pesticide containers (full or empty) with the signal words "DANGER", or "WARNING".

must be left in a locked enclosure that is posted with appropriate warning signs, as described below.

Security of Pesticides and Pesticide Containers

To prevent unauthorized people from coming in contact with or being exposed to residues on pesticide containers, personal control must be exercised to prevent unauthorized contact at all times, or one of the following must be followed:

- A designated person maintains control over the pesticide containers and application equipment; or
- The pesticide containers and application equipment is stored 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 labeling on all other products held in the same storage area, including non-pesticidal products. Do not store pesticides with personal protective equipment because of the possibility of contamination.

Posting Storage Area Warning Signs

When a storage area contains containers that hold, or have held, pesticides labeled with the

signal words "DANGER" or "WARNING," warning signs must be posted on or around the storage area. (Figure 4-2) 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 it is anticipated that people who do not read English will approach the pesticide storage area, the warning signs must also be in a suitable language in addition to English.

Pesticide Container Requirements

With the exception of service containers described below, when storing or transporting containers that hold or have held pesticides, the containers must carry the Pesticide Registrant's label.

Service Container Labeling Requirements

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. Other than a farmer on their own property, all service containers must be labeled with the following:

- Name and address of the person or firm responsible for the container
- Identity of the pesticide in the container, and
- Signal word "DANGER," "WARNING," or "CAUTION" from the label of the original container

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 4-3) This is to help prevent accidental pesticide poisonings or injuries, especially those involving children.

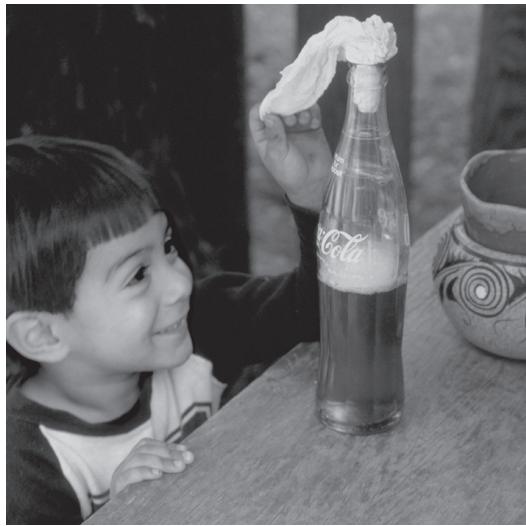


FIGURE 4-3: Improperly stored pesticides in food or beverage containers can lead to accidental poisoning or death.

Reuse of Empty Pesticide Containers

The pesticide product labeling often contains a statement similar to “non-refillable container,” “do not reuse or refill this container.” For containers made of plastic or other similar materials, once the pesticide is used up and the container rinsed, refilling the container with another substance (whether a pesticide, fertilizer, used motor oil, etc.) is a violation of the pesticide labeling requirements.

Transportation of Pesticides

Pesticides must never be transported in the same vehicle compartment as people, food, animals, or animal feed. Pesticide containers must be secured to the vehicle during transportation in a way that will prevent spills into or off of the vehicle. Pesticide containers made of paper, cardboard, or similar material should be covered, when necessary, to protect them from moisture.

Pesticide Bag Disposal Requirements

Pesticide bags that have been properly emptied according to DPR’s “Guidelines for Emptying and Burning 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’s “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 pesticide bags under an agricultural burn permit that has been issued to the operator of the property 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 of the stack of bags to be burned;
- By igniting the bottom-most bags;



FIGURE 4-4: Empty pesticide containers, when triple rinsed, should be offered for recycling.

- While only authorized people are present, such as the pesticide handler making the application or the operator of the property, 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

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

- Are to be returned to the Pesticide Registrant; or
- Held an undiluted, ready-to-use pesticide.

See Sidebar 4 for pesticide container rinsing procedures. Following these procedures, the pesticide containers have been properly rinsed. Use of a Tier 1 closed mixing system includes a rinsing system that meets these requirements and rinses and drains the container while still attached to the system.

SIDE BAR 4



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 are 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 the rinse solution be drained into the mix tank and applied 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.
3. 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 Department of Pesticide Regulation.

Pesticide and Container Disposal and Recycling

Disposal and recycling sites that accept pesticides and pesticide containers must do so in accordance with California laws and regulations (Figure 4-4). Check with the CAC about local requirements before disposing of any pesticides or rinsed or un-rinsed empty pesticide containers. It may be required to have the properly triple-rinsed pesticide containers inspected by the CAC before disposal at approved disposal or recycling sites.

Un-rinsed, emptied containers include those whose contents cannot be adequately removed by rinsing or those that contained an undiluted, ready-to-use pesticide. Un-rinsed containers may be considered hazardous waste. A Hazardous Waste Facility Permit may be needed to store old pesticide materials or un-rinsed pesticide containers awaiting disposal. Certain un-rinsed, emptied pesticide containers may also be returned to the Pesticide Registrant with the Pesticide Registrant's prior approval. Prior to returning the pesticide containers to the Pesticide Registrant, all lids or closures must be tightened securely.

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; and
- Pesticide container rinse and disposal:
 - » Containers that hold or have held pesticides registered as a spray adjuvant
 - » Outer shipping containers that have not become contaminated with pesticides.

Be sure to check with the local CAC if there are any questions regarding these exemptions.

Review Questions

(Answers on pg 104)

- 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 the Department of Pesticide Regulation'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
- 10. 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, and the license number
- 11. 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
- 12. 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
- 13. Before a Pest Control Business applies a pesticide for the production of an agricultural commodity, the operator of the property 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
- 14. 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 childcare facilities
 - C. state mandated program that covers only schools and childcare facilities located on State property
 - D. federal program that covers all schools and childcare facilities that receive any federal funding

.....

15. 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 daycare facilities
- B.** complete and post an annual pest control notice at all entrances of K-12 schools and all childcare facilities
- C.** provide specialized notification and pesticide safety training for all interested persons working at schools and daycare facilities serviced by the Pest Control Business
- D.** submit a school and childcare pesticide use report to the Department of Pesticide Regulation at least annually



05

Pesticide Handler Safety

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Acronyms used in Chapter 5:

3 CCR
Title 3, California Code of Regulations

ANSI
American National Standards Institute

CAC
County Agricultural Commissioner

DPR
Department of Pesticide Regulation

IDLH
Immediately Dangerous to Life or Health

NIOSH
National Institute for Occupational Safety and Health

PPE
Personal Protective Equipment

PSIS
Pesticide Safety Information Series

PVC
polyvinyl chloride

REI
Restricted Entry Interval

SDS
Safety Data Sheet

U.S. EPA
United States Environmental Protection Agency

Pesticide Handler General Safety Requirements

The Department of Pesticide Regulation (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

California law places the majority of responsibility for employee safety on the employer. Employers must comply with rules designed to protect workers, the public, and the environment from potential adverse effects of pesticides used. Employers must:

- Know the labeling and regulatory requirements for the safe use of pesticides;
- Inform employees, in a language they understand, about:
 - » The pesticides being used
 - » The hazards involved, and
 - » The precautions and work practices to follow to be safe;
- Supervise employees to assure safe work practices, including all applicable regulations and pesticide labeling requirements, are followed and employees handle and use pesticides appropriately; and
- Provide a safe workplace for employees.

Employees are required to use the label or regulation-required personal protective equipment (PPE) provided by the employer.

Hazard Communication and Training

Handler Hazard Communication

Hazard communication regulations require employers to identify work-place hazards, to inform employees about the hazards they face in the work place, 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 completed copy of either Pesticide Safety Information Series (PSIS) leaflet A-8, "Safety Rules for Pesticide Handlers in Agricultural Settings" or N-8 (Figure 5-1), "Safety Rules for Pesticide Handlers in Non-Agricultural Settings" (Figure 5-2). Only DPR's most current revision of the PSIS A-8/N-8 with all the required information filled in by the employer is considered "complete." For agricultural handlers, the PSIS A-8 must also be posted at all permanent decontamination facilities and any decontamination facility that services 11 or more handler employees. Additionally, the PSIS A-8 must be updated with any change to the name, address, or telephone number of the emergency medical care facility that is arranged for by the employer within 24 hours. 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
- A Safety Data Sheet (SDS) for each pesticide listed in the pesticide use records referred to above.

As part of handler training, employers must inform employees of the location and availability of these records and other documents. 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

For the commercial or research production of an agricultural plant commodity, the operator of the property must provide specific application information about recent pesticide applications at a central location. This information must include the:

- Identification of the crop or site and treated area
- Time and date the application started and ended
- Restricted entry interval
- SDS(s) for the applied pesticide(s), and
- Product name, United States Environmental Protection Agency (U.S. EPA) registration number, and active ingredient(s)

This information must be displayed at the central location within 24 hours after completion of each application within ¼ mile of employees. The information must be displayed until 30 days after expiration of the Restricted Entry Interval (REI) or until handlers will no longer be on the establishment, whichever occurs earlier. The

employer must maintain the application-specific information and SDS for 2 years after the REI expires.

Handler 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 labeling, 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 training program must be available while it is in use and for two years thereafter. See Sidebar 5 for a complete list of handler training topic requirements.

PESTICIDE SAFETY Information

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

A No. 8

Safety Rules for Pesticide Handlers in Agricultural Settings

The pesticide label, your training, and the Pesticide Safety Information Series (PSIS) leaflets tell you about pesticide dangers at work. To handle pesticides in agriculture (on farms, forests, nurseries or greenhouses) you must be at least 18 years old. Your employer must teach you how to use pesticides safely and how to protect yourself when you use them. Pesticides are chemicals that are used to control pests: unwanted insects, predatory animals, rodents, weeds, and plant diseases. Spray adjuvants also are pesticides under California law.

EMERGENCY MEDICAL CARE

Your employer must make plans for emergency medical care before you start working with pesticides. If you think that pesticides made you sick or hurt you at work, immediately tell your employer. They must make sure that you are taken to a doctor right away. **DO NOT TAKE YOURSELF.**

Emergency medical care is available at:

NAME: _____

ADDRESS: _____

TELEPHONE: _____

If more space is needed, your employer may attach a list of medical facilities to this leaflet and write, "See attached list" in the above space. If this information changes, your employer must update it within 24 hours.

REMEMBER: You DO NOT have to pay for medical care if you get sick or hurt from pesticides at work.

CA Department of Pesticide Regulation • 1001 I Street, Sacramento CA 95814

PSIS A No. 8 (HS-1571) 2018

AB • 1

PESTICIDE SAFETY Information

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

N No. 8

Safety Rules for Pesticide Handlers in Non-Agricultural Settings

The pesticide label, your training, and the Pesticide Safety Information Series (PSIS) leaflets tell you about pesticide dangers at work. You must be at least 18 years old to mix or load a pesticide that requires an air-supplied respirator, a closed system or full-body chemical-resistant clothing.

EMERGENCY MEDICAL CARE

Your employer must make plans for emergency medical care before you start working with pesticides. If you think that pesticides made you sick or hurt you at work, immediately tell your employer. They must make sure that you are taken to a doctor right away. **DO NOT TAKE YOURSELF.**

Emergency medical care is available at:

NAME: _____

ADDRESS: _____

TELEPHONE: _____

If more space is needed to list medical facilities, your employer may attach a list to this leaflet and write, "See attached list" in the above space.

REMEMBER: You DO NOT have to pay for medical care if you get sick or hurt from pesticides at work.

CA Department of Pesticide Regulation • 1001 I Street, Sacramento CA 95814

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FIGURE 5-1

FIGURE 5-2

Required Handler Training Topics

The employer's written training program must address each of the subjects listed below. Training must cover the following topics for each pesticide or chemically similar group:

- Format and meaning of information, such as precautionary statements about human health hazards, contained in pesticide product labeling
- Applicator's responsibility to protect persons, animals, and property while applying pesticides and not to apply pesticides in a manner that results in contact with persons not involved in the application process
- Need for, limitations of, appropriate use, removal, and sanitation of any required personal protective equipment
- Safety requirements and procedures, including engineering controls (such as closed mixing systems and enclosed cabs) for handling, transporting, storing, disposing of pesticides, and spill clean-up
- Where and in what forms pesticides may be encountered, including treated surfaces, residues on clothing, personal protective equipment, application equipment, and drift
- Hazards of pesticides, including acute, chronic, delayed, and sensitization effects, as identified in pesticide product labeling, Safety Data Sheets (SDS), or Pesticide Safety Information Series (PSIS) leaflets
- Routes by which pesticides can enter the body
- Signs and symptoms of overexposure
- Routine decontamination procedures
- Information provided by SDS
- The hazard communication program requirements
- The purposes and requirements for medical supervision if organophosphate or carbamate pesticides with the signal word "DANGER" or "WARNING" on the labeling are mixed, loaded, or applied for the commercial or research production of an agricultural plant commodity
- First aid and emergency decontamination procedures and emergency eye flushing techniques; and if pesticides are spilled or sprayed on the body to wash immediately with decontamination supplies and as soon as possible, wash or shower with soap and water and change into clean clothes
- How and when to obtain emergency medical care
- Prevention, recognition, and first aid for heat-related illness in accordance with Title 8 of the California Code of Regulations section 3395
- Requirements relating to pesticide safety, SDS, and PSIS leaflets

- Handlers of pesticides used in the commercial or research production of an agricultural commodity must be at least 18 years of age
- Environmental concerns such as drift, runoff, and wildlife hazards
- Field posting requirements and restricted entry intervals when pesticides are applied for the commercial or research production of an agricultural commodity
- Employees should not take pesticides or pesticide containers home from work
- Potential hazards to children and pregnant women from pesticide exposures, including steps to take
- How to report suspected pesticide use violations
- The employee's rights, including the right:
 - » To personally receive information about pesticides to which he or she may be exposed
 - » For his or her physician or an employee representative designated in writing to receive information about pesticides to which he or she may be exposed
 - » To be protected against retaliatory action due to the exercise of any of his or her rights
 - » To report suspected use violations to the Department of Pesticide Regulation or County Agricultural Commissioner

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 pesticide(s) the employee will handle. The training must be conducted in a language and manner that the employee can understand and be repeated at least annually after the initial training. For the production of an agricultural commodity, the training must be conducted in an area relatively free from distractions and the trainer must be present throughout the entire training. Certified applicators are considered trained.

Employers may waive initial pesticide handler safety training of a new employee if the employee is able to submit a current training record from previous employment. The employee's training record must show the training was received in the last year, met the 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. This record must be verified by the trained employee's signature. In the research or commercial production of agricultural commodities, each employee training record must also include the:

- Employee's printed name
- Title(s) and source(s) of training material used
- Employer's name and trainer's name, and
- The trainer's qualifications

The written training program and training records must be retained by the employer for two years at a central location at the workplace accessible to employees upon request.

Qualified Safety Trainers for Pesticide Handlers

Anyone who trains employees handling pesticides for the commercial or research production of an agricultural plant commodity must be qualified as a:

- California Certified Commercial or 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, 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.

Medical Care and Supervision

California's regulations describe specific ways in which employers are required to arrange for emergency care for handlers, provide 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, when employees are handling pesticides 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 worksite, or in the work vehicle if there is no designated worksite. 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.

When there are reasonable grounds to suspect that the employee has a pesticide illness or when exposure to a pesticide has occurred that might reasonably be expected to lead to an illness, the employer must provide an employee immediate transportation to a physician. Reasonable grounds to suspect the 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, or
- Difficulty breathing

When an employee receives emergency medical treatment after a suspected or confirmed pesticide exposure, for each pesticide involved the employer must provide to emergency medical personnel with the:

- Product name(s), active ingredient(s), and U.S.EPA registration number(s);
- Copy of the SDS(s);
- Circumstances of the application or use of the pesticide; and
- Circumstances that could have resulted in exposure.

Medical Supervision

California's medical supervision program is required to protect agricultural workers who mix, load, or apply organophosphate or carbamate pesticides with the signal word “DANGER” or “WARNING” on the label. If an employee works with such pesticides for more than six days in a consecutive 30-day period, blood levels of an important enzyme called cholinesterase must be monitored by a physician. If cholinesterase drops below certain levels, employers are required to take specific actions to prevent employee illness and injury.

Cholinesterase is important for normal function of the nervous system. Exposure to certain pesticides can inhibit this enzyme and cause illness. Common signs of overexposure include:

- Vomiting
- Difficulty breathing
- Tearing

- Sweating
- Salivation
- Upset Stomach
- Diarrhea
- Urination
- Slow heart rate, or
- Confusion

Sometimes exposed individuals show no signs of illness. Monitoring serves to identify depressions in cholinesterase levels before an illness occurs.

Employers must have a physician monitor blood cholinesterase levels of employees who:

- Mix, load, or apply pesticides described above; or
- “Regularly handle” such pesticides for more than six days in a consecutive 30-day period.

Physicians must be registered with California’s Office of Environmental Health Hazard Assessment to provide cholinesterase medical supervision.

Employers must have a signed written agreement with a physician. The agreement must:

- State the names and addresses of both the doctor who will provide medical supervision and the employer responsible for the employees;
- State the physician will provide medical supervision;
- State the physician is aware of and possesses the publication *Medical Supervision of Pesticide Workers—Guidelines for Physicians*, which is available from the Office of Environment Health Hazard Assessment; and
- Be signed by the physician.

Employers must file a copy of this agreement with the local County Agricultural Commissioner (CAC) before an employee begins to regularly handle these pesticides.

Employees must get a baseline-level established for both red blood cell cholinesterase and plasma cholinesterase. These baseline levels are used to compare with subsequent cholinesterase tests and must be verified every two years. Employees must have cholinesterase tests done within three working days following each 30-day period when using the pesticides described above for more than six days. After three tests done at 30-day qualifying periods, further monitoring is at intervals specified by the medical supervisor. If no written recommendation is given, the testing interval shall be 60 days.

The medical supervisor will notify the employer and employee of the cholinesterase test results within 14 days of receiving them. Employers are required to investigate the work practices of any employee whose red blood cell or plasma cholinesterase level drops below 80% of baseline values. The investigation shall include a review of the safety equipment used and its condition; and review of the employees’ sanitation, handling procedures, and equipment usage. If cholinesterase levels fall to 70% or less of red blood cell baseline or 60% or less of plasma baseline, an employer must remove the employee from further exposure to organophosphate and carbamate pesticides until both cholinesterase levels return to 80% or more of their respective baseline values.

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

- Pesticide use records detailing the name of the employee, the name of the pesticide, and the date of use;
- The written medical supervision agreement;
- All medical recommendations and test results;
- Written records of workplace investigations, findings, any changes made, and recommendations given to the employee; and
- Dates of employee removal and return from exposure, if the employee is removed from exposure.

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 words “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 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—Contents

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 water must be of a quality and temperature that will not cause illness or injury, and shall be stored separate from water used for mixing with pesticides unless equipped with appropriate valves to prevent backflow of pesticides into the water. One clean change of coveralls must be available at each decontamination site.

For research or commercial production of agricultural commodities:

- Each handler must have at least 3 gallons of water at the start of the work period for decontamination;
- Hand sanitizer gels and moist towelettes may not be substituted for soap and single-use towels;
- If the pesticide product labeling requires protective eyewear during application: one pint of water for emergency eye flushing must be kept immediately available (carried by the handler or kept in the vehicle or aircraft the handler is using) for each employee handling pesticides; and
- If the pesticide product labeling requires protective eyewear or a closed mixing system is used, there must be immediate employee access at the mixing/loading site to:
 - » A system capable of delivering gently running water at a rate of least 0.4 gallons per minute for 15 minutes; or
 - » At least six gallons of water in containers suitable for providing a gentle eye-flush for about 15 minutes for emergency eye flushing.

Decontamination Facilities—Location

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 and no more than $\frac{1}{4}$ mile from other handlers (or at the nearest point of vehicular access). For pilots, the decontamination facilities may be at the loading site. Employees must be notified of the location of the decontamination site prior to handling pesticides.

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, soap, and the extra change of clean coveralls; and
- Running tap water is used, or the water is enclosed in a container.

The decontamination site for uses other than the commercial or research production of an agricultural plant commodity must be within 100 feet of the mixing and loading site when employees handle pesticides with the signal words “DANGER” or “WARNING.”

Personal Protective Equipment (PPE)

Employers are responsible for providing PPE and assuring that employees use all PPE required by the label. In certain situations (such as when mixing or loading pesticides or applying pesticides by hand or with a ground rig), California's regulations may require employees to wear PPE even when the labeling does not require it. When requirements differ, the most stringent requirement must be followed.

General PPE requirements

Employers must assure that:

- Required PPE is provided and available;
- PPE is inspected and cleaned or replaced daily and worn, damaged, or heavily contaminated equipment is repaired or replaced;
- PPE that is not being used is kept separate from personal clothing and in a pesticide-free, specifically designated location;
- PPE is washed separately from clothing or other laundry;
- Employees wear PPE appropriately for its intended purpose;
- All PPE is dried thoroughly before being put in storage, or put in a well-ventilated place to dry;
- PPE remains the property of the employer and that handlers are not allowed or directed to take PPE into their homes; however, if circumstances prevent the employee from returning potentially contaminated PPE to the employer's property at the end of the workday, the employee shall remove the PPE outside of their living quarters and store it in a sealable container for return to the employer; and

- Any person or firm hired to clean or repair PPE is informed with the requirements found in Title 3, California Code of Regulations (3 CCR) section 6744.

Coveralls

Coveralls can be a one or two-piece garment of closely woven natural or synthetic fabric that covers the entire body except for the head, hands, and feet. Employers must ensure that employees who handle any pesticide with the signal words "DANGER" or "WARNING" wear coveralls, except when using fumigants unless the pesticide product labeling expressly requires the use of coveralls.

Eye Protection

Employers must assure employees wear protective eyewear (Figure 5-3) when:

- Required by the pesticide labeling;
- Mixing or loading pesticides;
- Exposed to application, mixing or loading equipment that contains or is contaminated with a pesticide (including employees cleaning or repairing equipment);

- Applying pesticides by hand or ground rig, except when:
 - » Working in an enclosed cab;
 - » Spray nozzles are located below the applicator and pointed downward;
 - » There is no liquid contact with the fumigant;
 - » Applying non-insecticidal lures or baiting insect traps;
 - » Application of vertebrate pest control bait using long-handled implements;
 - » Applying solid fumigants to vertebrate burrows;
 - » Applying vertebrate baits that are not broadcast from equipment;
 - » Using an application system approved by DPR;
 - » Applying in an enclosed aircraft cockpit; or
 - » Wearing a helmet with a face shield lowered in an open aircraft cockpit.

If the pesticide labeling specifies a particular type of eyewear, that type or a more protective type of eyewear must be worn. If the labeling does not specify a type, one of the following types



FIGURE 5-3: Unless the product labeling specifies the type of eyewear, safety glasses that have a brow and temple protection may be used when handling pesticides.

complying with the American National Standards Institute's (ANSI) occupational and educational eye and face protection standard Z87.1-2010 must be worn:

- Safety glasses (with front, brow, and temple protection)
- Goggles
- Face shield, or
- A full-face mask (National Institute for Occupational Safety and Health [NIOSH]-approved respirator, unless specifically prohibited by the label)

Note: Regular eyeglasses or sunglasses do not qualify as required eye protection. Prescription eyeglasses must not interfere with the fit and function of the protective eyewear and the protective eyewear must not interfere with the prescription eyeglasses.

Hand Protection

Employers must assure employees wear chemical-resistant gloves (Figure 5-4) when:

- Required by the pesticide labeling;
- Mixing or loading pesticides, except when a closed system is used to handle pesticides with the signal word "Caution";
- When exposed to application, mixing or loading equipment that contains or is contaminated with a pesticide (including employees cleaning or repairing equipment);



FIGURE 5-4: If the use of chemical-resistant gloves is required by pesticide labeling without specifying a barrier material or category, the barrier material may be any that is listed in the DPR Glove Category Selection Keycard.

- Applying pesticides by hand or ground rig, except when:
 - » Working in an enclosed cab;
 - » Spray nozzles are located below the applicator and pointed downward;
 - » No liquid contact with the fumigant;
 - » Application of vertebrate pest control bait using long-handled implements;
 - » Using an application system approved by DPR; and
 - » Applying in an enclosed aircraft cockpit.

Chemical-Resistant Gloves

Employees must not use gloves made of leather or cotton unless expressly permitted by the pesticide label. Gloves must be replaced or washed every day. It is especially important that gloves be washed on both the inside and the outside since residue can accumulate inside. See Sidebar 6 for categories of chemically resistant gloves.

When chemical-resistant gloves are used to make fine adjustments to equipment or other activities that require high dexterity and motor control skill, the gloves may be thinner than 14 mil. The gloves must be made of an appropriate barrier material and only be used for a maximum of 15 minutes. Such gloves may only be used once for such specific tasks and must be discarded and not reused after the task is accomplished. This 15 minute exception does not apply during application of pesticides.

Separable glove liners made of cotton or other absorbent materials may be worn under chemical-resistant gloves unless expressly prohibited by pesticide product labeling. The glove liners must not extend beyond the end of the chemical-resistant glove. Glove liners must be disposed of at the end of the workday, or immediately if any portion of the liner comes in contact with pesticide during the workday.

Flocked gloves or gloves with linings that cannot be removed are prohibited. 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.

Leather gloves may be worn over chemical-resistant gloves when required by working conditions. Once leather gloves have been used for this purpose, they may only be worn over chemical-resistant gloves.

Categories of Chemically Resistant Gloves

Labels may refer to chemical resistance categories (A-H) for gloves. The glove materials listed in the Department of Pesticide Regulations-developed “Glove Category Selection Key” card are those that provide the greatest level of chemical resistance to those materials used in the pesticide formulation. The categories are based on the solvents used in the pesticides, NOT the pesticides themselves. Therefore, there will be instances where the same pesticide with two different formulations (wettable powder-WP and emulsifiable concentrate-EC, for example) may specify glove material from two different label code categories.

These recommendations for glove materials also require that the glove thickness be 14 mils or greater (except for laminate and polyethylene materials).

If the pesticide labeling specifies a category, the required chemical-resistant glove material must be made of:

- Category A: barrier laminate, butyl rubber, nitrile rubber, neoprene, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton®
- Category B: barrier laminate or butyl rubber
- Category C: barrier laminate, butyl rubber, nitrile rubber, neoprene, PVC, or Viton®
- Category D: barrier laminate or butyl rubber
- Category E: barrier laminate, nitrile rubber, neoprene, or Viton®
- Category F: barrier laminate, butyl rubber, nitrile rubber, or Viton®
- Category G or H: barrier laminate, or Viton®

If the labeling does not specify a category, the glove may be made of any material in Category A.

If chemical-resistant gloves are brought into the cockpit of an aircraft that has been used to apply pesticides, the gloves must be stored in an enclosed chemical-resistant container.

Chemical-Resistant Protective Clothing

Pesticides with increased hazards require the use of chemical-resistant suits, which cover the torso, head, arms, and legs (Figures 5-5 and 5-6). If an employee uses an enclosed cab or closed system, they may substitute engineering controls or other PPE but must keep the chemical-resistant suit

immediately available and stored in a chemical-resistant container.

In warm weather, a chemical resistant suit may cause heat stress. Therefore, if the ambient temperature is above 80°F during the day or 85°F at night (sunset to sunrise), use of pesticides that require a chemical-resistant suit is prohibited, unless employees are provided with cooled chemical-resistant suits, or engineering controls, to reduce the working environment to 80°F during the day or 85°F at night to prevent hyperthermia.



FIGURE 5-5: Chemical-resistant garments made of appropriate materials provide the maximum amount of protection from pesticide exposure.



FIGURE 5-6: Chemical-resistant garments provide the maximum amount of protection from pesticide exposure.

Footwear

The employer must assure employees wear chemical-resistant footwear (Figure 5-6), when required by the pesticide labeling, except when using:

- A closed system
- An enclosed cab, or
- An enclosed aircraft cockpit

Unless specified by the pesticide labeling, chemical-resistant shoes, chemical-resistant boots, or chemical-resistant coverings worn over boots or shoes meet this requirement.

Head Gear

When the pesticide labeling specifies chemical-resistant headgear, employers must assure that employees wear either a chemical-resistant hood or a chemical-resistant hat with a wide brim, except when using:

- A closed system
- An enclosed cab
- An enclosed aircraft cockpit, or
- A helmet when operating an aircraft

Chemical-Resistant Apron

Employers must assure employees wear a chemical-resistant apron when required, except when using a closed system to handle "Caution" pesticides. The apron must cover the front of the body from mid-chest to the knees.

Respiratory Protection

Respirators come in different shapes and sizes. When employee use of respiratory protection is required by the pesticide label, restricted material permit condition, regulation, or by workplace policy, employers must do certain things to protect the health and wellbeing of employees (Figure 5-7). These include:

- Select an individual to be the "Respirator Program Administrator" (see glossary);
- Prepare a written respiratory protection program with worksite-specific procedures for:
 - » Selecting respirators;
 - » Medical evaluations of employees;
 - » Fit testing procedures for tight-fitting respirators;
 - » Procedures for proper use in routine and emergency situations;

- » Cleaning, storing, inspecting, repairing, maintaining and replacing respirators;
- » Procedures for air-supplying respirators (if applicable);
- » Training employees on Immediately Dangerous to Life or Health (IDLH) atmospheres (if applicable);
- » Training employees on the proper use of respirators; and
- » Procedures for effectiveness evaluation;
- After a written program is in place, work with a physician or other licensed health care professional to determine medical fitness of employees to wear a respirator, or any conditions that the employee must follow to wear a respirator;
- Train employee(s) on the use of the respirator, and retrain them annually thereafter;
- Fit test employee(s) on the respirators they will be wearing prior to use, and annually thereafter;
- Maintain records of the program for three years;
- Document annual consultations with the employee(s) on the effectiveness of the program; and
- Annually review the program, making adjustments as necessary.

The following exemptions to label-required respiratory protection are allowed:

- A functioning air filtration system can substitute for dust/mist respirator during a ground application using an enclosed cab; and
- An enclosed aircraft cockpit can substitute for dust/mist respirator for pilots during aerial applications.

Please note: The requirements of this regulation are very detailed and this section is only a brief overview. Please consult with the regulation in 3 CCR section 6739 or local CAC for more information.

PPE Exceptions and Substitutions

The California definition of “conflict with labeling” allows all users (including owners and immediate family) to use the PPE exceptions found in 3 CCR section 6738.4. The specific exemptions allowed are found in each section on PPE above. All labeling-required PPE must be present and available for use at the worksite and stored in a chemical-resistant container, such as a plastic bag, even if the use of PPE is exempt above.

Workplace Requirements

Employers are responsible for providing adequate workplace lighting, carrying out equipment inspection, notifying employees who service application equipment of potential hazards, and providing closed mixing systems when these are required.



FIGURE 5-7: 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.

Working Alone

When employees mix, load, or apply pesticides that carry the signal word “DANGER” 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; and
- 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. 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.

Lighting

Whenever natural light in a mixing and loading area is not adequate to allow an employee to read the pesticide labeling 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 (Figure 5-8). Employers must not allow any flexible hose that is under pressure and carrying a liquid pesticide with the signal words "DANGER" or "WARNING" to pass unshielded through the cockpit of an airplane or helicopter.

Employers must install shut-off devices on the exit end of all hoses attached to mixing tanks that carry liquid pesticides with the signal words "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 words "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 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 notifications to each employee under their control who may be involved in cleaning, servicing, or repairing this equipment. Employees 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 of the pesticide hazards.

If the equipment has been used in the commercial or research production of an agricultural commodity, the owner or operator of the equipment shall also notify the person in charge of performing these services of the following:



FIGURE 5-8: Employers must equip all openings on tanks used for mixing or applying pesticides with tightly-fitting covers that prevent splashes or spills.

- The pesticide application equipment may be contaminated with pesticides;
- The procedures for handling pesticide application equipment and for limiting exposure to pesticide residues; and
- Personal hygiene practices and decontamination procedures for preventing pesticide exposures and removing pesticide residues.

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 Mixing Systems

The most hazardous pesticide-handling activity is hand-pouring pesticides. This activity has resulted in many serious illnesses. Closed mixing systems are engineering controls that protect handlers from dermal hazards when mixing pesticides with high dermal toxicity. Employers shall provide and assure that employees use a properly maintained and functioning closed mixing system when:

- Required by pesticide labeling; or
- Mixing liquid formulations of pesticides with high dermal toxicity, for the production of an agricultural commodity.

Employers can determine the dermal toxicity of a pesticide by reviewing the precautionary statements on the label. California's regulation establishes two tiers of closed mixing systems for employees:

- A "Tier 1" system is for mixing and loading liquid pesticide products, including adjuvants, with labeling statements "fatal if absorbed through skin" or other comparable language. A Tier 1 closed mixing system is capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers. Each emptied pesticide container must be rinsed and drained while still connected to the closed mixing system; and
- A "Tier 2" system is for mixing and loading liquid pesticide products, excluding adjuvants, with labeling statements "may be fatal if absorbed through skin" or "corrosive, causes skin damage" or other comparable language. A Tier 2 closed mixing system is capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers.

All PPE required by the pesticide product label, restricted material permit conditions, or regulation must be available at the worksite during operation of the closed mixing system. Protective eyewear must be worn while using a closed mixing system. PPE requirements may be reduced or modified while using a closed mixing system, as provided in regulation.

The employees shall be trained on how to use and operate the closed mixing system in accordance with its written operating instructions. The written operating instructions must be clearly legible and available with the closed mixing system and available for inspection by DPR or the CAC.

The employer shall assure that the closed mixing system is cleaned and maintained, as specified in the written operating instructions, and as needed to ensure the closed mixing system functions properly.

The following are exemptions from the requirements to use a closed mixing system:

- Opening of a container by removal of the manufacturer's original sealing device without removing any of the contents before re-closing with a liquid-tight sealing device;
- Regulatory personnel collecting samples of pesticides;
- The rinsing of refillable pesticide containers that are required to be returned to a Pest Control Dealer, Pesticide Registrant, or manufacturer; and
- An employee required to use a Tier 2 closed mixing system if the employee handles a daily maximum of one gallon or less. The employee shall wear all PPE required by pesticide product labeling and regulation when not using a closed mixing system.

Minimum Exposure Pesticides

Because of specific hazards that are not mitigated by instructions on the pesticide labeling, pesticides with the active ingredients bromoxynil, folpet, oxydemeton-methyl, and propargite are classified as minimal exposure pesticides. Handlers must follow special use requirements, in addition to those on the labeling, developed to reduce handler exposure and mitigate hazards associated with using these pesticides regardless of the signal word on the pesticide labeling. All protective clothing and equipment must be cleaned (on the inside and outside), or discarded at the end of each day's use.

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.

For all employees who handle minimal exposure pesticides, employers must provide, regardless of signal word:

- Change area where employees can change clothes and wash themselves at the location where they complete their workday;
- Decontamination facilities at locations where minimal exposure pesticides are mixed or loaded; and
- Employer-provided coveralls (full-body chemical-resistant clothing required below will meet this requirement).

Full-Body Chemical-Resistant Protective Clothing

Employers must provide, and require that employees wear, full-body chemical-resistant protective clothing. 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:

- Employees using a closed system or sealed water-soluble packets while mixing, loading or transferring minimal exposure pesticides may instead wear eye protection, chemical-resistant aprons, chemical-resistant gloves, and chemical-resistant boots;
- Applicators working from an enclosed cab;
- 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.

Respiratory Protection

Respirators in compliance with the requirements described in this chapter must be provided and required to be worn by employees when:

- Mixing and loading dry formulations of minimal exposure pesticides, except when mixers or loaders use sealed water-soluble packets; or
- Applying minimum exposure pesticides by hand or ground, except when:
 - » Applicators using vehicle-mounted or towed equipment to inject or incorporate the pesticides into the soil; or
 - » Applicators using equipment with vehicle-mounted spray nozzles that are directed downward and located below the level of the employee.

Review Questions

(Answers on pg 104)

1. The specific application information that an operator of the property producing an agricultural commodity must provide to handlers 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. How often must handlers receive pesticide safety training?
 - A. every year
 - B. every two years
 - C. every four years
 - D. every five years
6. 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 Department of Pesticide Regulation-licensed Pest Control Dealer
7. 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

8. Employers must maintain employee-handler use records that identify the employee, the name of the pesticide, and the date of handling for which of the following scenarios?

- A. the pesticide carries the signal word "DANGER" or "WARNING" and is used for landscape pest control
- B. the pesticide contains an organophosphate or carbamate and is used for right-of-way pest control
- C. the pesticide contains a carbamate compound and carries the signal word "CAUTION" and is used for the commercial production of an agricultural plant commodity
- D. the pesticide contains an organophosphate compound with the signal word "DANGER" or "WARNING" and is used for research production of an agricultural plant commodity

9. 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

10. 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

11. 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

12. Who is responsible for providing for the laundering of coveralls used by pesticide handler employees?

- A. employees
- B. commercial launderers
- C. field supervisors
- D. employers

13. In which of the following situations is there an exception to the regulation requiring employee handlers to wear eye protection when handling pesticides?

- A. using a pesticide with the signal word "CAUTION"
- B. using a closed mixing system
- C. conducting a hand-held application
- D. working in an enclosed cab

14. Pesticide handler employees must always wear chemical-resistant gloves EXCEPT when _____.

- A. mixing or loading pesticides
- B. the pesticide labeling specifies that gloves must not be worn
- C. repairing contaminated application equipment
- D. using a backpack sprayer to spray weeds with an herbicide

15. 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

16. Handlers who properly mix pesticides packaged in water-soluble packets are considered to be using _____.

- A. personal protective equipment
- B. an enclosed cab
- C. a passive rinsing system
- D. a closed mixing system

17. 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

18. All employees who handle minimal exposure pesticides must have available to them _____.

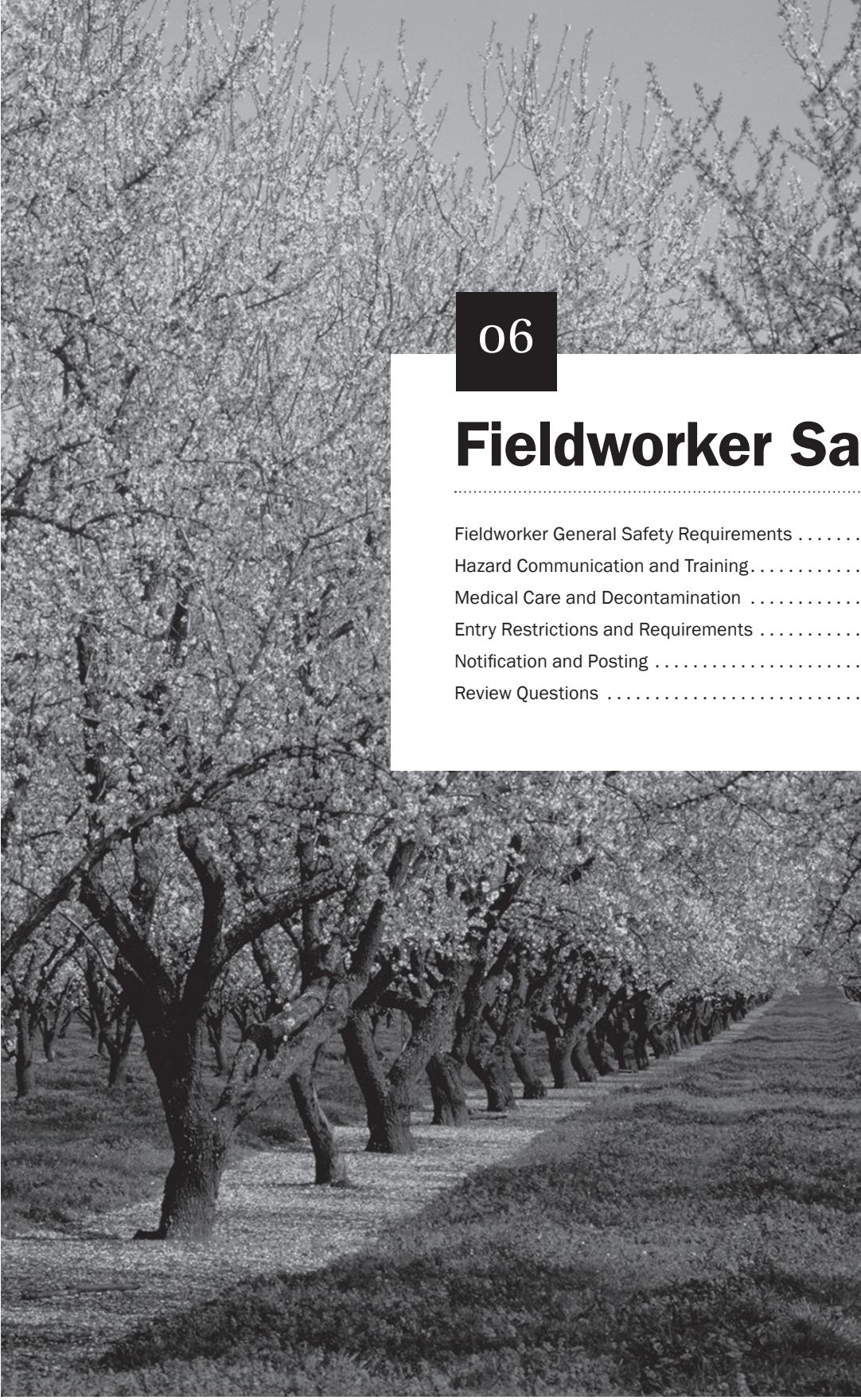
- A. a full face cartridge respirator
- B. a designated location in the pesticide storage area to keep their personal clothing
- C. specially designed application equipment that includes a pesticide-approved enclosed cab
- D. an area where they can change clothes and wash themselves at the end of their workday

19. 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

20. When handling a minimal exposure pesticide, respiratory protection is not required if an employee is _____.

- A. flagging during the application
- B. applying with a hand-held spray wand
- C. mixing and loading dry formulations
- D. using equipment with vehicle-mounted spray nozzles that are directed downward and located below the level of the employee



06

Fieldworker Safety

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Acronyms used in Chapter 6:

3 CCR

Title 3, California Code of Regulations

AEZ

Application Exclusion Zone

CAC

County Agricultural Commissioner

DPR

Department of Pesticide Regulation

PCA

Agricultural Pest Control Adviser

PPE

Personal Protective Equipment

PSIS

Pesticide Safety Information Series

REI

Restricted Entry Interval

SDS

Safety Data Sheet

UC IPM

University of California Integrated Pest Management

U.S. EPA

United States Environmental Protection Agency

Fieldworker General Safety Requirements

Fieldworker safety

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

- Fieldworker pesticide safety training
- Displaying pesticide application information
- Application notification and field posting
- 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 protect employees from unsafe pesticide exposure.

Licensed Agricultural Pest Control Advisers (PCAs) and registered professional foresters, while performing crop adviser tasks, are exempt from:

- Fieldworker Emergency Medical Care
- Fieldworker Decontamination Facilities
- Field Entry After Scheduled or Completed Pesticide Application, and
- Personal Protective Equipment (PPE) requirements

Provided the registered professional forester has been trained as a handler and the PCA or registered professional forester has made specific determinations regarding appropriate personal protective equipment, needed decontamination facilities, and how to safely conduct crop adviser tasks.

Employer Responsibilities

Among other responsibilities, employers are responsible for training employees, providing application information, understanding who is qualified to be in treated areas, planning emergency medical care, and supplying decontamination facilities for employees as detailed in this chapter. However, there are exceptions to the fieldworker requirements in the following circumstances:

- If granular baits, attractants, or repellents in traps have been applied to the field;
- If area-wide pest control is conducted by a governmental agency or vector control agency;

- If algaecides are used to treat the irrigation system; and
- If the pesticide is directly injected into plants.

In these instances, various parts of the fieldworker safety requirements may be exempted. Please consult with the local County Agricultural Commissioner (CAC) for more information.

Hazard and Communication Training

Fieldworker Training Requirements

Employers must assure that their employee fieldworkers have been trained in pesticide safety before they are allowed to work in a treated field and annually thereafter. Certified applicators and employees who are trained as handlers are considered trained as fieldworkers. The employer must maintain training records for each employee that works in a treated field. The records must contain the:

- Date and extent of initial and subsequent training
- Employee's printed name and signature
- Title(s) and source(s) of the training materials used
- Employer's name, and
- Trainer's name and qualifications

The record must be accessible to employees at a central location and be maintained for two years. 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; and
- In a place that is reasonably free from distractions.

The trainer must be present during the entire training and respond to employee questions. See Sidebar 7 for a list of topics fieldworkers are required to be trained on.

Qualified Trainers

A qualified trainer includes:

- California Certified Commercial or Private Applicators;
- Persons holding a valid County Biologist License in Pesticide Regulation or Investigation and Environmental Monitoring

Training Topics for Fieldworkers

Prior to working in a treated field fieldworkers must be trained on the following topics regarding pesticide safety:

1. Where and in what forms pesticides may be encountered, including treated surfaces in the field, residues on clothing, personal protective equipment, application and chemigation equipment, irrigation water, and drift
2. Potential hazards that pesticides present to fieldworkers and their families including acute, chronic, and delayed effects, and sensitization effects
3. Routes by which pesticides can enter the body
4. Signs and symptoms of overexposure
5. Routine decontamination procedures when working in a treated field and the employer's responsibility to provide decontamination supplies, including:
 - » Wash hands before eating, drinking, using the toilet, chewing gum, or using tobacco
 - » Thoroughly wash or shower with soap and water
 - » Change into clean clothes as soon as possible
6. Wear work clothing that protects the body from pesticide residues when working in treated fields, and wash work clothes separately from other laundry before wearing them again
7. How Safety Data Sheets provide hazard, emergency medical treatment, and other information about the pesticides with which they may come in contact
8. The hazard communication program requirements
9. First aid and emergency decontamination procedures including emergency eye flushing techniques, and if pesticides are spilled or sprayed on the body to wash immediately with decontamination supplies and as soon as possible, wash or shower with soap and water and change into clean clothes
10. How and when to obtain emergency medical care
11. Prevention, recognition, and first aid for heat-related illness
12. Restricted entry intervals and what posting means, including both California and federal field posting sign formats
13. Employer responsibility to keep workers out of application exclusion zones
14. Employees must be at least 18 years old to perform early-entry activities; the responsibility of the employer to provide specific information to the employees before directing them to perform early-entry activities
15. Employers are prohibited from allowing or directing any employee to handle pesticides unless the employee has been trained as a handler
16. Do not take pesticides or pesticide containers home from work

17. Potential hazards to children and pregnant women from pesticide exposures, including:
 - » Children and nonworking family members should keep away from pesticide-treated fields
 - » After working in pesticide-treated fields, remove boots or shoes before entering the home and remove work clothes
 - » Employees should wash or shower before physical contact with children or family members
18. How to report suspected pesticide use violations
19. Employee rights, including the right:
 - » To personally receive information about pesticides to which he or she may be exposed
 - » For his or her physician or an employee representative designated in writing to receive information about pesticides to which he or she may be exposed
 - » To be protected against retaliatory action when exercising of any of his or her rights
 - » To report suspected use violations to the Department of Pesticide Regulation or County Agricultural Commissioner

- issued by the California Department of Food and Agriculture;
- Farm advisors employed by University of California Cooperative Extension;
 - Persons who have completed an “instructor trainer” program presented by the:
 - » The University of California Statewide Integrated Pest Management Project, or
 - » Other instructor-training programs approved by DPR;
 - California licensed Agricultural Pest Control Advisers;
 - California Registered Professional Foresters; or
 - Trainers qualified in some other way that is approved by DPR.

Fieldworker Hazard Communication

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.

Whenever employees are working as fieldworkers in a treated field, employers (including farm labor contractors) must display a completed copy of the Pesticide Safety Information Series (PSIS) leaflet A-9 “Pesticide Safety Rules for Farmworkers” at the worksite, or at a central location prior to transportation to the worksite. Additionally, a completed PSIS A-9 is required to be displayed at all permanent decontamination facilities or any decontamination facility servicing 11 or more fieldworkers. This leaflet is written in English, Spanish, Hmong, and Punjabi and is available from the CAC or on DPR’s website. Upon employee request, the employer must read, or provide someone to read, the leaflet to the employee in a language the employee understands. If there is a change to the name, address, or telephone number of the emergency medical care facility

that is arranged for by the employer, the PSIS A-9 must be updated within 24 hours.

The operator of the property must maintain the following records and documents in a central location at the workplace:

- Pesticide use records for all the pesticides that have been applied to the field within the last two years; and
- A Safety Data Sheet (SDS) for each pesticide listed in the pesticide use records.

These must be accessible to employees, including employees of a farm labor contractor, who may enter a treated field.

The operator of the property must provide to employees, employee representatives, farm labor contractors, or employee physicians within 48 hours of being requested any record, document or information required to be maintained by the pesticide regulations.

As part of fieldworker training and before employees are allowed to enter pesticide treated fields, the operator of the property must inform the employees of the availability and location of the pesticide use records, PSIS A-9, and SDSs.

If employees are working for a farm labor contractor, the operator of the property must inform the farm labor contractor of the location of these records and other documents. The farm labor contractor must then inform the employees.

If the location of records, documents, or information changes the operator of the property must immediately inform their employees or the farm labor contractor of their new location.

Employers are required to inform their employees that the employees, their physicians, and their representatives have the right to access information about pesticides to which they may be exposed. An employee representative is any person the employee has designated in writing to request records on their behalf. Employers must also inform their employees that they are protected against discharge or other discrimination for exercising their rights.

Application-Specific Information

The completed PSIS A-9 must include a specific description of the location of the displayed Application-Specific Information. The description of the location must be specific enough for fieldworkers to find and have unimpeded access to the Application-Specific Information without having to ask anyone where the information is.

The location description must be included in the appropriate section of, or as an attachment to, the PSIS A-9.

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

- Crop or site treated and identification of the treated field;
- Date(s) and time(s) the pesticide application started and ended;
- Restricted-entry interval;
- Product name, the United States Environmental Protection Agency (U.S. EPA) registration number(s), and the active ingredients;
- Spray adjuvant product name and California registration number(s); and
- SDS(s) for the applied pesticide(s).

The information must be displayed when the operator of the property receives the Notice of Completed Application and before fieldworkers are allowed to enter the treated field. The information must remain displayed until the area no longer meets the definition of “treated field” (see Glossary) or employees are no longer on the establishment, whichever occurs first. The employer must maintain these records for two years after applications are completed.

Medical Care and Decontamination

Emergency Medical Care

When employees are required to enter pesticide-treated fields, emergency medical care must be planned for in advance by the employer. The employer must locate a 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. Employers are responsible for providing transportation to the medical facility. Employees suspected of pesticide exposure must not be allowed to drive themselves to a medical facility. 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 when an exposure to a pesticide has occurred that might lead to an employee's illness. The source of the exposure does not have to be on the property the employee is working on. If employees receive emergency medical care, the employer must provide to medical personnel:

- Copies of the SDS(s), the pesticide product name(s), U.S. EPA registration number(s), and active ingredient(s);
- The circumstances of application or use of the pesticide(s); and
- The circumstances that could have resulted in exposure to the pesticide(s).

Fieldworker Decontamination Facilities

Whenever fieldworkers are working in a treated field, decontamination facilities must be within $\frac{1}{4}$ mile from—or at the nearest point of vehicular access to—the fieldworkers. Employees must be notified of the location of the decontamination site prior to working in the treated field. The employer must assure that these facilities contain 1 gallon of water for each fieldworker (or 3 gallons for each early-entry fieldworker), soap, and single-use towels for hand and face washing and for emergency eye flushing. Sanitizing gels and wet towelettes shall not be used in place of soap or single-use towels. 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.

Entry Restrictions and Requirements

Field Work During Pesticide Application

An employer cannot direct or allow a person, other than handlers making the application, to enter or remain in a treated area of a field during application or in the Application Exclusion Zone (AEZ) described below.

Around every application, an AEZ must be established during the application as follows:

- Outdoor production:
 - » 100 feet from the application equipment for aerial, air blast, fumigant, smoke, mist, fog or fine spray applications;

- » 25 feet from the application equipment if it is sprayed at a height of 12 inches from the soil or planting medium using at least a medium spray; and
 - » No AEZ for all other outdoor production applications.
- Enclosed space (i.e. greenhouse, hoop house, mushroom house) production:
 - » The entire enclosed space plus any unsealed adjacent area when a space treatment (fumigant, smoke, fog, aerosol or mist) or the labeling requires respiratory protection until ventilation criteria are met;
 - » The entire enclosed space when the pesticide is applied using a fine spray until ventilation criteria are met;
 - » The treatment site plus 25 feet in all directions if it is sprayed at a height of 12 inches from the soil or planting medium using at least a medium spray; and
 - » No AEZ for all other enclosed space applications.

The American Society of Agricultural and Biological Engineers S572.1 or comparable standard may be used to measure and interpret fine, medium, or larger than medium spray quality.

Enclosed Space Ventilation Criteria

When a pesticide is applied in an enclosed space (including greenhouses, polyhouses, hoop houses, mushroom houses, or similar structures) and the pesticide labeling directions require respiratory protection, or the pesticide is applied as a fumigant, smoke, mist, fog, or aerosol, the enclosed space must be ventilated until:

- The concentration is measured and found not to exceed any standard found on the pesticide labeling; or
- One of the following has occurred if there is no labeling 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 when the sum of which equals 100%.

Restricted Entry Intervals (REI)

An 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. Each day referenced in an REI is considered to be a 24-hour period beginning at the completion of the application. REIs are specified in regulation and on the pesticide labeling. In case of an inconsistency between the regulation-specified REI and labeling-specified REI, the longer REI must be followed. If more than one REI can be applied to a given situation, the longer one must be followed. The regulation-required REI applies to the pesticide-crop combinations listed in the regulations. When reference is made in regulation to an REI specifying pounds of a pesticide, it means pounds of active ingredient.

Restricted Entry Interval Adjustments

The REI adjustments described in this section can be made only to REIs in regulation not on pesticide labeling. The following adjustment must be made to the regulatory REIs listed in Title 3, California Code of Regulations (3 CCR) section 6772:

- When two or more organophosphates are applied, use the longest REI in 6772 plus 50% of the next longest REI;
- If there is no foliage on the plant and the crop is less than four inches tall, the REI in 6772 may be halved, but cannot be shorter than the REI on the label; or

- Under certain conditions, an REI may be shortened to not less than the REI specified on the pesticide product labeling upon approval by the CAC. The local CAC should be contacted for further information regarding these conditions.

See Sidebar 8 for an example of how to calculate Restricted Entry Interval Adjustments.

Field Re-entry After Pesticide Application

No employer may direct or allow any person under the age of 18 years to enter a treated field during the REI.

No employer may direct any employee to enter or remain in a treated field until the REI specified on the pesticide labeling, or in regulation has expired, whichever is longer. There are exceptions for specific tasks identified below, but additional precautions must be taken to protect workers.

If employees will be conducting an allowed early entry task, employers must:

- Train the employee as a fieldworker or handler;
- Provide the additional training information specified below; and
- Follow the PPE and decontamination requirements below.

SIDE BAR 8



Restricted-Entry Interval (REI) Adjustments

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

REI	Calculations
Pesticide A – 14 days Pesticide B – 2 days	50% of 2 days = $2 \times 0.5 = 1$ $14 + 1 = 15$ days

Requirements for Early-Entry Workers—Training

After receiving regular handler or fieldworker training and before an employee can enter a field during an REI to perform a task allowed below, the employer must ensure the employee is informed orally, in a manner he/she can understand, of the following topics:

- Location of early-entry area;
- Pesticide(s) applied;
- Dates and times the REI begins and ends;
- Specific restrictions and conditions pursuant to 3 CCR section 6770 about the work activity to be performed;
- Pesticide product labeling precautionary statements related to human hazards;
- Symptoms of poisoning;
- Emergency first aid and decontamination procedures for pesticide injuries or poisonings, including emergency eye flushing techniques;
- How to obtain emergency medical care;
- The prevention, recognition, and first aid for heat-related illness if PPE is used in accordance with Title 8 of the California Code of Regulations section 3395;
- Location of the PSIS leaflets A-8 and A-9;
- The need for, use, and care of required PPE;
- That clothing and PPE may be contaminated with pesticide residues;
- Instructions for removing and storing such clothing and equipment, and laundering such equipment; and
- The importance of washing thoroughly at the end of the exposure period.

Requirements for Early-Entry Workers—PPE

Employees may be allowed to perform the tasks specified below in a treated field after completion of the application and while an REI is in effect, ONLY if the employer makes sure that the following takes place:

- Employers provide all required PPE and provide for its cleaning according to pesticide labeling instructions. In the absence of any instructions the PPE must be washed in hot water with detergent;
- PPE is used and maintained according to regulations and is:
 - » Replaced when it cannot be properly cleaned or repaired
 - » Inspected by employer before each day's use

- » 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
 - » Kept and washed separately from other clothing or laundry if contaminated;
- All required PPE meets the applicable standards pursuant to 3 CCR sections 6738-6739;
 - 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; and
 - Employer informs anyone who cleans or launders PPE:
 - » That it may be contaminated
 - » The hazards it presents, and
 - » How to properly handle and clean contaminated PPE

Additionally, employers must take appropriate measures to prevent heat-related illness, when necessary.

Requirements for Early-Entry Workers—Decontamination

The employer must assure that:

- When the pesticide labeling requires eye protection, early-entry workers have immediate access (carried by the employee or in their work vehicle) to at least one pint of eye flush water;
- At least three gallons of water per employee, soap, and clean or single-use towels are available at the decontamination facility so that employees may wash thoroughly at the end of the exposure period;
- At least one change of coveralls is available for employee use; and
- There is a clean, pesticide-free place for storing personal clothing, putting on PPE, and taking off PPE at the end of the exposure period.

Requirements for Early-Entry Workers—Tasks

The exceptions during which employees are allowed to work in a field under REI 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 labeling and are trained as a handler (Figure 6.1).



FIGURE 6-1: If this sign or a similar sign is posted, employees must not enter the field unless trained and equipped with the proper PPE.

- For **no contact activities**, the employer must ensure that:
 - » There will be no contact with anything that has been treated, including soil, water, air, equipment, or plant surfaces; and
 - » Inhalation exposure must not exceed any pesticide product labeling standard, or for enclosed spaces (such as a greenhouse) the ventilation criteria has been met.
- Employees may enter a treated field during the REI specified on the product labeling to conduct **limited-contact activities** (including limited-contact irrigation) that are necessary and unforeseen only if all of the following occurs:
 - » The labeling 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 pesticide labeling standard, or if the ventilation criteria outlined earlier in this chapter has been met;
 - » Exposure is minimal and limited to the feet, legs (below the knees), hands, and forearms (below the elbows);
 - » Employees must wear the early-entry PPE specified on the product labeling for workers or as specified in regulation;
 - » Each employee spends no more than eight (8) hours in any 24-hour period in the treated field; and

- » No hand labor activities are performed (see Glossary).
- Employees may enter a treated field to perform **short-term, high contact** activities (activities that do not involve "hand labor" (see Glossary) other than pesticide handling or limited-contact activities above), provided that all of the following occurs:
 - » At least four hours have elapsed since the end of the application;
 - » The inhalation exposure does not exceed the labeling standard, or the ventilation criteria outlined earlier in this chapter have been met;
 - » Employees use the PPE required by the pesticide labeling for early entry, or as specified in regulation; and
 - » Employees remain in the treated field for no more than 1 hour in any 24 hour period.

Notification and Posting

Notice of Scheduled Application Requirements

When a pesticide is scheduled to be applied to a field used for the commercial or research production of an agricultural commodity, the operator of the property must assure that their employees, and any farm labor contractor they hire, are notified of all scheduled pesticide applications. Prior to the application the operator of the property must give the notification to any person the operator of the property knows is likely to be within 1/4 mile of the field on the date of application or for the duration of the REI.

Oral and Written Notification Requirements

If the field is posted as discussed below, oral notification is not required, unless the pesticide labeling requires both oral warnings and field posting (Figure 6-1). If the pesticide requires both oral notification and posting (double notification), a statement such as "Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas" will be included in the "Agricultural Use Requirements" box on the pesticide labeling. People who apply the pesticides or supervise the applications need not be given notification.

The oral notice must be given in a manner that is understood by the people notified. The notice must include:

- The date of the scheduled application
- The description and location of the field to be treated, and
- Instructions to stay out of the field to be treated and the AEZ until authorized by the operator of the property

Field Posting Requirements

The operator of the property shall assure that warning signs are posted around treated fields when:

- Required by the pesticide product labeling;
- The application is in an entirely enclosed space (such as an enclosed greenhouse);
- The application is to a partially enclosed space (such as an open-ended hoophouse) where the REI is greater than 4 hours; or
- The REI is greater than 48 hours for outdoor applications.

Posting in these situations is not required if access to the treated field or enclosed space is controlled in a manner that assures no employee (other than handlers making the application), will enter, work in, remain in, or walk within $\frac{1}{4}$ mile of the field or pass through the entirely enclosed space during the application or REI.

Posting is always required when a minimal exposure pesticide or a pesticide with the signal word "DANGER" on the pesticide labeling is applied through an irrigation system or if a fumigant is applied to a field. There are no exceptions to these posting requirements.

Warning Sign Requirements

California's warning sign requirements are different than those required under the Federal Worker Protection Standard, but have been granted equivalency to the federal requirements. California's 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. 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 operator of the property, and
- Field identification (if any)

The signs must be posted no earlier than 24 hours prior to an application and remain posted and clearly legible through the application and REI. The signs must be removed within three days after expiration of the REI and any entry prohibited during the REI. The signs must remain posted and clearly legible throughout the application and an REI.

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. If there is no usual point of entry, the signs shall be posted at each corner (depending on the shape of the field, more than four posting signs may be required). The signs must be posted along any border within 100 feet of any labor camp. 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 (a product with the active ingredients bromoxynil, folpet, oxydemeton-methyl, or propargite) or a pesticide with the signal word "DANGER" is applied through an irrigation system, signs must be posted in the same manner as previously described. However, such warning signs must instead contain an octagon "STOP" sign symbol at least eight inches in diameter containing the word "STOP" in English. In addition, 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 $2\frac{1}{2}$ 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

Pesticide product labeling of these fumigants may have more specific requirements for field fumigation warning signs.

Notice of Completed Application Requirements

After a pesticide is applied to a field used for commercial or research production of an agricultural commodity, the Pest Control Business must provide a Notice of Completed Application to the operator of the property as described in chapter 4. The operator of the property must maintain a written record of the Notice of Completion Application including:

- The location of the treated site, including the site I.D. number and acreage treated;
- The pesticide product name(s), U.S. EPA registration number(s) and active ingredient(s);
- Spray adjuvant product name(s) and California registration number(s);
- The date(s) and time(s) the application started and ended; and
- Any applicable REI and pre-harvest intervals, unless a PCA recommendation was provided to the operator of the property.

The operator of the property must maintain the written record of each Notice of Completed Application with the above information sorted by site.

The operator of the property then must provide pesticide application completion information to employees (including fieldworkers), farm labor contractors (so the farm labor contractor can notify their employees), and anyone the operator of the property has prior knowledge will be on the property and within $\frac{1}{4}$ mile of the treated field with at least the following information:

- Location and description of the treated field
- The time during which entry is restricted, and
- Instructions not to enter the treated field until the REI expires

No notice is required to be given if the field to be treated is posted with warning signs unless the pesticide product labeling requires both oral notification and posting or if, during the restricted entry interval, no employer or employee will walk within $\frac{1}{4}$ mile of the treated field.

Review Questions

(Answers on pg 104)

1. When must pesticide safety training be given to fieldworkers?

- 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 fieldworkers request training

2. How often must fieldworkers 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 fieldworkers in California?

- A. a person who has completed an approved instructor-training program
- B. another fieldworker who attended a fieldworker training session
- C. an Occupational Safety and Health Administration certified instructor
- D. a University of California professor

4. What document must be displayed at the work site or central location when fieldworkers are working in a pesticide-treated field?

- A. the pest control written recommendation signed by a licensed Agricultural Pest Control Adviser
- B. a completed Pesticide Safety Information Series 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 fieldworker employees are allowed to enter pesticide-treated fields, what information must the operator of the property 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 and Safety Data Sheets
- 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 started and ended
- B. the Restricted Entry Interval
- C. the product name, the United States Environmental Protection Agency 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 an enclosed space, the application exclusion zone is considered to be _____.

- A. 25 feet in all directions from the treated plants
- B. the entire enclosed space 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 Restricted Entry Interval (REI) and the labeling-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

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

- A.** at least 12 hours have elapsed since the application was completed
- B.** the labeling 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. When posting a treated field along an unfenced public bike path, warning signs must be placed no further apart than _____.

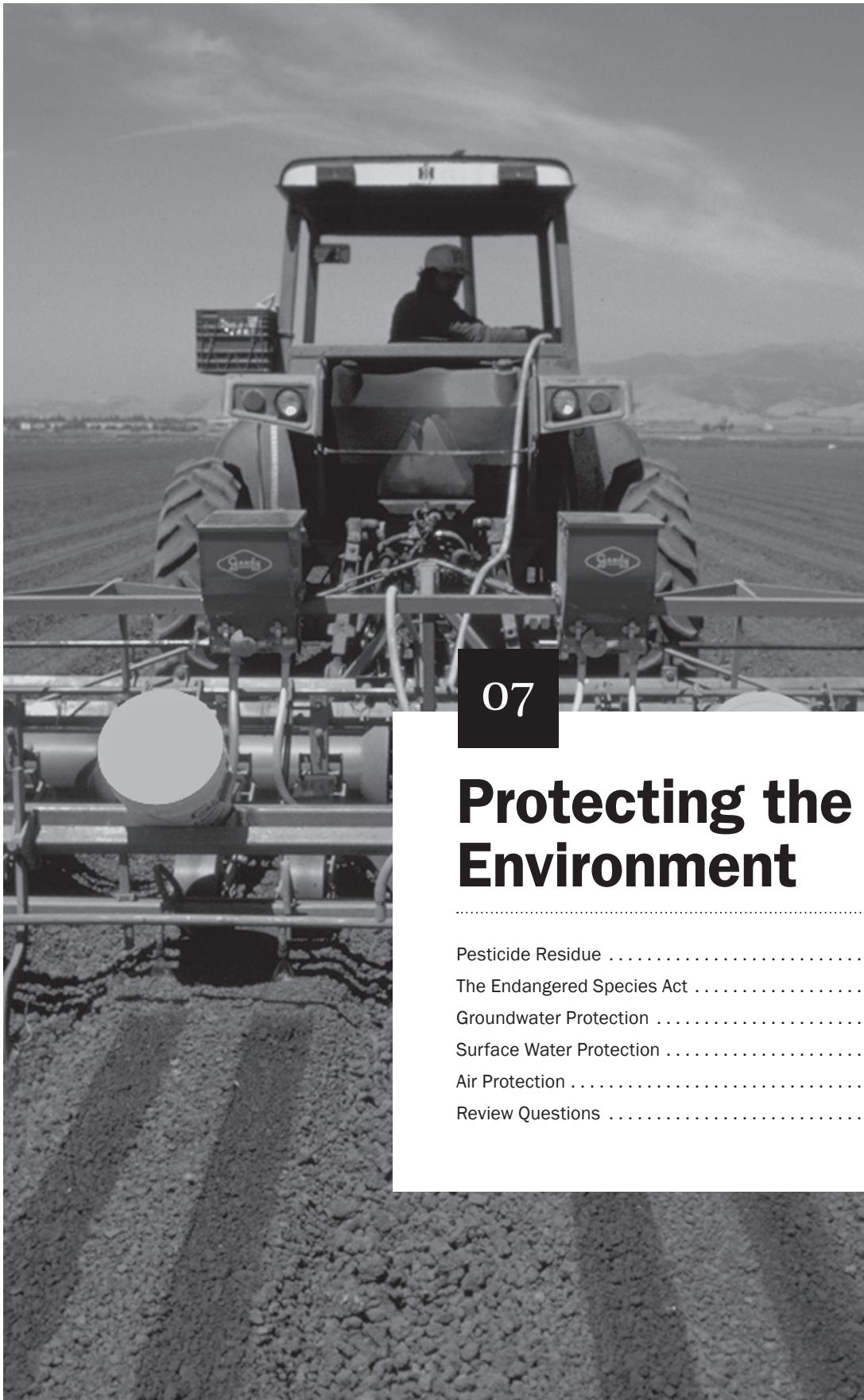
- A.** 100 feet
- B.** 250 feet
- C.** 500 feet
- D.** 600 feet

12. When the pesticide labeling 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

13. 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 Restricted Entry Interval 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



07

Protecting the Environment

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Acronyms used in Chapter 7:

CAC
County Agricultural Commissioner

CDFA
California Department of Food and Agriculture

DPR
Department of Pesticide Regulation

ESPP
Endangered Species Protection Program

FDA
United States Food and Drug Administration

GWPA
Ground Water Protection Area

ppm
parts per million

PRESCRIBE
Pesticide Regulation
Endangered Species
Custom Real-time
Internet Bulletin
Engine

U.S. EPA
United States Environmental Protection Agency

Pesticide Residue

The Department of Pesticide Regulation's (DPR) residue-monitoring program is a key element in the integrated regulatory program designed to ensure the safe use of pesticides in California.

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 soil; and
- Other environmental sources.

Sampling for Residues

DPR, the United States Food and Drug Administration (FDA), and the County Agricultural Commissioners (CACs) collect samples of various produce commodities for pesticide residue analyses. DPR collects samples throughout the year from the channels of trade, including chain store distribution centers, wholesale markets, farmers' markets, retail stores and points-of-entry. These samples include domestic and foreign produce. CACs 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 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 United States Environmental Protection Agency (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. Qualified scientists at U.S. EPA evaluate the data. The established tolerances can be found in the Code of Federal Regulations, Title Part 40 Part 180—Tolerances

and Exemptions for Pesticide Chemical Residues in Food. In California, pesticide tolerances are enforced by DPR's Enforcement Branch. Produce is sampled by DPR scientists and analyzed for pesticide residues by California Department of Food and Agriculture (CDFA) chemists at the CDFA Center for Analytical Chemistry. See Sidebar 9 for Tolerances for Combinations of Related and Unrelated Pesticide Residues.

The best way to avoid pesticide residue problems is to read and carefully follow the pesticide labeling instructions and follow any laws or regulations that may govern the use of a specific pesticide. Always consider what is being produced on adjoining properties. Based on a careful evaluation of the site and pesticide labeling instructions, select the proper method of application. Pesticide labeling and regulations require the pesticide be confined to the property being treated.

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 (ppm)

Pesticide residues are typically measured in ppm. One ppm means that there is one part of a chemical for every million parts of a commodity.

Illegal Residues

When produce is found to carry pesticide residues in excess of the legal tolerance, the commodity is seized and held (removed from sale and distribution) by DPR. This procedure is also implemented if the produce is found to have a residue for which there is no tolerance established. The grower, the packer, and the shipper are all subject to civil penalties or prosecution. The held lot cannot be moved or disposed of without approval from DPR.

Illegal Treatments

If a crop, commodity, or site is treated 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

Tolerances for Combinations of Related and Unrelated Pesticide Residues

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 for Pesticide Y it is 7 ppm. One lot of packed lettuce was sampled and 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	Residue	40CFR Part 180 Tolerance	Calculations	Percent of Tolerance
X	1 ppm	2 ppm	$1 \div 2 = 0.50 \times 100 =$	50%
Y	4 ppm	7 ppm	$4 \div 7 = 0.57 \times 100 =$	57%

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

There is no need to add unrelated pesticides together. Each pesticide is evaluated independently based on the tolerances or exemptions established in the Code of Federal Regulations, Title Part 40 Part 180.

produce for pesticide residues must be accredited by the Environmental Laboratory Accreditation Program, part of the State Water Resources Control Board.

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. This act is designed to conserve the ecosystems upon which these listed species depend.

Endangered means that the species is at risk of extinction. Threatened means that the species is at risk of becoming endangered. From a pesticide user perspective, the regulatory protections are the same whether a species is listed as endangered or threatened so the term "listed species" is used to represent either or both.

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. The United States Environmental Protection Agency's (U.S. EPA) 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 otherwise 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. Depending on the species, either the National Marine Fisheries Service or the U.S. Fish and Wildlife Service will review the biological assessment and prepare a biological opinion. If the Services conclude that the registered pesticide uses may adversely affect a listed species or their habitat, they propose reasonable and prudent alternatives, such as conditional use or use prohibitions in the vicinity of habitat areas.

Endangered Species Protection Program (ESPP)

The U.S. EPA created the ESPP to:

- Provide endangered species and their 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 labeling might direct users to read special county bulletins that have the force of pesticide labeling.

California State Plan

In California, the Department of Pesticide Regulation (DPR) has a state plan to protect federally and state listed species from pesticide uses. The plan is implemented through an online database application called "Pesticide Regulation Endangered Species Custom Real-time Internet Bulletin Engine" (PRESCRIBE). PRESCRIBE helps pesticide users determine if there are any endangered species or species' habitat in the vicinity of their pesticide 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 habitats;

- 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. Habitats of birds, mammals, reptiles, amphibians, fishes, invertebrates, and many plants are also interspersed with agricultural areas in California.

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 Wildlife, the California Department of Food and Agriculture, and the County Agricultural Commissioner (CAC).

Groundwater Protection

Extensive monitoring and testing have found that normal, registered use of certain pesticide products have resulted in groundwater contamination (Figure 7-1). It has been determined that this contamination poses unacceptable risks to human health and the environment. DPR's groundwater protection regulations are designed to prevent further groundwater contamination and to keep existing contamination from worsening. The various groundwater protection regulations impose specific use requirements for certain pesticide products that have contaminated or have the potential to contaminate groundwater in certain areas of concern. The pesticides of concern include those with registered labeling for use in the following settings:

- Agricultural
- Outdoor institutional, and
- Outdoor industrial

Groundwater protection regulations:

- Identify the pesticide active ingredients of concern;
- Identify certain geographic areas and their physical characteristics (Ground Water Protection Areas); and



FIGURE 7-1: Groundwater contamination, resulting from normal, registered use of pesticides, can cause unreasonable risks to human health and the environment.

- Impose use requirements including:
 - » Obtaining a restricted material permit
 - » Possessing an applicator certification, and
 - » Restricting use based on geographic or other use site criteria.

Ground Water Protection Area (GWPA)

A GWPA is a geographic area of approximately one square mile that is vulnerable to movement of pesticides to groundwater. A GWPA is based on the detection of pesticides in:

- Groundwater due to legal agricultural use; and
- Soil types at depth to the groundwater that are characteristic of areas where pesticides have been detected in groundwater.

There are two types of GPWAs:

- Leaching – where pesticide residues move from the soil surface downward in soil with percolating water to groundwater; and
- Runoff – where pesticide residues are carried in runoff water to more direct routes to groundwater such as:
 - » Dry or drainage wells
 - » Poorly sealed production wells
 - » Soil cracks, and
 - » Other areas where leaching can occur.

GWPAs 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

A certified applicator must use or supervise the use of the active ingredients identified in regulation when used anywhere in California for agricultural or outdoor institutional/industrial uses.

A restricted material use permit is required for the possession or use of one of the active ingredients identified in regulation when used for agricultural or outdoor institutional/industrial uses in a runoff or leaching GWPA. To use these pesticides:

- The operator of the property must select a management practice option or use requirements specified in the regulations or approved by the Director; and
- The CAC must concur and designate the selected practice as an enforceable condition on the permit.

The use requirements are designed to prevent these active ingredients or breakdown chemicals from reaching groundwater from leaching or runoff. The specific use requirements are based on the pesticide use settings as designated by the type of GWPA.

Surface Water Protection

As part of DPR's continuous evaluation of pesticides, 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.

So far, two sets of regulations have been created that restrict use of pesticides relative to surface water:

- Dormant Insecticide Contamination Prevention, and
- Surface Water Protection in Outdoor Nonagricultural Settings

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, the operator of the property 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; and
- 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.

If the operator of the property cannot meet those requirements, the operator of the property must follow the requirements below when using a dormant insecticide:

- Obtain a written recommendation from a licensed Agricultural Pest Control Adviser;
- Provide a 100-foot setback around any sensitive aquatic site; and
- Follow 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; and
- The recommendation, setback, and wind speed restrictions above are followed.

Dormant spray applications are prohibited if the soil is at field capacity (see Glossary), 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.

Surface Water Protection in Outdoor Nonagricultural Settings

Based on monitoring data, DPR restricted the use of certain pyrethroid pesticides which were found to contaminate streams and rivers and cause toxicity to aquatic organisms. Pest Control Businesses, including Maintenance Gardeners, who apply any of the active ingredients listed in regulation outdoors to structural, residential, industrial, or institutional sites, are subject to the restrictions detailed below.

Based on the type of surface treated with the pyrethroid pesticides identified in regulation (soil, lawn, concrete, foundation, etc.), only specific application methods or band-widths are allowed. Applications are prohibited:

- During rainfall (except applications made to the underside of eaves);
- To standing water (including puddles) on soil, mulch, gravel, lawns, groundcover, or horizontal impervious surfaces (i.e. concrete or asphalt streets, sidewalks, and driveways);
- To a sewer or storm drain, or curbside gutter;
- To a constructed drainage system that drains to a sewer or storm drain, curbside gutter, or aquatic habitat;
- To surfaces within 25 feet of downgradient aquatic habitat;
- To a preconstruction termite site within 10 feet of a downgradient storm drain; and
- To plants, shrubs, or trees with standing water in the dripline or "perimeter" of the plants.

Certain applications are exempt from these requirements. They include:

- Injection into soil or structural materials, such as bricks, concrete, or wood;
- Post-construction rod or trench termite application methods;
- Applications to below-ground insect nests or nests made of mud or paper combs;

- Applications of baits in weather-proof stations or gel baits;
- Pesticide applications to receiving waters for which a permit has been issued under the Statewide General National Pollutant Discharge Elimination System for Pesticide Discharges to Waters of the U.S. from Spray Applications, and Vector Control Applications
- Applications to the underside of eaves; and
- Foggers or aerosol applications.

Air Protection

As part of DPR's continuous evaluation of pesticides, DPR's air program identifies and works to mitigate unacceptable air concentrations and emissions resulting from pesticide applications. The air program cooperatively monitors levels of pesticides in the air at several locations in California, both seasonally and year-round as part of DPR's Air Monitoring Network. The monitoring data is supplemented with computer modeling and other data to estimate concentrations and emissions.

Additionally, the air program:

- Evaluates and identifies toxic air contaminants;
- Tracks and works to reduce volatile organic compound emissions of pesticides, both fumigant and non-fumigant, in ozone nonattainment areas; and
- Develops and implements regulatory requirements to reduce the impacts of fumigants as both toxic air contaminants and volatile organic compounds.

Review Questions

(Answers on pg 104)

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. minimum 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 in the channels of trade

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 labeling 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 produce 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. seized and removed from sale and distribution

4. If a crop is found to have residues of a pesticide that is not registered for that crop, 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

5. Groundwater contamination resulting from legal, registered uses of pesticides _____.

- A. does not occur
- B. accounts for only a minor amount of the pesticide groundwater contamination problem
- C. can cause unacceptable risks to human health and the environment
- D. occurs but causes no risks to humans or the environment

6. As used in the dormant spray contamination prevention regulation, 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

7. Which of the following endangered species has the greatest overlap with agricultural areas in California?

- A. Mission blue butterfly
- B. San Joaquin kit fox
- C. Sierra Nevada red fox
- D. California red-legged frog

8. Dormant spray applications of insecticides are prohibited if a storm is forecast within how many hours after application?

- A. 12 hours
- B. 24 hours
- C. 48 hours
- D. 72 hours

9. The goal of the use requirements in the groundwater protection regulations is to _____.

- A. minimize the impact of rainfall on pesticides applied to orchards
- B. encourage the use of mechanical weed control in groundwater protection areas
- C. reduce runoff and leaching of certain pesticides into groundwater
- D. discourage the use of restricted materials on soils that contain water wells

10. The Dormant Insecticide Contamination Prevention regulations are designed to _____.

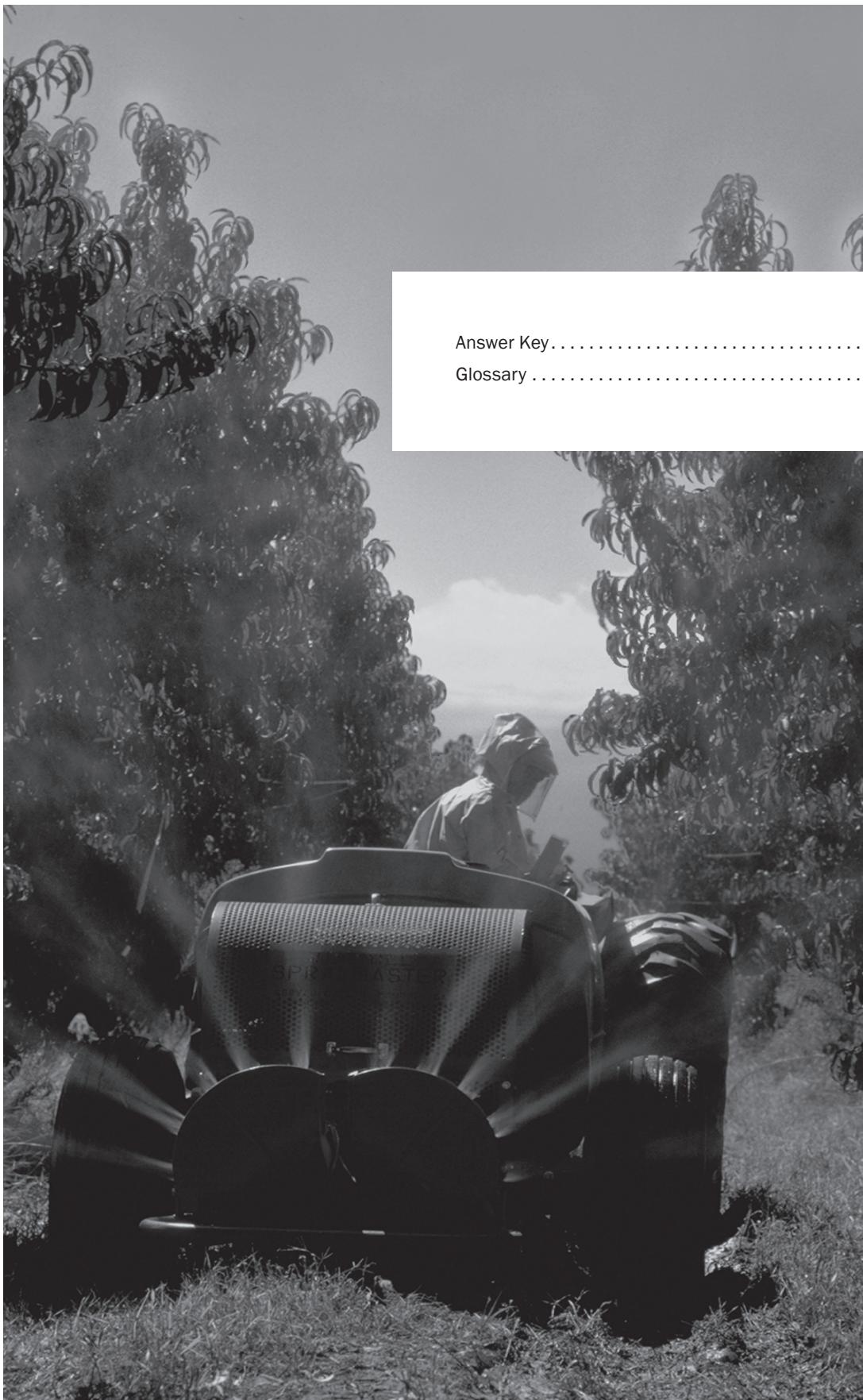
- A. accurately record and track pesticide use by location during the rainy season
- B. prohibit use of pesticide products that are identified as generators of volatile organic compounds
- C. control runoff and drift of dormant season pesticides applied to tree and vine crops
- D. provide local County Agricultural Commissioners with pre-application notification of all pesticides applied just prior to and after rainfall

11. Under the Endangered Species Act, who 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

12. Protection of endangered or threatened plants or animals is prioritized by the United States 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.



Answer Key	104
Glossary	105

Answer Key

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
 8. D
-

Chapter 3

1. C
2. B
3. B
4. D
5. C
6. A
7. C
8. B
9. C

Chapter 4

1. A
 2. C
 3. B
 4. C
 5. D
 6. C
 7. A
 8. D
 9. C
 10. D
 11. A
 12. C
 13. B
 14. B
 15. D
-

Chapter 5

1. B
2. B
3. C
4. A
5. A
6. B
7. A
8. D
9. C
10. A
11. B
12. D
13. D
14. B
15. B
16. D
17. B
18. D
19. B
20. D

Chapter 6

1. C
 2. A
 3. A
 4. B
 5. C
 6. D
 7. B
 8. C
 9. D
 10. C
 11. D
 12. B
 13. A
-

Chapter 7

1. D
2. C
3. D
4. B
5. C
6. D
7. B
8. C
9. C
10. C
11. D
12. C

Glossary

The definitions in this glossary primarily come from regulations adopted by the Department of Pesticide Regulation (DPR) and are generally found in Title 3, California Code of Regulations section 6000. If a term listed here is from another source such as pesticide laws, DPR interpretations, or the Food and Agricultural Code (FAC) it will be noted.

Agricultural commodity. An unprocessed product of farms, ranches, nurseries, and forests, except live-stock, 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 (FAC section 11410). 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 (FAC section 11408). 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* use
- Institutional* use
- Use under a veterinarian's prescription (animal pests only), and

- Use by a vector control district or agency under a cooperative agreement with the California Department of Public Health

“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.

**Home, structural, industrial and institutional uses are defined below.*

Apiary (FAC section 29002). This includes bees, combs, hives, appliances, or colonies, wherever they are kept, located, or found.

Air-purifying respirator. A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the-purifying element.

Application block. A field or portion of a field treated in a 24-hour period that typically is identified by visible indicators, maps, or other tangible means.

Applied to the soil or applied to the ground.

The labeling 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.

Aquatic habitat. Bodies of water, such as lakes, reservoirs, rivers, perennial and intermittent streams, wetlands, or ponds, sloughs, and estuaries.

Artificial recharge basin. A surface facility, such as an infiltration pond or basin, or spreading ground specifically designed and managed to increase the infiltration of introduced surface water supplies into a groundwater basin. It does not include ditches, canals, or reservoirs designed primarily to transport and store water, or stream channels, lakes, and other naturally occurring water bodies that are not principally managed to recharge groundwater.

Atmosphere-supplying respirator. A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.

Bees (FAC section 29004). 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 Pest Control Dealer or Agricultural Pest Control Business to carry out licensed activities in California.

Buffer zone. An area that surrounds a pesticide application block in which certain activities are restricted for a specified period of time to protect human health and safety from existing or potential adverse effects associated with a pesticide application.

Carbamates. Esters of N-methyl carbamic acid, which inhibit cholinesterase.

CCR. California Code of Regulations

CFR. Code of Federal Regulations

Certified Commercial Applicator.

- A person holding a valid Qualified Applicator Certificate or License issued by the director;
- A pilot holding a valid Journeyman Pest Control Aircraft Pilot's Certificate issued by the director;
- A person holding a certified technician certificate issued by the Vector Biology and Control Section of the Department of Health Services;
- A person holding a valid structural pest control operator or field representative license issued by the Structural Pest Control Board of the Department of Consumer Affairs; and
- A person holding a valid Qualified Applicator Certificate by the director.

Certified Private Applicator. A private applicator holding a valid private applicator certificate (PAC) issued by the County Agricultural Commissioner (CAC).

Chemical-resistant. A material that allows no measurable movement of the pesticide through it during use.

Chemigation. The application of pesticides through irrigation systems.

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 labeling. Any deviation from instructions, requirements, or prohibitions of pesticide product labeling 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, provided the application is to a commodity/site listed and the use of the product against an unnamed pest is not expressly prohibited;
- Employing a method of application not prohibited, provided other directions are followed;
- Mixing with another pesticide or with a fertilizer, unless such mixture is prohibited;
- An increase in the concentration of the mixture applied, provided it corresponds with the current published recommendations of the University of California; and
- The use of personal protective equipment consistent with the exceptions and substitutions in regulation.

Continuous monitoring. The measurement of the air concentration of a specific pesticide on an uninterrupted, real-time basis by instrumental methods.

County Agricultural Commissioner (CAC)

or **Commissioner**. (FAC sections 2001, 2002, 2121, 2123 and 2281). The individual, licensed by the California Department of Food and Agriculture, appointed to control the county department of agriculture. Within his/her appointed county, the CAC has been delegated certain pesticide enforcement responsibilities, under the oversight of the Department of Pesticide Regulation (DPR). Laws and regulations describe the CAC's enforcement authority, activities the CAC must or may conduct to properly administer local

pesticide programs, and obligation to work cooperatively with DPR. Depending on context, this term may also include staff employed by the CAC and licensed to perform pesticide enforcement work in the county.

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.

Crack and crevice treatment. The application of small amounts of insecticide directly into cracks and crevices in which insects hide or through which they may enter the building. Examples are openings occurring at expansion joints, between different elements of construction, and between equipment and floors. Only minimal amounts of pesticide should remain on the surface.

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.

Dormant oil. Petroleum distillates, petroleum hydrocarbons, unclassified petroleum oils, and mineral oils that are used for pest control and applied to deciduous plants.

Dormant insecticide. Petroleum distillates, petroleum hydrocarbons, unclassified petroleum oils, and mineral oils with the addition of other insecticides—or other insecticides used alone—that are used for pest control and applied to deciduous plants.

DPR. The Department of Pesticide and Regulation.

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.

Enclosed space. A space enclosed, entirely or in part, with a nonporous covering of sufficient size to permit entry, and is used in the commercial or research production of an agricultural plant commodity. This includes greenhouses, polyhouses, mushroom houses, hoop houses, and similar structures.

Examination. Written examination.

FAC. Food and Agriculture Code

Farm Labor Contractor (FLC) (Labor Code section 1682). Any person who, for a fee:

- Employs workers to render personal services in connection with the production of any farm products to, for, or under the direction of a third person;
- Recruits, solicits, supplies, or hires workers on behalf of an employer engaged in the growing or producing of farm products and provides in connection therewith one or more of the following services:
 - » furnishes worker board or lodging;
 - » provides transportation for those workers;
 - » supervises, times, checks, counts, weighs, or otherwise directs or measures their work; and
 - » disburses wage payments to these persons.

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.

FIFRA. Federal Insecticide, Fungicide, and Rodenticide Act

Field. Any area including an enclosed space, 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 capacity. The amount of water remaining in soil when the downward water flow due to gravity becomes negligible.

Fieldworker. 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.

Filter or air purifying element. A component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering facepiece. A National Institute for Occupational Safety and Health (NIOSH)-approved negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Greenhouse (FAC section 33). A structure covered with transparent or translucent materials for the purpose of admitting natural light and controlling the atmosphere for growing plants, including floricultural, ornamental, or other nursery and agricultural products

Ground-based application equipment. Equipment such as:

- Hand sprayers
- Backpack sprayers
- Air-blast sprayers
- Field soil injection equipment
- Dusters
- Drills
- Granular applicators, and
- Ground-rig sprayers

Ground water protection area (GWPA). An area of land that has been determined to be vulnerable to the movement of pesticides to groundwater, as identified by DPR. The determination of a groundwater protection area is based on factors that are characteristic of areas where legally applied pesticides or their breakdown products have been detected and verified in groundwater, such as:

- Soil type
- Climate, and
- Depth to the groundwater

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. Meaning:

- Mixing, loading, transferring, or applying (including chemigation) or assisting with the application (including flagging) of any pesticide;
- 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 (mechanical or watered-in) pesticides into the soil;
- Entering a treated area during any application or before the inhalation exposure level listed on the pesticide product labeling has been reached or greenhouse ventilation criteria have been met;
- 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 or entry restricted period listed on the pesticide product labeling; and
- Other handling activities specified by the pesticide labeling.

Handle does not include inspection, sampling, or other similar official duties performed by local, state, or federal officials.

Home use. Use in a household or its immediate environment.

Hydrologically isolated site. Any treated area that does not produce runoff capable of entering any irrigation or drainage ditch, canal, or other body of water.

Immediately dangerous to life or health (IDLH). An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Impervious surfaces. Hard surfaces, such as concrete or asphalt streets, sidewalks, and driveways.

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.

Leaching ground water protection areas. Sections of land designated as "leaching" by DPR, where pesticide residues move from the soil surface downward through the soil matrix with percolating water to groundwater.

Maintenance Gardener Pest Control Business (FAC section 11704). 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.

Medical supervision. Occupational health guidance and necessary associated health evaluation by a physician licensed to practice medicine.

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 (FAC section 12642). 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.

Organophosphates. Organophosphorus esters, which inhibit cholinesterase.

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 (FAC section 12754.5). Meaning any of the following that is, or is liable to become, dangerous or detrimental to the agricultural or nonagricultural environment of the state:

- Any insect, predatory animal, rodent, nematode, or weed;
- Any form of terrestrial, aquatic, or aerial plant or animal, virus, fungus, bacteria, or other microorganism (except viruses, fungi, bacteria, or other microorganisms on or in living man or other living animals); and
- Anything that the director, by regulation, declares to be a pest.

Pest control (FAC section 11403). The use or application of any pesticide. It also means the use of any substance, method, or device to do any of the following:

- Control pests;
- Prevent, destroy, repel, mitigate, or correct any pest infestation or disorder of plants; and
- Inhibit, regulate, stimulate, or otherwise alter plant growth by direct application to plants.

Pest Control Business (FAC section 11701).

Any person who advertises, solicits, or operates as a Pest Control Business. Pest Control Businesses must be licensed by DPR.

Pest Control Dealer (FAC section 11407 & 11407.5).

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.

It does not include licensed Agricultural or Structural Pest Control Businesses who only sell what they apply pursuant to the license.

Pest management guides. Guides prepared by the Department of Pesticide Regulation or the University of California that include pest management information on specific crops and that have been adopted as a standard by the director.

Pesticide. (FAC section 12973) 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 intends to be used for the pesticidal purposes. Pesticides include the following:

- Any spray adjuvant; and
- Any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever.

Pesticide Broker. (FAC section 12400)

Any person in or outside of California engaged in the sale or distribution of any pesticide products in California who is not a Pesticide Registrant or licensed Pest Control Dealer.

Pesticide Registrant. (FAC section 12755).

A person who has registered a pesticide by obtaining a certificate of registration from DPR.

Pesticide residue. (DPR interpretation). The amount of a specific pesticide present on or in a sample of a particular commodity. Usually measured via laboratory analysis, and expressed in units of parts per million (ppm).

Pesticide Safety Information Series (PSIS). A series of leaflets produced by the Department of Pesticide Regulation that summarize health and safety aspects of various pesticides and groups of pesticides.

Physician or other licensed health care professional.

An individual whose legally permitted scope of practice allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by these regulations.

Pre-harvest interval (DPR Interpretation).

A period of time after an application of a pesticide to a crop, during which harvest is prohibited.

Principal or Main location (DPR Interpretation).

The location not designated as a "branch location" by the applicant for a Pest Control Dealer or Agricultural Pest Control Business to carry out licensed activities in California.

Private applicator.

- A person who uses or supervises the use of a pesticide on property owned, leased, or rented by him or her, or his or her employer for the purpose of producing an agricultural commodity; or
- 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.

Qualified Applicator Certificate (QAC) 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 licensed Pest Control Business, except for a Maintenance Gardener Pest Control Business.

Qualified Applicator Licensee (QAL) 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 licensed Pest Control Business and who is responsible for safe and legal operations under such license.

Respirator program administrator.

A person who is qualified by appropriate training or experience that is commensurate with the complexity of the respiratory protection program, and demonstrates knowledge necessary to administer a respiratory protection program. Such training or experience includes, but is not limited to:

- Reading and understanding either the American National Standard for Respiratory Protection Publication (ANSI Z88.2), or the U.S. Department of Labor's "Small Entity Compliance Guide for the Revised Respiratory Protection Standard";
- Taken specific course work on developing a respiratory protection program from a college or a respirator manufacturer's authorized representative; and
- Is an American Board of Industrial Hygiene Certified Industrial Hygienist.

Recommendation (FAC section 11411). The giving of any instruction or advice on any agricultural use as to any particular pesticide application on any particular piece of property. It does not include any summary that does not specify the use to be made for any designated pest, provided that such summary is not in conflict with any registered pesticide labeling or with the supplementary printed direction delivered therewith or with any rule or regulation of the director.

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 Title 3 of the California Code of Regulations .

Regulation. Adopted by the Department of Pesticide Regulation (DPR) after a public comment period, 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 of the 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 labeling or in regulation.

Runoff ground water protection areas. Sections of land designated as "runoff" by DPR, where pesticide residues are carried in runoff water to more direct routes to groundwater such as dry or drainage wells, poorly sealed production wells, or soil cracks, or to areas where leaching can occur.

Sensitive aquatic site. Any irrigation or drainage ditch, canal, or other body of water in which the presence of dormant insecticides could adversely impact any of the beneficial uses of the waters of the state specified in law.

Service container (FAC section 17257.5). 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. Relative to the activities of a PCA, means sells, or offers for sale, any pesticide, method, or device outside of a fixed place of business.

Spot treatment. An application to limited areas that will not exceed two square feet on which pests are likely to occur or have been located during the process of monitoring or inspection.

Spray adjuvant (FAC section 12758). 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. “Structural pest control” is defined in Business and Professions Code section 8505.

Substantial drift. The quantity of pesticide outside of the area treated is greater than that which would have resulted had the applicator used due care.

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 (DPR interpretation). The highest residue level of a particular pesticide that is legally allowed on a particular commodity. Tolerances for a pesticide are set by the U.S. Environmental Protection Agency and are based on crop residue trial data and the potential risks the pesticide poses to human health.

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;

- 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 (FAC section 12758.5). A dilution specified on the labeling that produces the desired concentration of the pesticide for application.

Veterinarian. A person licensed to practice veterinary medicine in California.

Volatile organic compound (VOC). Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions. This includes any organic compound other than those exempted by the federal regulation.

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 labeling 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 labeling.

Worker housing area. Any place or area of land on or near an agricultural establishment where housing or space for housing is provided for workers or handlers by an agricultural responsible for the recruitment or employment of agricultural workers.

Workplace (DPR interpretation). Identifies in general terms the work area (e.g., the business operation or employer's headquarters).

Work site (DPR interpretation). Describes the exact location of the work activity (e.g., the mixing and loading site, the field, etc.).



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California Department of Pesticide
Regulation Licensing and Certification
Program

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