Exam Knowledge Expectations for

Qualified Applicator Certificate & Qualified Applicator License

<u>**E – Forest Pest Control Category**</u>

Use these knowledge expectations (KEs) to help study the suggested material,
Forest and Right-of-Way Pest Control **(2013 Edition)**
Knowing the information from all of the KEs should prepare you for taking the exam.

Chapter 2 Pests and Problem Diagnosis

    A. Recognize the major types of pests and their life cycles and life stages and know why life stages and life cycles are important for pest identification and management.

    B. Know the common causes of abiotic plant damage, be aware that abiotic factors may cause symptoms that resemble damage from pest organisms (biotic factors), and know how abiotic disorders and pest organisms often work in combination to damage or kill plants.

Chapter 3 Integrated Pest Management (IPM)

    A. Demonstrate practical knowledge of integrated pest management methods for the major vertebrate pests and weeds and know these methods' advantages and disadvantages.

Chapter 4 Pesticide Safety and Hazards

    A. Recognize the various parts of a pesticide label and be able to locate specific information on the label.

    B. Understand the concept of different toxicities of pesticides and know how to learn the specific hazards of a particular pesticide.

    C. Understand how people get exposed to pesticides and know what the acute health effects and symptoms are for pesticide exposure.

    D. Know the proper response and procedures for pesticide emergencies, including first aid for pesticide exposure.

    E. Know how to protect people and the environment from potential pesticide hazards.

Chapter 5 Pesticide and Their Effective Use

    A. Be familiar with the different types of pesticide active ingredients and formulations and understand pesticide selectivity and the principles of the selective use of broad-spectrum and nonselective pesticides.

    B. Know how to legally and safely handle pesticides, including transportation, mixing, loading, applying, storing, and disposing of pesticides or pesticide containers.

    C. Describe the types and causes of pesticides moving off-site and how to avoid this off-site movement.

Chapter 6 Application Equipment and Calibration

 A. Know how to properly and legally apply pesticides using the types of application equipment that are appropriate for your work sites.

 B. Be familiar with the different types and arrangements of spray nozzles and know how they affect application.

 C. Know the general procedures for calibration and how to calculate how much pesticide to apply to a known area.

Chapter 7 California Forests

 A. Be familiar with the major forest types and their dominant tree species in California and know generally where in the state they occur.

Chapter 8 Forest Nursery and Seed Pests and Their Management

 A. Be familiar with the basic growing methods used in forest nurseries and seed orchards and know how differences between seedlings grown in containers and bare-root seedlings affect pest problems and their management.

 B. Know the common forest nursery and seed orchard pests and the main methods used for their management.

Chapter 9 Forest Pests and Their Management

 A. Know the major types of forest pests.

 B. Know the main methods for managing common forest pests.

 C. Define what a pest complex is (problems caused by the interactions of several types of pests) and what a pest triangle is (interactions between trees, their environment, and pests). Know how an understanding of these complexes and interactions helps you determine the effective management actions for pest problems.

 D. Describe the cyclic nature of certain pests (including bark beetles, defoliators, and rusts), the role of factors such as time of year and weather, and how these affect the management of different pests, such as those that occur every year (many weed species) as opposed to outbreak pests (such as bark beetles after drought or water stress).

 E. Demonstrate practical knowledge of integrated management methods and their advantages and disadvantages when used to manage major forest pests, including insects (bark beetles and defoliators), vertebrate pests (deer, pocket gophers), and undesirable vegetation.

 F. Know where to find the regulations on forest management and pesticide use for your county and know whom to consult before you take management actions, such as managing vegetation or applying pesticides near surface waters or other sensitive environments.