

**Exam Knowledge Expectations for
Qualified Applicator Certificate & Qualified Applicator License
Category H – Seed Treatment**

Use these knowledge expectations (KEs) to help study the suggested material, The Safe and Effective Use of Pesticides, Third Edition. University of California Integrated Pest Management Program (UC IPM), 2016 and Seed Treatment E.L. Foland, Kansas State University, 1997. Knowing the information from all of the KEs should prepare you for taking the exam.

I. Seed Pests

- A. Identification, biology, and characteristics of seeds commonly treated for pests including: wheat, barley, rye, oats, rice, sorghums, corn, cotton, sugar beets, soybeans, sunflowers, peas, beans, and peanuts.
- B. Knowledge of seed pests including: fungi, bacteria, soil insects (seed corn beetle, wireworms), and storage insects (weevils, moths, and beetles).
- C. Knowledge of management techniques used to control seed pests including: non-chemical control, chemical control, sanitation, disinfestation, and systemic treatments.

II. Seed Treatment

- A. Knowledge of pesticide seed treatment formulations and their components including: active ingredients, inert ingredients, and compatibility.
- B. Knowledge of seed treatment application equipment types and their advantages, disadvantages, limitations, maintenance, and applicable uses including: liquid treaters, slurry treaters, and dust treaters.
- C. Understanding the reason for dyeing and treating seed; the significance of the different colors.

III. Applicator Responsibilities

- A. Knowledge of the Federal Seed Act.
- B. Ability to compute pesticide related calculations and measurements.
- C. Ability to read and interpret pesticide labels.
- D. Knowledge of pesticide related safety precautions including: hazardous formulations, safe and effective use of personal protective equipment (PPE), and emergency and routine decontamination.
- E. Understanding of how to prevent harm to non-target species and potential environmental contamination scenarios associated with seed treatment applications.
- F. Knowledge of required treated seed container labeling including: purpose of labeling, information required to be included on labeling, and cautionary statements.