



CTAG

Certification & Training Assessment Group — National Partnerships for Safe & Effective Pesticide Management through Education, Training & Competency Assessment

Pesticide Applicator Recertification: Content Criteria

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The question, “What makes a good recertification offering?” is a many-faceted question. The answer in large part depends on the responder. The primary goal of recertification offerings may differ for a trainer who provides information and education, a regulator who grants approval and uses recertification as a tool to qualify persons for a certification or license to apply pesticides and a consumer attending recertification.

While the criteria for proficiency of certified pesticide applicators are clearly specified in Title 40 of the Code of Federal Regulations sections 171.4 & 171.5 (Pesticide Applicator Certification), there are no criteria defined for the content and evaluation of pesticide applicator recertification programs. Effective training is very important to a pesticide recertification program, but what are the key elements to a sound and effective program? To assist those who provide and manage pesticide applicator recertification programs, CTAG developed the following guidance documents:

- *Pesticide Applicator Recertification: Verifying Attendance at Training Events*
- *Pesticide Applicator Recertification: Content Criteria*
- *Pesticide Applicator Recertification: Online Training – Course Design and Structure*
- *Pesticide Applicator Recertification: Evaluation of Recertification Programs*

These documents are intertwined and serve as the beginning to addressing some critical parts of producing a good recertification program. As CTAG develops more guidance documents, they will be added to this series.

Purpose

The purpose of this paper is to convey CTAG’s recommendations to state, territory, and tribal programs regarding what is and isn’t appropriate content for recertification programs and describe differences in such content between training for recertification and initial certification. CTAG expects this document to evolve over time as partner programs provide input on content.

Executive Summary

As mentioned earlier, federal regulations do not provide specific criteria for recertification. However, they do state that State plans are required to include some measure of continuing competency of certified pesticide applicators. As a result, criteria for recertification vary widely in terms of both required hours and content. CTAG believes that states should strive to establish standards and set criteria for recertification offerings that foster and maintain an acceptable level of competency of certified pesticide applicators.

Background

The Federal Insecticide Fungicide and Rodenticide Act (FIFRA) does not have a provision for recertification of restricted-use pesticide applicators. FIFRA does however require states to submit to EPA annually plans for approval of their certification programs which include assuring the continued competency of certified applicators:

40 CFR 171.7 Submission and approval of State plans for certification of commercial and private applicators of restricted use pesticides.

If any State, at any time, desires to certify applicators of restricted use pesticides, the Governor of that State shall submit a State plan for that purpose. The Administrator shall approve the plan submitted by any State, or any modification thereof, if the plan in his judgment...

Accordingly, 40 CFR 171.8 a) (2) states; "Provisions (should be made) to ensure that certified applicators continue to meet the requirements of changing technology and to assure a continued level of competency and ability to use pesticides safely and properly."

Because state plans are required to include some measure of continuing competency under 40 CFR 171.8, the state lead agencies have developed various methods to meet this requirement. These basically include exams and/or continuing education (including workshops) which employs various approaches and meets various requirements.

Note that while 40 CFR only refers to applicators of restricted-use pesticides, many states further require some applicators of general-use pesticides to be certified. Any standards and criteria set for initial certification and recertification apply to a broader population of applicators in those states.

Recommendations

CTAG recommends that the standards for determination of competency for initial certification defined in 40 CFR 171.4 and 171.5 (see Appendix) also be included as standards for meeting proficiency levels for recertification. This is not to say that all these standards need to be covered in each recertification cycle, but rather that the topics covered by these standards would be appropriate topics for recertification. Whether the recertification format is an exam, CEUs, or a workshop, the criteria for the content must ensure that the applicator's skills and knowledge are maintained or enhanced in a manner that encourages the proper use and handling of pesticides and compliance with pesticide laws and regulations.

CTAG encourages states to cover those standards in greater depth during recertification training instead of just repeating what was offered in initial certification training. An example would be to conduct a hands-on insect identification workshop as part of recertification training, whereas initial certification usually goes no further than describing different pests.

CTAG further recommends states exercise flexibility when setting recertification criteria. Applicators benefit from states that address topics that go beyond those listed in CFRs. A clear example of this is IPM training. The wording in FIFRA actually prohibits the EPA from requiring that IPM be a component of certification training; hence, IPM is not listed as a standard in 40 CFR 171.4 or 171.5. However, EPA obviously supports states that incorporate IPM into their initial certification and recertification programs. Likewise, going beyond FIFRA to address regulations from other agencies (e.g., OSHA, DOT) that may be critical to safe and proper usage of pesticides would be an appropriate recertification offering.

CTAG recommends states set criteria for topics that do not qualify for recertification credit. Sometimes such topics are easily recognized, other times not so. Generally speaking, excluded topics include business operations (e.g., budgeting, personnel or promotion), marketing, or the advertisement or promotion of specific goods or services. Topics that do not promote proficiency and enhance an applicator's abilities, skills and knowledge in a manner that encourages the proper use and handling of pesticides and compliance with pesticide laws and regulations should be excluded from a recertification offering.

Finally, CTAG recommends states ensure adherence to label directions and applicable laws and regulations during hands-on demonstrations and discussions of pest management research. Research results of off-label examples are frequently given at such offerings. It must be stressed in all these situations that the application has been made as a research application, made under specific controlled circumstances/permits, and that the application would otherwise be illegal. Researchers must be held accountable for including this disclaimer in their presentations where off label uses are discussed.

Appendix

This appendix contains the wording from 40 CFR 171.4 and 171.5 that has been in effect since the 1970s. Note that CTAG is not recommending any change to this wording or how it has been enforced. It is provided solely to show the standards for initial certification that were referenced in this paper.

§ 171.4 Standards for certification of commercial applicators

a) *Determination of competency.* Competence in the use and handling of pesticides shall be determined on the basis of written examinations, and, as appropriate, performance testing, based upon standards set forth below and which are approved by the Administrator. Such examination and testing shall include the general standards applicable to all categories (§171.4(b)) and the additional standards specifically identified for each category or subcategory (if any) in which an applicator is to be classified (§171.4(c)). State standards must conform and be at least equal to those prescribed herein. In developing the details of standards at the State level and in structuring examinations, it is important to recognize and reflect the extent of competency appropriate and necessary to a particular category.

(b) *General standards for all categories of certified commercial applicators.* (1) All commercial applicators shall demonstrate practical knowledge of the principles and practices of pest control and safe use of pesticides. Testing shall be based on examples of problems and situations appropriate to the particular category or subcategory of the applicator's certification and the following areas of competency:

(i) *Label & labeling comprehension.* (a) The general format and terminology of pesticide labels and labeling;

(b) The understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels;

(c) Classification of the product, general or restricted; and

(d) Necessity for use consistent with the label.

(ii) *Safety.* Factors including:

(a) Pesticide toxicity and hazard to man and common exposure routes;

(b) Common types and causes of pesticide accidents;

(c) Precautions necessary to guard against injury to applicators and other individuals in or near treated areas;

(d) Need for and use of protective clothing and equipment;

- (e) Symptoms of pesticide poisoning;
 - (f) First aid and other procedures to be followed in case of a pesticide accident; and
 - (g) Proper identification, storage, transport, handling, mixing procedures and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers.
- (iii) *Environment*. The potential environmental consequences of the use and misuse of pesticides as may be influenced by such factors as:
- (a) Weather and other climatic conditions;
 - (b) Types of terrain, soil or other substrate;
 - (c) Presence of fish, wildlife and other non-target organisms; and
 - (d) Drainage patterns.
- (iv) *Pests*. Factors such as:
- (a) Common features of pest organisms and characteristics of damage needed for pest recognition;
 - (b) Recognition of relevant pests; and
 - (c) Pest development and biology as it may be relevant to problem identification and control.
- (v) *Pesticides*. Factors such as:
- (a) Types of pesticides;
 - (b) Types of formulations;
 - (c) Compatibility, synergism, persistence and animal and plant toxicity of the formulations;
 - (d) Hazards and residues associated with use;
 - (e) Factors which influence effectiveness or lead to such problems as resistance to pesticides; and
 - (f) Dilution procedures.
- (vi) *Equipment*. Factors including:
- (a) Types of equipment and advantages and limitations of each type; and

(b) Uses, maintenance and calibration.

(vii) *Application techniques.* Factors including:

(a) Methods of procedure used to apply various formulations of pesticides, solutions, and gases, together with a knowledge of which technique of application to use in a given situation;

(b) Relationship of discharge and placement of pesticides to proper use, unnecessary use, and misuse; and

(c) Prevention of drift and pesticide loss into the environment.

(viii) *Laws and regulations.* Applicable State and Federal laws and regulations.

(c) *Specific standards of competency for each category of commercial applicators.*

Some of the factors referenced in paragraph (b) of this section are of particular importance because of the different types of activities carried out by applicators in each category. Such factors must be especially stressed and specifically reflected in State certification standards, as appropriate. For example, practical knowledge of drift problems should be required of agricultural applicators but not of seed treatment applicators. The latter, however, should be particularly knowledgeable of the hazards of the misuse of treated seed and the necessary precautionary techniques. Many applicators in §171.3(b) (8), (9), and (10) will have had considerable formal education, training and experience in preparation for their positions. Their competency with respect to the use and handling of pesticides will have been determined by examining boards of their professional scientific societies utilizing standards which equal or exceed those prescribed herein. Such standards should be consulted by States in developing their State standards for certification of such applicators under these regulations. Commercial applicators in each category shall be particularly qualified with respect to the practical knowledge standards elaborated below:

(1) *Agricultural pest control* —(i) *Plant.* Applicators must demonstrate practical knowledge of crops grown and the specific pests of those crops on which they may be using restricted use pesticides. The importance of such competency is amplified by the extensive areas involved, the quantities of pesticides needed, and the ultimate use of many commodities as food and feed. Practical knowledge is required concerning soil and water problems, pre-harvest intervals, re-entry intervals, phytotoxicity, and potential for environmental contamination, non-target injury and community problems resulting from the use of restricted use pesticides in agricultural areas.

(ii) *Animal.* Applicators applying pesticides directly to animals must demonstrate practical knowledge of such animals and their associated pests. A practical knowledge is also required concerning specific pesticide toxicity and residue potential, since host animals will frequently be used for food. Further, the applicator must know the relative

hazards associated with such factors as formulation, application techniques, age of animals, stress and extent of treatment.

(2) *Forest pest control.* Applicators shall demonstrate practical knowledge of types of forests, forest nurseries, and seed production in their State and the pests involved. They should possess practical knowledge of the cyclic occurrence of certain pests and specific population dynamics as a basis for programming pesticide applications. A practical knowledge is required of the relative biotic agents and their vulnerability to the pesticides to be applied. Because forest stands may be large and frequently include natural aquatic habitats and harbor wildlife, the consequences of pesticide use may be difficult to assess. The applicator must therefore demonstrate practical knowledge of control methods which will minimize the possibility of secondary problems such as unintended effects on wildlife. Proper use of specialized equipment must be demonstrated, especially as it may relate to meteorological factors and adjacent land use.

(3) *Ornamental and turf pest control.* Applicators shall demonstrate practical knowledge of pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and turf, including cognizance of potential phytotoxicity due to a wide variety of plant material, drift, and persistence beyond the intended period of pest control. Because of the frequent proximity of human habitations to application activities, applicators in this category must demonstrate practical knowledge of application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.

(4) *Seed-treatment.* Applicators shall demonstrate practical knowledge of types of seeds that require chemical protection against pests and factors such as seed coloration, carriers, and surface active agents which influence pesticide binding and may affect germination. They must demonstrate practical knowledge of hazards associated with handling, sorting and mixing, and misuse of treated seed such as introduction of treated seed into food and feed channels, as well as proper disposal of unused treated seeds.

(5) *Aquatic pest control.* Applicators shall demonstrate practical knowledge of the secondary effects which can be caused by improper application rates, incorrect formulations, and faulty application of restricted use pesticides used in this category. They shall demonstrate practical knowledge of various water use situations and the potential of downstream effects. Further, they must have practical knowledge concerning potential pesticide effects on plants, fish, birds, beneficial insects and other organisms which may be present in aquatic environments. These applicators shall demonstrate practical knowledge of the principles of limited area application.

(6) *Right-of-way pest control.* Applicators shall demonstrate practical knowledge of a wide variety of environments, since rights-of-way can traverse many different terrains, including waterways. They shall demonstrate practical knowledge of problems on runoff, drift, and excessive foliage destruction and ability to recognize target organisms. They shall also demonstrate practical knowledge of the nature of herbicides and the need for

containment of these pesticides within the right-of-way area, and the impact of their application activities in the adjacent areas and communities.

(7) *Industrial, institutional, structural and health related pest control.* Applicators must demonstrate a practical knowledge of a wide variety of pests, including their life cycles, types of formulations appropriate for their control, and methods of application that avoid contamination of food, damage and contamination of habitat, and exposure of people and pets. Since human exposure, including babies, children, pregnant women, and elderly people, is frequently a potential problem, applicators must demonstrate practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. Because health related pest control may involve outdoor applications, applicators must also demonstrate practical knowledge of environmental conditions, particularly related to this activity.

(8) *Public health pest control.* Applicators shall demonstrate practical knowledge of vector-disease transmission as it relates to and influences application programs. A wide variety of pests is involved, and it is essential that they be known and recognized, and appropriate life cycles and habitats be understood as a basis for control strategy. These applicators shall have practical knowledge of a great variety of environments ranging from streams to those conditions found in buildings. They should also have practical knowledge of the importance and employment of such non-chemical control methods as sanitation, waste disposal, and drainage.

(9) *Regulatory pest control.* Applicators shall demonstrate practical knowledge of regulated pests, applicable laws relating to quarantine and other regulation of pests, and the potential impact on the environment of restricted use pesticides used in suppression and eradication programs. They shall demonstrate knowledge of factors influencing introduction, spread, and population dynamics of relevant pests. Their knowledge shall extend beyond that required by their immediate duties, since their services are frequently required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgments must be made in new situations.

(10) *Demonstration and research pest control.* Persons demonstrating the safe and effective use of pesticides to other applicators and the public will be expected to meet comprehensive standards reflecting a broad spectrum of pesticide uses. Many different pest problems situations will be encountered in the course of activities associated with demonstration, and practical knowledge of problems, pests, and population levels occurring in each demonstration situation is required. Further, they should demonstrate an understanding of a pesticide-organism interactions and the importance of integrating pesticide use with other control methods. In general, it would be expected that applicators doing demonstration pest control work possess a practical knowledge of all of the standards detailed in §171.4(b). In addition, they shall meet the specific standards required for paragraphs (c) (1) through (7) of this section as may be applicable to their particular activity.

Persons conducting field research or method improvement work with restricted use pesticides should be expected to know the general standards detailed in 171.4(b). In addition, they shall be expected to know the specific standards required for paragraphs (c) (1) through (9) of this section, applicable to their particular activity, or alternatively, to meet the more inclusive requirements listed under “Demonstration.”

(d) *Special standards.* This space reserved for possible issuance of Special Standards.

(e) *The above standards do not apply to the following persons for purposes of these regulations.* (1) Persons conducting laboratory type research involving restricted use pesticides; and

(2) Doctors of Medicine and Doctors of Veterinary Medicine applying pesticides as drugs or medication during the course of their normal practice.

§ 171.5 Standards for certification of private applicators.

(a) Competence in the use and handling of pesticides by a private applicator will be determined by procedures set forth below. State standards must conform and be at least equal to those prescribed herein. As a minimum requirement for certification, a private applicator must show that he possesses a practical knowledge of the pest problems and pest control practices associated with his agricultural operations; proper storage, use, handling and disposal of the pesticides and containers; and his related legal responsibility. This practical knowledge includes ability to:

(1) Recognize common pests to be controlled and damage caused by them.

(2) Read and understand the label and labeling information—including the common name of pesticides he applied; pest(s) to be controlled, timing and methods of application; safety precautions; any pre-harvest or re-entry restrictions; and any specific disposal procedures.

(3) Apply pesticides in accordance with label instructions and warnings, including the ability to prepare the proper concentration of pesticide to be used under particular circumstances taking into account such factors as area to be covered, speed at which application equipment will be driven, and the quantity dispersed in a given period of operation.

(4) Recognize local environmental situations that must be considered during application to avoid contamination.

(5) Recognize poisoning symptoms and procedures to follow in case of a pesticide accident.

(b) Such competence of each private applicator shall be verified by the responsible State agency through the administration of a private applicator certification system

which ensures that the private applicator is competent, based upon the standards set forth above, to use the restricted use pesticides under limitations of applicable State and Federal laws and regulations. A certification system shall employ a written or oral testing procedure, or such other equivalent system as may be approved as part of a State plan.

(1) In any case where a person, at the time of testing for certification, is unable to read a label, the responsible State agency may employ a testing procedure, previously approved by the Administrator, which can adequately assess the competence of such person with regard to all of the above standards. Certification must be related and limited to the use and handling of each individual pesticide for which he desires certification at any time. Therefore, the applicator will be authorized to use only the pesticide(s) for which he has demonstrated competence. A specific procedure is required for §171.5(a)(2) relating to label comprehension, with testing designed to assure his knowledge of the following:

(i) Understanding of the label and labeling information including those items indicated in that subsection.

(ii) Sources of advice and guidance necessary for the safe and proper use of each pesticide related to his certification.

(2) [Reserved]