

Ohio Pesticide Applicator Training

Core

Student Workbook



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Reference Publications

Bulletin/Fact Sheets
825 Applying Pesticides Correctly
843 The Worker Protection Standard for
Agricultural Pesticides - How to Comply
ODA Ohio Pesticide Law, 1976

HOW TO USE THIS WORKBOOK

Applying Pesticides Correctly: A Student Workbook is designed to serve as a supplemental study guide to *Applying Pesticides Correctly; A Guide for Private and Commercial Applicators*. The questions included in this manual should lead the user through a complete study of general pesticide topics. The purpose of this workbook is to help pesticide applicators pass the core certification exam.

The authors propose the use of this publication in any of the following ways:

- 1) As a discussion outline for individuals participating in a pesticide training program sponsored by the Ohio State University Extension.
- 2) As a home-study manual on general topics related to pesticides, with emphasis on preparing the student for the pesticide general or core exam.
- 3) As a workbook for vocational agriculture students learning about pesticide application and safety.
- 4) As a study manual for employees of pesticide dealers, custom applicators, lawn care companies, and garden centers who need pesticide information.

As you work through each unit, use the label flap to conceal each page of answers. Mark the response you feel is correct and continue with the next question until you complete that page. Once you have answered all of the questions on that page, move the flap to the next page and check to see if your responses were correct. Read the explanation for each question as important information is provided in these paragraphs. Some questions will refer to the label found on the flap. Note that sections "Mixing, Loading and Application" and "Pesticide Handling Decisions" from "Applying Pesticides Correctly A Guide for Private and Commercial Applicators" has been incorporated into other units.



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INTRODUCTION

**Robert Wulfhorst, Section Head of Pesticide Regulations
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PESTICIDES IN TODAY'S SOCIETY

“Pesticide” is a word that stimulates individuals to express a range of emotions. For many farmers, pesticides are viewed as indispensable tools in pest management programs. In contrast, pesticide opponents view pesticides as a significant source of human health problems and environmental damage.

Whatever your perception—positive or negative—of the value of pesticides, you will come into contact with some type of pesticide in the course of your everyday activities.

Insecticides, fungicides and herbicides are used to protect food crops from pests. Other types of pesticides control undesirable organisms in our water supplies, prevent the spread of disease-causing agents in health facilities, control pests that threaten our homes, and protect people from disease vectors. Pesticides will continue to be needed to manage pest problems for the foreseeable future.

Pesticides that have been used in the past will probably not be the pesticides of the future. Scientific and technical innovation have taken us from primitive self-sufficiency to a complex society of broad-spectrum, non-selective environmental toxicants to more pest-specific control agents that will cause minimal, unintended damage to our environment.

A challenge faced by pesticide applicators will be learning how to integrate new pest control products and concepts into their management systems.

WHY PESTICIDE TRAINING?

This manual prepared by the Ohio State University Extension can be used as a self-study or in combination with an educational program conducted for pesticide applicators. The manual has been developed to assist pesticide applicators in better preparing themselves for taking the exams that are essential to become a certified applicator.

Although this manual is limited to the core material, the examples and illustrations given in this manual should assist the applicator in better understanding some of the information that is needed in order to demonstrate competency in the knowledge of applying and using pesticides. The authors selected a sample of information that pesticide applicators should be familiar with if they are going to do a good job of understanding the use and application of pesticides.

With the current requirements and more pesticides becoming “restricted use,” it is essential that pesticide applicators demonstrate capability of knowing how to properly apply and use pesticides in order to insure the safety of not only the applicator but also the environment. Pesticides are an important tool for use in the production of food and fiber and as long as they are used properly, they are an asset to society. It is critical and very important that anyone applying pesticides should read the labeling on the pesticide product before purchasing or using any pesticide.

UNIT 1. Principles of Pest Control

1. A pest can be anything that:
 - a. Competes with humans, domestic animals or desirable plants for food or water.
 - b. Injures humans, animals, desirable plants, structures, or possessions.
 - c. Spreads disease to humans, domestic animals, wildlife, or desirable plants.
 - d. Annoys human or domestic animals.
 - e. All of the above

2. One requirement for effective pest control is:
 - a. Identification of the pest to be controlled
 - b. New spray equipment
 - c. Using more than the recommended dosage
 - d. Spraying only the field margin

3. A pest-control method should be used only when that method will cost less than the expected value of a loss from the pest.
 - a. True
 - b. False

4. Successful pest control is based on the ability to:
 - a. Eradicate all pests
 - b. Use pesticides whenever pests are identified
 - c. Contaminate the environment
 - d. None of the above

5. Which of the following is not a pest control goal?
 - a. Prevention - keeping a pest from becoming a problem.
 - b. Suppression - reducing pest numbers to an acceptable level.
 - c. Eradication - destroying an entire pest population.
 - d. All of the above are possible goals.

6. The strategy of combining pest control tactics into a single plan to reduce pests and their damage to an acceptable level is called:
 - a. Holistic Resource Management Plan
 - b. Biological Control
 - c. Best Management Practices
 - d. Integrated Pest Management

7. When the level of a pest population reaches the stage where pest control action should be taken, you are at the:
 - a. Scouting stage
 - b. Monitoring stage
 - c. Threshold stage
 - d. Pesticide application stage

1. **Correct answer: E**, Unit 1, page 3
Explanation: A pest can be anything that annoys, injures, spreads disease or competes with desired plants, animals, or humans. Examples of pests include weeds, insects, fungi, bacteria, mites and nematodes.

2. **Correct answer: A**, Unit 1, page 3
Explanation: Identifying the pest is the first step. Additionally, it is necessary to know what control methods are available; evaluate the benefits and risks of each method or combination of methods; choose the methods that are most effective and will cause the least harm to people and the environment; use each method correctly; and observe local, state and federal regulations that apply to the situation.

3. **Correct answer: A**, Unit 1, page 4
Explanation: Even though a pest is present, it may not do very much harm. It could cost more to control the pest than to allow the damage to occur. The point at which the cost of the damage exceeds the cost of control is the “economic threshold”.

4. **Correct answer: D**, Unit 1, page 4
Explanation: The best answer should be to: 1) keep pest damage to a minimum by choosing an appropriate combination of control methods, 2) recognize when direct action is necessary, and 3) endanger the environment as little as possible.

5. **Correct answer: D**, Unit 1, page 6
Explanation: Prevention and suppression are common goals. Eradication is a difficult goal to achieve, especially in outdoor areas, but may be attempted when a foreign pest has been introduced into an area (e.g. gypsy moth, Mediterranean fruit fly, etc.). Eradication is a more common goal in indoor areas.

6. **Correct answer: D**, Unit 1, page 6
Explanation: Biological control is a tactic of Integrated Pest Management (IPM). IPM is one component of a holistic resource management plan and is an example of a Best Management Practice.

7. **Correct answer: C**, Unit 1, page 5
Explanation: Thresholds maybe based on aesthetic, health, or economic considerations. Action thresholds have been determined for many pests.

8. Which of the following is not an example of a control tactic?
 - a. Pesticide resistance - the ability of a pest to resist pesticide control measures
 - b. Biological control - using natural predators to control pests
 - c. Cultural controls - such as crop rotation, date of planting, cultivation, etc.
 - d. Chemical control - the use of pesticides.

9. The ability of a pest to resist or avoid poisoning from a pesticide even when it has been properly applied is called:
 - a. Efficacy
 - b. Pesticide resistance
 - c. Dormancy
 - d. Antagonism

UNIT 2. Pesticide Labeling

1. What is pesticide labeling?
 - a. A sticker stating the price of the product.
 - b. A piece of paper containing product name and promotional information.
 - c. Rebate/Guarantee information
 - d. None of the above
 - e. All of the above

2. What is a pesticide label?
 - a. Information attached to the pesticide container
 - b. Material safety data sheets
 - c. An informational brochure
 - d. All of the above

3. It is a violation of the Ohio pesticide law and/or FIFRA to:
 - a. Use a pesticide on a crop not listed on the label
 - b. Operate faulty or unsafe spraying equipment
 - c. Use a pesticide at a higher concentration than is stated on the label
 - d. All of the above are correct
 - e. Only a and c are correct

4. Before a pesticide can be sold or used in the United States, it must be:
 - a. Economical to the applicator
 - b. Approved by FDA
 - c. Registered by U.S. EPA
 - d. Registered by USDA

5. Parts of pesticide labeling include the following:
 - a. Ingredient statement
 - b. Signal words and symbols
 - c. Precautionary statements
 - d. Storage and disposal directions
 - e. All of the above

8. **Correct answer: A,** Unit 1, page 7
Explanation: Do not confuse pest resistance with host resistance. Some plants and animals resist pests better than others.
9. **Correct answer: B,** Unit 1, page 6
Explanation: Each time a pesticide is used, it selectively kills the most susceptible pests. Some pests are able to withstand its effects. These pests may be able to pass along this trait to their offspring. Continued use of the same pesticide may allow the resistant offspring to multiply. This phenomenon is known as pesticide resistance.
1. **Correct answer: D,** Unit 2, page 3
Explanation: Pesticide labeling is all the information received from the manufacture about a pesticide product. It contains the information on how to use the product. It should emphasize that adherence to pesticide labeling directions almost eliminates personal, personnel, and environmental contamination. It is a violation of state and federal law to use a pesticide inconsistent with its labeling.
2. **Correct answer: A,** Unit 2, page 3
Explanation: The pesticide label is the information attached to the pesticide container and it is a part of pesticide labeling. To correctly use a pesticide, applicators must have and comply with pesticide labeling directives.
3. **Correct answer: D,** Unit 2, page 3
Explanation: It is in violation of state and federal law to use a pesticide inconsistent with its labeling directions. Pesticides may only be used on the plants, animals or sites as listed in the labeling directions. Pesticides can be tank mixed with other pesticides as long as both pesticides can be used on the plants, animals or sites listed in the labeling directions. Pesticides can be mixed with fertilizer if allowed by label directions. Also, you may apply a pesticide against a target pest not listed on the label, provided the crop, animal and site are on the label.
4. **Correct answer: C,** Unit 2, page 3
Explanation: U. S. EPA approves the registration and intended use of each product. There are 3 major types of registrations, (1) Federal registrations, (by far the most common) (2) special local needs regulations, and (3) emergency exceptions. The U.S. EPA also approves labeling directions concerning the safe handling and use of the pesticide.
5. **Correct answer: E,** Unit 2, page 5
Explanation: There are many different parts to pesticide labeling. Labeling will give information on how to use, apply and store the product in addition to information on treatment for poisoning cases, environmental concerns, active ingredients, inert ingredients, net contents, name of the manufacturer, endangered species, and personal protective equipment. There will also appear on some labels, worker protection standard statements as well as other statements pertaining to situational factors of the particular pesticide.

6. Most pesticides consist of what two chemical components?
 - a. Pesticide and container
 - b. Active ingredients and inert ingredients
 - c. Common and chemical name ingredients
 - d. All of the above

7. Which pesticide name will remain the same on all pesticide labels regardless of which company made the chemical?
 - a. Brand name
 - b. Chemical name
 - c. Common name
 - d. Both (b) and (c)
 - e. All of the above

8. All pesticides are classified as either
 - a. Restricted or Toxic use
 - b. Restricted or Dangerous use
 - c. Restricted or Homeowner use
 - d. Restricted use or General Use (unclassified)

9. A restricted use pesticide is a product that:
 - a. Only farmers may use
 - b. Is restricted to commercial applicators
 - c. Could cause environmental damage or human injury unless it is applied by a certified applicator.
 - d. Can only be applied by pesticide dealers

10. What standard signal words can be found on the pesticide labels?
 - a. "Danger, Warning, Toxic"
 - b. "Danger, Poison, Safe"
 - c. "Safe, Caution, Toxic"
 - d. "Caution, Warning, Danger"
 - e. "Caution, Warning, Toxic"

11. Which of the following standard *signal words* would indicate that the pesticide causes severe eye and skin irritation?
 - a. "Danger"
 - b. "Warning"
 - c. Red "Poison" with a skull and crossbones symbol
 - d. Both (a) and (c)
 - e. Both (b) and (c)

12. Which of the following statements will appear on all pesticide labels?
 - a. Caution
 - b. Warning
 - c. Danger
 - d. Keep Out of Reach of Children

6. **Correct answer: B,** Unit 2, page 6
Explanation: Pesticides generally consist of active ingredients and inert ingredients. The percentage of each must be listed on the label. In the future, inert ingredient chemical names may be required to be listed on the label due to human health or environmental concerns.
7. **Correct answer: D,** Unit 2, page 6
Explanation: The common name of a chemical is a shorter name for the complex chemical name listed on the label. Brand names may vary from company to company.
8. **Correct answer: D,** Unit 2, page 7
Explanation: Uses of pesticides are classified by the U.S. EPA as either general (unclassified) or restricted use. Classification of pesticides and pesticide uses may be based on poisoning potential, type of formulation, way the pesticide is used, and the potential for harm in the environment. Restricted use pesticides must be applied by a certified applicator or an individual under the direct supervision of a certified applicator in accordance to labeling directions.
9. **Correct answer: C,** Unit 2, page 7
Explanation: All pesticides are classified as either general use (unclassified) or restricted use. If a pesticide is classified as restricted use, the pesticide label will have the words “Restricted Use Pesticide” on the top of the front panel of the label. Classification of pesticides and pesticide uses may be based on the products poisoning potential, and environmental effect.
10. **Correct answer: D,** Unit 2, page 7
Explanation: The signal word will appear in large letters on the front part of all pesticide labels. The signal word gives an idea as to how acutely dangerous the product is and it will follow the “Keep Out of Reach of Children” statement.
11. **Correct answer: A,** Unit 2, page, 7
Explanation: The word “poison” will accompany the signal word “danger” when the product is highly toxic orally, dermally or through inhalation. “Poison” will not be on product labels if the pesticide causes only severe eye and skin irritation.
12. **Correct answer: D,** Unit 2, page 7
Explanation: “Keep Out of the Reach of Children” must be on all labels that contain any toxic ingredient including pesticides, household cleaners, etc. One of the three signal words, “Caution”, “Warning”, or “Danger” will also accompany the statement “Keep out of the reach of children”.

13. The directions on a pesticide label will tell you what:
- Rate you may apply the pesticide
 - Crops the material can be applied to
 - Other pesticides you may mix with the pesticide
 - The dilutions are with non-labeled pesticides
 - (a), (b) and (c)
14. A general use (unclassified) pesticide may be used by anyone provided that:
- The pesticide will control or kill the pest
 - The pesticide can be purchased locally
 - The labeling directions are followed
 - You are a registered pesticide dealer
 - a, c, and d
15. You may apply a pesticide at less than label rates or dosages.
- True
 - False
16. Pesticide labeling might give directions for
- A bioassay to determine the extent of carryover
 - Where the pesticide can be applied
 - How the pesticide should be stored
 - The maximum wind speed at which the pesticide can be applied
 - Both (b) and (c)
 - All of the above
17. The pesticide re-entry interval (REI) will tell you:
- The time elapsed before harvest
 - From what corner of the field you enter
 - How long the pesticide spray is active on pests
 - How much time must pass before people can re-enter a treated area without appropriate protective clothing
 - (a), (c) and (d)
18. When using a pesticide you:
- Do not need to wear personal protective equipment if the weather is extremely warm
 - May apply slightly more material than label use rates if the pest population is very large
 - Must follow all labeling directions
 - a and b

13. **Correct answer: E**, Unit 2, page 9
Explanation: There are many additional part of pesticide labeling. For a description of the label components, see pages 4-11 in Unit 2. Obviously (d) is not correct because a label will not give you directions for using a non-labeled product.
14. **Correct answer: C**, Unit 2, page 9
Explanation: A general use (unclassified) pesticide is a material not likely to injure the environment or harm people if labeling directions are followed. Certification is not required to use “general use” pesticide on your own property.
15. **Correct answer: A**, Unit 2, page 9
Explanation: In Ohio, you may legally apply a pesticide at less than labeled rates unless prohibited by the labeling. Remember, the plants, animals and sites to which the pesticide will be applied must be listed on the label.
16. **Correct answer: F**, Unit 2, page 10
Explanation: Pesticide labeling might list information on how to determine possible carryover, what weather conditions might lead to drift, where and how the pesticide can be stored, and other information appropriate to the safe use of the pesticide.
17. **Correct answer: D**, Unit 2, page 10
Explanation: Re-entry intervals (REI) are set by states and EPA. To ignore pesticide re-entry intervals is illegal. Most agricultural pesticides will have a minimum REI of at least 12 hrs. under the worker protection standard.
18. **Correct answer: C**, Unit 2, page 12
Explanation: Users of pesticides must follow all pesticide labeling directions or be in violation of state and federal law.

For questions 19-30, refer to the Depesto pesticide label on the inside back cover.

19. What is the classification of Depesto?
 - a. Danger
 - b. Poison
 - c. General Use
 - d. Restricted Use

20. Depesto is labeled for what rate of application?
 - a. 2.5 lbs. active ingredient per acre
 - b. 5 lbs. active ingredient per acre
 - c. 2-4 lbs active ingredient per acre
 - d. 2.5-5 lbs. material per acre
 - e. (c) and (d)

21. In the event Depesto is accidentally swallowed, what practical treatment should be followed?
 - a. Induce vomiting by touching back of throat with finger
 - b. Go to a doctor after giving the victim milk
 - c. Do not induce vomiting, take victim to a physician
 - d. Rinse mouth with plenty of water and return to work

22. What is the common name and percent active ingredient of Depesto?
 - a. Herbex 80%
 - b. Depesto - WP - 20%
 - c. Water 20%
 - d. Herbex wettable powder

23. What is the label signal word for Depesto - WP?
 - a. "Keep out of the reach of children"
 - b. "Danger"
 - c. "Warning"
 - d. "Caution"

24. Applicators and other handlers must wear the following when applying Depesto:
 - a. long-sleeved shirts
 - b. long-legged pants
 - c. chemical-resistant gloves
 - d. chemical-resistant footwear plus socks
 - e. all of the above

25. The delayed effects statement on the label indicates:
 - a. Depesto may be harmful if inhaled.
 - b. Depesto may be harmful if swallowed.
 - c. Depesto may be harmful by skin contact.
 - d. Depesto may be hazardous to your health because the active ingredient has been determined to cause tumors in laboratory animals.

19. **Correct answer: D**, See attached label
Explanation: Depesto is a restricted-use pesticide as indicated on the label.
20. **Correct answer: E**, See attached label
Explanation: Depesto contains 80 percent active ingredient. There is .8 lb of active ingredient in 1 lb of material. Therefore 2.5 pounds of Depesto contains 2 lbs active ingredient and 5 lbs of Depesto contains 4 lbs active ingredient.
21. **Correct answer: A**, see attached label
Explanation: Depesto directions indicate to induce vomiting in the event of accidental swallowing. One should also take the victim and the Depesto label to a doctor for further treatment. Avoid contamination of yourself when assisting the victim.
22. **Correct answer: A**, see attached label
Explanation: The common name of the active ingredient in Depesto is Herbex. Herbex constitutes 80% of one pound of Depesto.
23. **Correct answer: D**, see attached label
Explanation: The label signal word for Depesto is "Caution". The label signal provides information to the pesticide user of the acute toxicity of Depesto.
24. **Correct answer: E**, see attached label and Unit 2, page 8
Explanation: Immediately after any statement on the pesticide label about acute, delayed or allergic effects will be a list of any personal protective equipment (PPE) that must be worn by applicators and handlers.
25. **Correct answer: D**, see attached label and Unit 2, page 8
Explanation: Answers a, b, and c are all statements of routes of entry of Depesto into the body and these statements are called acute effects statements. Answer d is a delayed effect statement.

26. Depesto has been found to contaminate groundwater and surface water primarily through:
- Drift
 - Leaching
 - Back-siphoning
 - Surface runoff from rainfall soon after application
 - b, c, and d
27. For early entry involving contact with treated surfaces, what personal protective equipment (PPE) must be worn under the Worker Protection Standard (WPS).
- Long-sleeve shirt and pants, shoes, and socks
 - Coveralls
 - Chemical resistant gloves
 - Chemical resistant footwear plus socks
 - b, c and d
28. The REI for VIP Depesto is
- 0 hours
 - 12 hours
 - 24 hours
 - 48 hours
29. Depesto may not be
- mixed, loaded or used within 50 ft. of wells
 - mixed or loaded within 50 ft. of intermittent streams and rivers
 - applied within 66 ft. of the points where field runoff enters a stream or river
 - applied within 200 ft. around reservoirs
 - all of the above
30. The requirements of the WPS that you must follow when you use Depesto for agricultural plant production uses can be found
- on the label
 - in Ohio Pesticide Law
 - in the EPA "How-to-Comply" manual
 - in FIFRA

26. **Correct answer: E**, see attached label and Unit 2, page 6-7
Explanation: Leaching is thought to be a way Depesto may contaminate groundwater. Also during rainfall events, Depesto may reach surface waters, and lakes, including rivers and streams. Back-siphoning, spills and improper disposal of excess pesticide spray mixtures or rinsate are also routes of surface and groundwater contamination.
27. **Correct answer: E**, see attached label and Unit 2, page 8
Explanation: For agricultural uses of Depesto, under the Worker Protection Standard (WPS), when early entry workers or handlers enter a treated area within the restricted entry interval (REI) of 12 hours, certain personal protective equipment (PPE) is required.
28. **Correct answer: B**, see attached label; Unit 2, page 10; and the H-T-C manual pages 45-47.
Explanation: Agricultural pesticides used in the production of plants under the Worker Protection Standard will have a restricted entry interval (REI). In general, under WPS workers must be kept out of a treated area during the REI. Only appropriately trained and equipped pesticide handlers and early entry workers may enter a treated area during an REI to perform certain tasks.
29. **Correct answer: E**, see attached label and Unit 2, page 9
Explanation: In order to protect groundwater and surface waters, setbacks have been established for this product and are listed under the “Environmental Hazards” section of the label. This section also outlines some specifications for mixing/loading pads located within 50 ft. of a well.
30. **Correct answer: C**, see attached label; the H-T-C manual page i; and Unit 2, pages 10-11.
Explanation: Most of the requirements of the Worker Protection Standard such as decontamination sites, training, central information and emergency assistance are not found on the label itself. You are referred to another document. This is called labeling by reference. In this case the label statement “Use this product in accordance with its labeling and the Worker Protection Standard, 40 CFR part 170” means you must follow the requirements in the “How-to-Comply” manual or you are in violation of the label.

UNIT 3. Formulations

Below are listed types of pesticide formulation available. In the space provided, put the letter of the description that best matches the type of formulation.

- | | | |
|--------------------------------------------|---------------------------|--------------------------------------|
| ___ 1. Emulsifiable Concentrates (EC or E) | ___ 6. Fumigants | ___ 11. Wettable Powder (WP or W) |
| ___ 2. Solutions (S) | ___ 7. Dusts (D) | ___ 12. Soluble Powders (SP) |
| ___ 3. Flowables (F or L) | ___ 8. Baits (B) | ___ 13. Microencapsulation (M) |
| ___ 4. Aerosols | ___ 9. Granules (G) | ___ 14. Water Dispersed Granule(WDG) |
| ___ 5. Invert Emulsions | ___ 10. Pellets (P or PS) | ___ 15. Adjuvants |

- a. A dry formulation manufactured to be a uniform product of specific weight and shape.
- b. A formulation that mixes food or another attractive substance with the active ingredient. The amount of active ingredient is typically quite low—usually less than five percent and this type of formulation is often in rodent control.
- c. A liquid formulation that generally contains a solvent and a low percentage of active ingredient. Often packaged as a fogger.
- d. Pesticides marketed as liquids or solids that form poisonous gases when applied.
- e. A formulation that contains the active ingredient, one or more petroleum solvents, and an adjuvant that allows the formulation to be mixed with water.
- f. A chemical added to a pesticide formulation or tank mix to increase its effectiveness or safety.
- g. A water soluble pesticide dispersed in an oil carrier. A special adjuvant is needed. Often, this pesticide is used when drift to nontarget plants is a problem.
- h. A dry formulation that is mixed with water and dissolves readily to form a true solution.
- i. A dry formulation that is mixed with water but requires constant agitation to keep it suspended. This formulation also is called “Dry flowables.”
- j. A liquid formulation that when mixed with water will form a true solution. Few pesticides are available in this formulation.
- k. A formulation that is dry and finely ground. It is usually mixed with water and used as a spray. Agitation is required to prevent the pesticides from separating.

- l. A formulation of liquid or dry particles surrounded by a plastic coating.
- m. A liquid formulation in which the active ingredients are finely ground insoluble solids. These particles are mixed with a liquid and other ingredients to form a suspension. Moderate agitation is required when this product is added to the spray tank.
- n. A dry formulation in which the active ingredient is either absorbed into the inert material or coats the outside. Particles are relatively large but not manufactured to a uniform shape.
- o. A dry, ready-to-use formulation of very fine carrier particles, containing a low percentage of active ingredient (usually 1-10 percent).

UNIT 3. Formulations

1. **Correct answer: E**, Unit 3, page 3
2. **Correct answer: J**, Unit 3, page 4
3. **Correct answer: M**, Unit 3, page 5
4. **Correct answer: C**, Unit 3, page 5
5. **Correct answer: G**, Unit 3, page 5
6. **Correct answer: D**, Unit 3, page 8
7. **Correct answer: O**, Unit 3, page 5
8. **Correct answer: B**, Unit 3, page 6
9. **Correct answer: N**, Unit 3, page 6
10. **Correct answer: A**, Unit 3, page 6
11. **Correct answer: K**, Unit 3, page 7
12. **Correct answer: H**, Unit 3, page 7
13. **Correct answer: L**, Unit 3, page 7
14. **Correct answer: I**, Unit 3, page 7
15. **Correct answer: F**, Unit 3, page 7

Explanation: Notice that formulation 1-6 are all liquid formulations and 7-14 are dry.

UNIT 4. Pesticides in the Environment

1. In discussing pesticides in the environment, the term “environment” includes:
 - a. Natural elements such as plants, animals, soil, air, and water
 - b. Manmade components such as houses, restaurants, and other places of work
 - c. Indoor and outdoor areas
 - d. All of the above

2. Pesticide contamination can be either point source or non-point source. Which of the following is a clear example of a non-point source?
 - a. A large pesticide spill into a ditch
 - b. Surface run off of pesticides from fields or lawns
 - c. Wash water produced at an equipment clean-up site
 - d. Leaks from a pesticide storage facility

3. Which of the following is not an example of a sensitive area?
 - a. Areas where groundwater is near the surface or easily accessed
 - b. Areas near ornamental gardens, food, or feed crops
 - c. Areas where domestic or confined animals live, eat, or are cared for
 - d. All of the above are sensitive areas

4. The movement of a pesticide in the air away from the target area is usually called:
 - a. Run off
 - b. Accumulation
 - c. Drift
 - d. Leaching

5. The movement of a pesticide in the water down from the soil surface is called:
 - a. Run-off
 - b. Leaching
 - c. Drift
 - d. Spills

6. Pesticide residues found on food or animal products are not legal.
 - a. True
 - b. False

1. **Correct answer: D**, Unit 4, page 3
Explanation: When using a pesticide, care must be given to protect both the immediate environment at the site where it is being used and off-site implications. Pesticides can harm all types of environments if not used correctly.

2. **Correct answer: B**, Unit 4, page 4
Explanation: Non-point-source pollution comes from a wide area such as farm fields or residential lawns. Each of the other answers can be traced to a single place.

3. **Correct answer: D**, Unit 4, page 4
Explanation: Sensitive areas can be indoors or outdoors and are sites or living things that are easily injured by a pesticide.

4. **Correct answer: C**, Unit 4, page 5
Explanation: Run-off and leaching are ways pesticides move off-site into water. Pesticides can also accumulate (or build up) in animals and move off-site when the animal moves. Drift can include the movement of pesticide particles, dusts, spray droplets, and vapors off-site in the air.

5. **Correct answer: B**, Unit 4, page 6
Explanation: Run-off is movement of pesticides across the surface. Leaching is the downward movement and poses a threat to groundwater.

6. **Correct answer: B**, Unit 4, page 7
Explanation: Pesticide residues on food or feed that are within tolerances set by EPA are allowable.

7. What is a pesticide tolerance?
- The amount of pesticide over the rate that you can apply
 - The minimum amount of pesticide residue allowable on food or feed
 - The ability of plants and animals to tolerate pesticides
 - The maximum amount of pesticide residue that may remain on or in a food or feed product
8. Pesticides that build up in the body of organisms are said to be:
- Pumping iron
 - Additives
 - Accumulative
 - Adjuvants
9. Pesticides may harm the environment by:
- Injuring the target pest
 - Killing honey bees and other beneficial insects
 - Leaving non-persistent residues
 - All of the above
10. Off-site movement of pesticides can lead to injury or death of non-target plants and animals. Examples of off-site movement include:
- 2,4-D ester moving from a cornfield to nearby tomato field
 - Atrazine leaching from sandy soils into the ground water
 - Atrazine in spring run-off from fields entering a river or stream
 - Banvel in air currents moving from site of application to an urban garden
 - All of the above
11. To insure that food and feed do not contain excessive pesticide residues, pesticide applicators can:
- Apply pesticides at labeled rates
 - Be sure pesticide is mixed thoroughly in the spray tank
 - Be sure pesticide application equipment is calibrated correctly
 - Observe time intervals between last application and harvest
 - All of the above

7. **Correct answer: D**, Unit 4, page 7

Explanation: Pesticide tolerances are determined only after extensive testing and are set by EPA for all pesticide residues on crops and animals intended for food and feed.

8. **Correct answer: C**, Unit 4, page 8

Explanation: Accumulative pesticides may not cause direct kill of nontarget plants and animals, but may build up in the bodies of animals until it becomes harmful or is consumed by a meat-eating predator. Long-term effects could include improper development of the young.

9. **Correct answer: B**, Unit 4, page 7

Explanation: Improper application of pesticides can kill non-target organisms and could have long-term effects. Pesticides can be a problem when they drift or leach from the target area or are poorly timed. Run-off from treated areas also can cause problems downstream or in nearby ponds.

10. **Correct answer: E**, Unit 4, page 7

Explanation: Pesticides move off target by air currents, rain, runoff water and leaching through the soil to ground water. Off-site movement can lead to law suits, loss of applicator certification and further regulations.

11. **Correct answer: E**, Unit 4, page 7

Explanation: Excess pesticide on food or feed exceeding established tolerances can be avoided by the following pesticide label directions.

UNIT 5. Special Environmental Concerns

1. A well should be:
 - a. Protected from back-siphoning of pesticides
 - b. Located within 100 feet of the pesticide mixing and loading site
 - c. Near the pesticide storage facility
 - d. Cut off below the soil surface and abandoned when no longer useful

2. Which of the following pesticides are more likely than the others to move into groundwater?
 - a. Pesticides which have low water solubility
 - b. Pesticides which are strongly adsorbed
 - c. Pesticides which have a long persistence
 - d. Both b and c

3. Which of the following soil factors tend to increase the vulnerability of groundwater?
 - a. Coarse soil texture
 - b. High soil permeability
 - c. High soil organic matter
 - d. Both A and B
 - e. All of the above

4. Which of the following agencies has the responsibility for identifying the current habitat of each endangered species?
 - a. U.S. Environmental Protective Agency
 - b. U.S. Department of Agriculture
 - c. U.S. Fish and Wildlife Service
 - d. U.S. Department of Health

5. Biological diversity is:
 - a. Important to mankind's well-being
 - b. The variety and differences among living things
 - c. Threatened due to the rate of extinctions exceeding the rate of new species being created
 - d. All of the above

6. Factors that should be considered when using pesticides outdoors, in addition to soil factors are:
 - a. Expected rainfall
 - b. Wind
 - c. Humidity and temperature
 - d. All of the above

1. **Correct answer: A**, Unit 5

Explanation: Wells should be at least 100 feet from mixing, loading and pesticide storage, and equipment clean-up activities. Abandoned wells should be properly protected so that surface water and contaminants do not run directly into groundwater resources.

2. **Correct answer: C**, Unit 5, page 5

Explanation: Solubility is the measure of how easily a pesticide dissolves in water. The more soluble the more likely it is to move into groundwater. Adsorption is the measure of how tightly a pesticide attaches to the soil particle. If tightly held, a pesticide is not likely to move off the soil particle and into the groundwater. Pesticides which breakdown slowly are called persistent and can remain in the environment for a long time.

3. **Correct answer: D**, Unit 5, page 6

Explanation: Coarse or sandy soils generally allow water to carry pesticides rapidly downward. Finer textured soils such as clay allows water to move through the soil slower. Soil permeability is the measure of how fast water can move downward. Organic matter influences how much water the soil can hold before it moves down. Pesticides are more likely to be held in soils with high clay and organic matter contents. Growing plants will also help prevent pesticides from reaching ground water by “tying up” pesticides.

4. **Correct answer: C**, Unit 5, page 8

Explanation: Pesticide users must determine that endangered species are not located in or immediately adjacent to the site being treated. If users are in doubt, they are to contact the regional U.S. Fish and Wildlife Service or personnel of the State Fish and Game Office.

5. **Correct answer: D**, Unit 5, page 8

Explanation: Biological diversity is important for many reasons. New crop species and medicines may be discovered. The extinction of one species can set off a chain reaction of harm to other species and disrupt the natural balance and stability of an ecosystem.

6. **Correct answer: D**, Unit 5, page 8

Explanation: Each of these factors affect the application and/or the effectiveness of the pesticide being used. If there is insufficient or excessive moisture, too much wind, or inadequate temperature/humidity, the pesticide will not function properly.

UNIT 6. Harmful Effects and Emergency Response

1. Pesticides can enter the body through:
 - a. Mouth
 - b. Skin
 - c. Nose
 - d. Eye
 - e. All of the above

2. Major categories of pesticide exposure are:
 - a. Chronic and acute
 - b. Oral and dermal
 - c. Inhalation and ocular
 - d. a and b
 - e. b and c

3. How can pesticide exposure occur to people working with pesticides?
 - a. By wearing protective clothing
 - b. By wearing pesticide-contaminated clothing.
 - c. By applying pesticides in windy weather.
 - d. By not washing hands after mixing or applying pesticides
 - e. b, c, and d

4. The major categories of harmful pesticide effects are:
 - a. Acute, delayed and allergic
 - b. Chronic and acute
 - c. Acute and allergic
 - d. All of the above

5. Pesticide toxicity refers to:
 - a. How bad the pesticide smells.
 - b. How much carryover to expect in the following crop.
 - c. How much residue is allowed on our food.
 - d. The property of a pesticide to cause adverse physiological effects.

6. A common measure of the acute toxicity of pesticides is based upon the:
 - a. MD80
 - b. LD50
 - c. Pesticide consumed in 24 hours
 - d. Pesticide excreted in 24 hours
 - e. Both c and d

1. **Correct answer: E**, Unit 6, page 4
Explanation: Pesticides can enter the body through the mouth, skin, eyes or nose. A pesticide may be hazardous by one or more of these routes of entry into the body.

2. **Correct answer: E**, Unit 6, page 4
Explanation: Pesticide exposure relates to the way pesticides can contact your body. Oral exposure occurs when you swallow a pesticide. Inhalation exposure occurs when you inhale a pesticide. Ocular and dermal exposure occurs when you get pesticide in your eyes or on your skin.

3. **Correct answer: E**, Unit 6, page 4
Explanation: Dermal pesticide exposure (the most common type of exposure) can be avoided by using good common sense. Follow label directions for the use of personal protective clothing and thoroughly wash hands and contaminated clothing after using a pesticide. Showering at the end of the day is also a good practice to reduce the likelihood of pesticide exposure to the body.

4. **Correct answer: A**, Unit 6, page 4
Explanation: The major ways people are effected by pesticide exposure are: 1) as an acute effect, 2) a delayed effect, 3) an allergic effect. An acute effect generally occurs as a result of a single incident where a person is exposed to highly toxic material with the ensuing signs or symptoms of pesticide poisoning. Delayed effect from a pesticide occur with repeated incidents of exposure allowing the pesticide to persist in the body for long periods of time. Delayed effects may occur long after pesticide use. After long-term or chronic exposure, there is a risk to the applicator of serious illness. An allergic reaction from a pesticide exposure can occur to certain sensitive people.

5. **Correct answer: D**, Unit 6, page 5
Explanation: Pesticide toxicity is of great importance to the pesticide applicator. Signal words on the pesticide container provide information on the relative acute toxicity of the pesticide to people.

6. **Correct answer: B**, Unit 6, page 5
Explanation: The acute toxicity of many pesticides is based on an LD50. LD50 stands for lethal dosage of pesticide required to kill 50 percent of the test animals and is expressed in milligrams of pesticide to kilograms of body weight of the test animals. The lower the LD50, the more toxic the pesticide is. For example, a chemical with an LD50 of 30mg/kg is more toxic than one with an LD50 of 3000 mg/kg. because it takes less material to harm an animal.

7. Types of delayed effects of pesticide exposure may include:
- Toxic effects
 - Chronic effects
 - Developmental effects
 - Systemic effects
 - b, c, and d
8. Hazard to humans from harmful effects of pesticide depends upon:
- Risk
 - Toxicity of the pesticide
 - Exposure
 - Symptoms
 - b and c
9. There are generally no signs or symptoms to acute human pesticide poisoning.
- True
 - False
10. In the event of a human pesticide poisoning, what course of action should be followed?
- Take the person home
 - Stay away from the person so as not to be poisoned yourself
 - Read the pesticide label for instructions
 - Take the pesticide container to the doctor and leave the poisoned person at the site
11. If a pesticide is swallowed or enters the mouth, what first aid would be appropriate?
- Use a salt solution to induce vomiting
 - Lay the victim on his/her back and induce vomiting
 - In between convulsions, induce vomiting by placing a spoon on the back of the victim's throat
 - All of the above
 - None of the above
12. The higher the LD50, the more acutely toxic the pesticide.
- True
 - False

7. **Correct answer: E**, Unit 6, page 7
Explanation: Chronic effects to pesticide exposure might include the production of tumors. Systemic effects might include blood or nerve disorders. Birth defects are examples of a developmental effect that might possibly occur from pesticide exposure.
8. **Correct answer: E**, Unit 6, page 7
Explanation: The degree of health hazard to humans from pesticides will depend upon the toxicity of the pesticide and the amount and type of pesticide exposure.
9. **Correct answer: B**, Unit 6, page 9
Explanation: Generally, if you are poisoned by a pesticide there will be symptoms such as nausea and headache and or signs such as vomiting, or fainting.
10. **Correct answer: C**, Unit 6, page 10
Explanation: In the event of a pesticide poisoning, read the pesticide label for instructions and take the person to a physician along with the pesticide label .
11. **Correct answer: E**, Unit 6, page 11
Explanation: In the event a pesticide is ingested or enters the mouth, rinse the mouth with plenty of water if the victim is conscious and not convulsing. Read the pesticide label to see what other aids may be administered. Inducement of vomiting is not always recommended for all pesticides.
12. **Correct answer: B**, (no reference to LD50 in new core manual)
Explanation: The lower the value of the LD50, the more toxic the pesticide. For example, the pesticide with an LD50 of 5000 is much less toxic orally, than a pesticide with an LD50 of 5.

UNIT 7. Personal Protective Equipment

1. Personal protective equipment (PPE) is:
 - a. Coveralls
 - b. Headwear such as caps or hoods
 - c. Respirators
 - d. Eyewear
 - e. All of the above

2. Personal protective equipment (PPE) instructions for pesticide users, handlers and others are found:
 - a. On the pesticide label
 - b. In FIFRA
 - c. In Ohio Pesticide Law
 - d. In OSHA regulations

3. You are legally required to follow all PPE instructions that appear on the pesticide label.
 - a. True
 - b. False

4. The formulation of the pesticide will influence the type of PPE recommended by the label.
 - a. True
 - b. False

5. The following PPE is resistant to dry pesticides:
 - a. Plastic
 - b. Rubber
 - c. Cotton
 - d. Leather
 - e. a & b
 - f. a & d

6. Handlers of pesticide products that are very hazardous will normally be required to wear:
 - a. Cotton Overalls
 - b. Long sleeved shirt, pants
 - c. Chemical resistant apron
 - d. Chemical resistant suit

1. **Correct answer: E**, Unit 7, pages 3-18
Explanation: Personal protective equipment (PPE) is clothing and devices that are worn to protect the human body from exposure or contact with pesticides.

2. **Correct answer: A**, Unit 7, pages 3-18
Explanation: The PPE required for each pesticide will be found on the pesticide label. The PPE required will vary depending on the pesticide used and exposure situation.

3. **Correct answer: A**, Unit 7, pages 3-18
Explanation: It is a violation of state and federal law to use a pesticide inconsistent with its labeling directions.

4. **Correct answer: A**, Unit 7, pages 3-18
Explanation: Pesticides containing solvents such as xylene, fuel oil, or petroleum distillates may require chemically resistant PPE. The pesticide label will list the type of PPE to use.

5. **Correct answer: E**, Unit 7, pages 3-18
Explanation: Certain materials such as cloth and leather are not resistant even to dry or dust formulations of pesticides. Further, some materials are very difficult to clean after a pesticide gets on them.

6. **Correct answer: D**, Unit 7, pages 3-18
Explanation: Handlers of very hazardous pesticides either for acute or delayed effects will normally be instructed by the label to wear a chemical-resistant suit. A chemical-resistant suit would consist of a plastic or other barrier-coated coverall or a rubber suit that will keep the pesticide from contacting the skin.

Note: Unit 8 “Pesticide Handling Decisions” and Unit 9 “Mixing Loading and Application” have been incorporated into other units

UNIT 10. Applying the Correct Amount

- Pesticides that are not compatible when mixed together can cause
 - Loss of effectiveness against the target pest
 - Injury or damage to the treated area
 - Separation of ingredients or settling out
 - All of the above
- Even if you have correctly calibrated your sprayer, the incorrect amount of pesticide can be applied to the target area by:
 - Improper mixing of the pesticide with the carrier in the spray tank
 - Using an incorrect amount of pesticide in the spray tank
 - Applying the pesticide in the morning when the air is calm
 - Both a and b
 - All of the above
- Pesticides that are listed as 1.5 EC and 90 DF contain:
 - 1.5 lbs. per gallon and .9 lb. of active ingredient per pound of product
 - 1.5 gallons and 90 lbs of active ingredient
 - 1.5 pints and 9 quarts of active ingredients
 - 1.5 qts. and 90 ounces of active ingredient
- You have decided to apply a combination of Doubt 8E and Lancer 1.5E to your soybeans this year. If the recommended rates are 2 lbs. active ingredient for Doubt and 0.125 lb. active ingredient for Lancer per acre, how much material is needed to be added to the spray tank to spray one acre?
 - Doubt 1 qt., Lancer 1 pt.
 - Doubt 1/2 pt., Lancer 1/2 pt.
 - Doubt 2 pts., Lancer 1/2 pt.
 - Doubt 1 qt., Lancer 2/3 pt.
- A farmer has a 5000-gallon tank and is applying pesticide at 20 gallons per acre (GPA). He wants to apply Lancer 2E at 1 lb. active ingredient per acre and Doubt 25DF at .25 lb. active ingredient per acre. How much of these two materials should be added to the spray tank for a 20-acre application?
 - 40 pts. Lancer and 2 lbs. Doubt
 - 10 gallons Lancer and 20 lbs. Doubt
 - 20 gallons Lancer and 20 lbs. Doubt
 - 2 qts. Lancer and 1 lb. Doubt
- Before the process of calibration can begin, what factor(s) must be considered?
 - The pest to be controlled and the pesticide chosen
 - Where the pest will be
 - The type of equipment
 - Weather conditions
 - All of the above

1. **Correct answer: D,** page 9-7

Explanation: Sometimes different pesticides can be mixed together to control a wider range of pests with a single application. Labels may list other pesticides that are compatible. Be careful with do-it-yourself mixes.

2. **Correct answer: D,** page 10-4

Explanation: After the sprayer has been properly calibrated, it is important that the proper amount of pesticide be added to the spray tank and be thoroughly mixed so as to prevent settling or stratification of the pesticide in the carrier.

3. **Correct answer: A**

Explanation: The label will tell you the amount of active ingredient present in the pesticide product. Depending upon the product, the active ingredient can be expressed in many ways. For example, 50 WP means 1 lb. of material contains 1/2 lb. of active ingredient, a 4E means there are 4 lbs. of active ingredient per gallon, and a 60 percent dispersible granule contains 6/10 lb. of active ingredient in 1 lb.

4. **Correct answer: D,** page 10-4

Explanation: Remember the following formula: $E/G =$ amount of material per acre; (Where E = pounds of active ingredient per acre and G = pounds of active ingredient per gallon.) For Doubt, $2/8 = 1/4$ gallon or 1 qt. material per acre. For Lancer $.125/1.5 = .0833$. $.0833 \times 128 \text{ oz./gallon} = 10.67 \text{ oz.}$ $10.67 \text{ oz.}/16 \text{ oz} = 2/3 \text{ pt.}$ Lancer per acre.

5. **Correct answer: B,** page 10-4

Explanation: To obtain the gallons of Lancer needed per acre, use Formula E/G. (Where E = lbs. of active ingredients recommended per acre, and G = lbs. active ingredient per gallon.) Therefore, the recommendation of 1 lb. of Lancer per acre which itself has 2 lbs. active ingredient per gallon equals E/G, or 1 divided by 2. Therefore $1/2 = 1/2$ gallon Lancer per acre, $1/2 \text{ gallon} \times 20 \text{ acres} = 10 \text{ gallons}$ of Lancer in the tank. For Doubt, use the formula E/F (Where E = lbs. active ingredient recommended per acre and F = percent active ingredient in the product). Therefore, $.25/.25 = 1 \text{ lb.}$ of Doubt per acre and 20 lbs. of Doubt would be put in the spray tank for a 20-acre application.

6. **Correct answer: E,** page 10-4

Explanation: Before undertaking to calibrate your sprayer, it is helpful and important to analyze the pest to be controlled, the pesticide selected to control the pest, the equipment's ability to deliver the pesticide to the target area, the weather conditions, the location of the pest, and the risks and benefits involved with the pesticide application.

7. What **benefits** are obtained from calibration of your spray equipment?
- Illegal pesticide residues
 - Injury to plants and animals
 - Excessive run-off
 - Lawsuits and fines
 - None of the above
8. In calibrating your sprayer after spraying $1/8$ acre, you poured $4 \frac{1}{8}$ gallons of water back to refill your 100 gallon tank. How many gallon of spray solution are you spraying?
- 24 GPA
 - 31 GPA
 - 33 GPA
 - 43 GPA
9. If you are spraying more gallons per acre than is recommended or desired, how can you change the output?
- Change the tractor speed
 - Change pressure
 - Change nozzles
 - All of the above
10. If a farmer has a 500-gallon spray tank and his sprayer is calibrated to apply 20 gallons per acre (GPA), how many acres can the farmer spray with one full tank?
- 10
 - 25
 - 20
 - 30
11. The pesticide label will often give recommendations for the correct amount of spray volume, but the applicator also must consider:
- Size of the spray tank
 - Availability and cost of the carrier
 - Surface to be treated (hairy or dense foliage, porous surface)
 - a, b, and c
 - a and c

7. **Correct answer: E**, page 10-5

Explanation: Calibration is the process of adjusting your equipment so that the desired amount of pesticide is applied to the target. Correct calibration is essential to prevent drift, overdosing, excessive runoff, lawsuits and fines. Additionally, calibration is essential along with pesticide selection, adjuvant selection, timing, etc. in the control of the target pest.

8. **Correct answer: C**

Explanation: Since you sprayed 1/8 of an acre and used 4 1/8 gallons of solution, you should have sprayed 33 gallons per acre.

$$\frac{4 \frac{1}{8}}{\frac{1}{8}} = \frac{33}{8} \times \frac{8}{1} = 33 \text{ GPA}$$

9. **Correct answer: D**

Explanation: Tractor speed, pump pressure and nozzle size all affect actual output per acre. Generally, if you are going at the desired speed and are using recommended pump pressure, the best way to change output is to change nozzles.

10. **Correct answer: B**

Explanation: A farmer can apply material to 25 acres.

$$\frac{500\text{-gallon tank}}{20 \text{ gallon/acre}} = 25 \text{ acres per tank}$$

11. **Correct answer: D**

Explanation: The pesticide label is the best source of information for the appropriate spray volume. Often there are a number of different volumes that can be used. Depending on the type of pesticide used, the efficacy of the control can be influenced significantly by volume, carrier, and adjuvant.

12. The spray volume recommended for broadcast spraying is 20 gallons per acre (GPA). If you apply the pesticide in a 15-inch band over rows that are 30 inches apart, what would be the actual volume applied on a per acre basis?
- 15 GPA
 - 20 GPA
 - 10 GPA
 - 40 GPA
13. Directed spraying is the application of a pesticide over the entire plant.
- True
 - False
14. Which of the following steps is not a part of the calibration process?
- Determining actual travel speed
 - Collecting nozzle discharge
 - Checking the pressure at the nozzle
 - Buying the right chemical
15. Other factors that may impact pesticide spray output include:
- Sprayer tank agitation
 - Worn nozzles
 - Brand of tractor used to pull the sprayer
 - a and b
16. Brass nozzles will generally wear better than stainless steel or ceramic nozzles.
- True
 - False
17. Pressure gauges should be placed next to the pump .
- True
 - False

12. **Correct answer: C**

Explanation: To obtain the spray volume applied in a 15-inch band in a planting with 30-inch rows, divide the band width and multiply by the broadcast rate.

$$\begin{array}{l} \text{Example: } \frac{15\text{-inch band}}{30\text{-inch band}} \times 20 \text{ GPA} = \text{band GPA} \qquad \frac{15}{30} \times 20 = 10 \text{ GPA} \end{array}$$

This means for every acre you use only 10 gal. of tank mix.

13. **Correct answer: B**

Explanation: Directed spraying is the application of a pesticide at a specific portion of the plant. For example, herbicides such as 2,4-D are often recommended to be applied to the basal portion of a corn plant when corn exceeds 8 inches in height.

14. **Correct answer: D**, page 10-7

Explanation: While buying the right chemical is a necessity in doing a good job of spraying, it is not part of the calibration process. All of the other steps listed are important components of calibrating a sprayer.

15. **Correct answer: D**, page 10-7

Explanation: Inadequate agitation may result in pesticides settling out in the bottom of the tank. The pesticide mix applied may then be less or more than the desired concentration. Worn nozzles may also contribute to incorrect amounts of pesticides being applied.

16. **Correct answer: B**, page 10-7

Explanation: Nozzles made of brass wear faster than nozzles made of other materials such as stainless steel. The important idea here is to check nozzle flow rate regularly to detect excessive wear, sprayer line blockages and determine the accuracy of the pressure gauges.

17. **Correct answer: B**, page 10-7

Explanation: Pressure gauges should be located on or near the spray boom. The pressure at the nozzle is important to output. The pressure at the pump may vary significantly from the pressure at the nozzle.

UNIT 11. Transportation, Storage, Disposal, and Spill Clean-up

1. When not in use pesticides should be stored in such a manner as to allow:
 - a. Easy access to anybody needing them
 - b. No ventilation to keep the fumes from getting outside
 - c. No lighting to minimize degradation of the material
 - d. None of the above

2. An important rule in the storage of pesticides is to store:
 - a. All pesticides in the original containers
 - b. All liquid pesticides together
 - c. All dry pesticides together
 - d. All pesticides in plastic containers

3. A farmer has completed an application of pesticides to his soybean field and he has about 5 gallons of spray material left. What should he do with the remaining material?
 - a. Apply it to his corn field with corn spray
 - b. Apply it to his garden
 - c. Dump it in a barrel and forget it
 - d. Store it in a labeled container and apply it on the next soybean field

4. Proper handling of pesticide containers includes:
 - a. Triple rinsing to remove most remaining pesticides
 - b. Recycling the empty, rinsed containers for water or oil jugs or farm pond floats
 - c. Taking rinsed containers to an approved landfill for disposal, or to a pesticide container recycling event
 - d. Both a and c

5. If a pesticide spill occurs, you should:
 - a. Hose down the area with lots of water
 - b. Contact your lawyer
 - c. Contain and clean up the spill
 - d. Drive cattle into the area so as to trample the spill area making the spill difficult to see

6. In the event you spill a pesticide on yourself during the busy spring planting season, the best procedure is to:
 - a. Continue working as rain is forecast
 - b. Wipe the pesticide off with a rag and get back to work
 - c. Wash the pesticide off with soap and water
 - d. None of the above is reasonable

1. **Correct answer: D,** page 11-4,5

Explanation: Pesticide storage areas should be in safe areas that preclude the entry of unauthorized persons. These areas should be well ventilated and well lighted. Additionally, these areas may need protection from weather extremes and should be equipped with a shovel, absorbent materials, paper, detergent, a dustpan, a clean and empty barrel, and a fire extinguisher.

2. **Correct answer: A,** page 11-7

Explanation: There have been human fatalities, livestock deaths, and crop losses associated with putting pesticides in containers other than original containers. The pesticide labeling provides the needed information on the safe storage and handling of the pesticide. If the original container is sound, it makes little sense to put a pesticide in another container and it is unlawful.

3. **Correct answer: D,** page 11-9

Explanation: This is a problem that confronts nearly all applicators at one time or another. In all cases, strive to apply the material to the target site so as to avoid the responsibility of handling or storing hazardous materials. If you are unable to apply the pesticide to the target site, refer to the label for disposal information.

4. **Correct answer: D,** page 11-10

Explanation: Pesticide containers should be triple rinsed, if possible, to remove pesticide residues and to prepare them for disposal in an approved landfill or for recycling of the steel or glass. They are not to be used for other purposes.

5. **Correct answer: C,** page 11-11

Explanation: If a pesticide spill occurs, contain and clean up the spill taking appropriate precautions to protect yourself. The collected pesticide should then be used for its intended use or disposed of following label mandates. It may be necessary to contact the appropriate authorities (Ohio EPA, LEPC [(Local Emergency Planning Committee)], Ohio Dept. of Agriculture) if the pesticide contaminates water, crops, soil or animals, or if the spill is of such magnitude that you cannot clean it up properly. There also is a public service phone line provided by the Manufacturing Chemicals Association called Chemtrec that will provide immediate advice to those at a pesticide spill, day or night, seven days a week. The number is 1-800-424-9300,

6. **Correct answer: C,** page 11-13

Explanation: In the event you come in contact with a pesticide, simply wash the pesticide off your skin with soap and water. If your clothing is contaminated, change your clothing and bathe thoroughly. Clothes with pesticides on them should be washed separately. Be sure to monitor your health for possible signs and symptoms that might be related to your pesticide exposure. Read the label for additional information on treatment of pesticide poisonings.

7. When transporting pesticides in bulk containers, the pesticide should be in the pesticide manufacturer's approved container.
 - a. True
 - b. False

8. You are allowed to refill an empty new soybean preemergence grass herbicide bulk container with a soybean post-emergence herbicide.
 - a. True
 - b. False

UNIT 12. Laws and Regulations

1. A pesticide could be:
 - a. Bleach
 - b. An insecticide
 - c. An insect repellent
 - d. A herbicide
 - e. All of the above

2. FIFRA is:
 - a. A new soybean herbicide excellent on cocklebur
 - b. Federal Insurance Fraud Refund Act, designed to help applicators receive compensation for pesticide insurance
 - c. Federal Insecticide Fungicide and Rodenticide Act, passed in 1972 and amended in 1974, 1978 and 1988
 - d. A U.S. EPA regulation requiring that no pesticide residues be allowed in food

3. People who violate FIFRA are subject to
 - a. Civil penalties
 - b. Criminal penalties
 - c. Rewards
 - d. Both a and b
 - e. All of the above

4. The state lead agency in Ohio in charge of the certification of applicators and enforcement of both Ohio pesticide laws and FIFRA is:
 - a. Ohio EPA
 - b. U. S. EPA
 - c. Ohio Department of Agriculture
 - d. Ohio Department of Health
 - e. Ohio State University Extension

7. **Correct answer: A**, page 11-13

Explanation: All bulk containers must be approved for use by the manufacturer of the product placed in the container. The container also must be labeled. The container should be properly secured for transport.

8. **Correct answer: B**, page 11-10

Explanation: You may only refill an approved bulk container with the same pesticide product originally in the container. All bulk containers must be appropriately labeled. Commercial pesticide dealers may need to be licensed as an establishment, and submit records to U.S. EPA if they repack-age bulk pesticides

The questions in this unit are referenced by the Ohio Pesticide Law and Regulations, FIFRA and the EPA Worker Protection Standard. To obtain a copy of Ohio Pesticide Laws and/or the WPS “How to Comply” manual, contact either the Ohio Department of Agriculture or your county Extension office.

1. **Correct answer: E**

Explanation: A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, and/or mitigating any pest, or any substance intended as a plant regulator, defoliant or desiccant.

2. **Correct answer: C**, Unit 2, page 12

Explanation: FIFRA, the Federal Insecticide Fungicide and Rodenticide Act, was passed by the United States Congress and provides that: 1) pesticides be used according to labeling directions; 2) pesticides be classified (general or restricted use); 3) users of restricted use pesticides be certified applicators or be directly supervised by a certified applicator, and 4) those who do not obey the law face penalties.

3. **Correct answer: D**, Unit 2, page 12

Explanation: Violators of FIFRA are subject to civil and criminal penalties. Civil penalties can be as much as \$5,000 for each offense for commercial applicators. Criminal penalties can be as much as \$25,000 or one year in prison.

4. **Correct answer: C**

Explanation: The Ohio Department of Agriculture is the state lead agency in Ohio responsible for administrating applicator certification and pesticide law enforcement.

5. Certification to use restricted use pesticides may only be obtained initially in Ohio by:
 - a. Sitting through three hours of recertification training
 - b. Paying the license fee
 - c. Submitting an application, passing examinations, and paying a fee
 - d. Attending an approved training session

6. In Ohio Pesticide Law, certification means:
 - a. An individual may sell pesticides
 - b. An individual may produce an agricultural commodity
 - c. Recognition to use experimental use pesticides in demonstration and research plots
 - d. Recognition by a certifying agency that a person is competent and therefore authorized to use or supervise the use of restricted use pesticides

7. All people engaged in the production of an agricultural commodity are required to be certified.
 - a. True
 - b. False

8. After obtaining initial certification, private applicators must retake exams every three years to maintain certification.
 - a. True
 - b. False

9. A certified applicator may:
 - a. Apply general use (unclassified) pesticides
 - b. Apply restricted use pesticides
 - c. Supervise a non-certified applicator
 - d. Buy restricted use pesticides
 - e. All of the above

10. What are the two types of certified applicators?
 - a. Restricted and general
 - b. Expensive and reasonable
 - c. Urban and country
 - d. Private and commercial

5. **Correct answer: C**

Explanation: Certification for private applicators is obtained initially through passing the appropriate examinations, submitting an application, and paying of a fee. Commercial applicators may have to pay a fee and present proof of financial responsibility in addition to the application and examination requirements.

6. **Correct answer: D**

Explanation: The Ohio Department of Agriculture is the agency responsible for certification in Ohio. Initial certification is through examination presently.

7. **Correct answer: B**

Explanation: Growers who use only “general use” products are not required to be certified. Also employees may work under the supervision of a certified applicator. However, anyone who handles or applies pesticides is encouraged to become certified.

8. **Correct answer: B**

Explanation: The applicator does not need to retake the exam. In order for an individual to maintain private certification status, that person must participate in a minimum of three hours of recertification training. Recertification training must include one hour of core subject matter and training in each category. Commercial applicators need a minimum of 5 hours of recertification training.

9. **Correct answer: E**

Explanation: Certification indicates applicators have exhibited competence to safely use pesticides. Certification is initially obtained through examination. Exams are given by personnel of the Ohio Department of Agriculture.

10. **Correct answer: D**

Explanation: The two types of applicators are commercial and private. According to federal regulations, commercial applicators are people who would use a restricted use pesticide for compensation on property other than his own. In Ohio, commercial applicators who apply any pesticide (restricted or “general use”) for compensation are required to become certified as commercial applicators. A private applicator becomes certified so he can use a restricted use pesticide on his property in the production of an agricultural commodity.

11. Restricted use pesticides sold to final users may only be distributed by:
 - a. Custom applicators
 - b. Private applicators
 - c. Licensed pesticide dealers
 - d. Fertilizer dealers

12. Pesticide applicators may not apply a pesticide in such a manner or at such time as to contaminate:
 - a. Adjacent crops or pasture by spray drift
 - b. Water by spray drift
 - c. Other areas such as housing developments, gardens, and woodlots
 - d. All of the above

13. People who use unclassified (general use) pesticides in the production of an agricultural commodity are required to be certified.
 - a. True
 - b. False

14. Private applicators may apply restricted use pesticides on a neighbor's farm for monetary compensation.
 - a. True
 - b. False

15. If you intend to draw water from surface waters of a stream, ditch, pond, lake, river, or from a public water supply to fill your pesticide application equipment, what device is required by Ohio law to prevent backflow?
 - a. A stainless steel valve before tank and at inlet
 - b. An in-line strainer to prevent dirt, algae and other contaminants from entering the spray tanks
 - c. An anti-siphon device
 - d. A roller pump, plus the steel valves with a strainer

16. As a private applicator, your responsibility under Ohio law is to:
 - a. Keep records of all pesticide applications
 - b. Carry liability insurance protection in the event a pesticide mishap occurs
 - c. Keep records of restricted use pesticide applications
 - d. All of the above

17. It is unlawful in Ohio to:
 - a. Dispose of any pesticide container in such a manner as to have unreasonable adverse effects on the environment
 - b. To operate in a faulty, careless or negligent manner
 - c. To operate unsafe equipment
 - d. To apply improper materials
 - e. All of the above

11. **Correct answer: C**

Explanation: Licensed pesticide dealers are people who distribute and/or sell to the ultimate user the restricted use pesticide, and they are required to keep records of their restricted pesticide sales.

12. **Correct answer: D**

Explanation: Ohio Pesticide Regulations state clearly pesticides are to be handled and applied in such a manner and time so as to avoid contamination of water, crops, pasture, people, livestock and other areas.

13. **Correct answer: B**

Explanation: Unclassified (general use) pesticides may be used without certification as long as monetary compensation is not taken. State and federal law require users to follow labeling directions. Commercial applicators applying unclassified (“general use”) pesticides must be certified in Ohio.

14. **Correct answer: B**

Explanation: If a person wishes to apply any pesticide for monetary compensation, he is required under law to become a commercial applicator. Private applicators may apply restricted use pesticides on the property of another with whom services are traded.

15. **Correct answer: C**

Explanation: An anti-siphon device to prevent back siphonage from the pesticide tank into the water source is required by Ohio law when drawing water from public or surface water.

16. **Correct answer: C**

Explanation: It is a requirement of private applicators to maintain records of restricted use pesticide applications. It is not a requirement to carry liability insurance. All applicators must inform any employee or helper handling pesticides of hazards associated with these chemicals and to instruct them in the appropriate precautions to avoid these hazards. Keeping records according to Ohio's laws will keep you in compliance with the federal private applicator record keeping requirements. See a county extension agent or call the Ohio Department of Agriculture to obtain the record keeping requirements.

17. **Correct answer: E**

Explanation: Unlawful acts are listed on page 16 and 17 or the Ohio Pesticide Law.

18. Commercial applicators need only keep records of restricted use pesticide applications.
- True
 - False
19. Commercial applicators differ from private applicators by the fact that they:
- May only apply restricted use pesticides
 - Apply pesticides for compensation on the property of another
 - Only may sell restricted use pesticides
 - Apply general use pesticides only for compensation
20. The Worker Protection Standard (WPS) is:
- Federal regulation designed to limit farm worker and handler pesticide exposure
 - An OSHA regulation designed to protect pesticide company employees
 - An Ohio Pesticide Law regulation
 - All of the above
21. The Worker Protection Statement on the label extends labeling to include all WPS standard provisions.
- True
 - False
22. Farm owners and immediate family members must comply with all of the requirements of the WPS.
- True
 - False
23. Requirements of WPS that farm owners and immediate family members must comply with include:
- PPE instructions
 - Restricted entry interval (REI) requirements
 - Pesticide safety training
 - Emergency assistance
 - a & b
24. Most agricultural pesticides with WPS information will have a restricted entry interval (REI).
- True
 - False

18. Correct answer: B

Explanation: Commercial applicators are required to keep records, (per Ohio regulations) of all pesticide applications. It makes no difference if the pesticide is restricted or general use.

19. Correct answer: B

Explanation: Commercial pesticide applicators apply any pesticide product for compensation on the property of another. Commercial applicators must take and pass certification exams, pay a fee, and carry liability insurance.

20. Correct answer: A

Explanation: The Worker Protection Standard (WPS) is a federal regulation written by United States Environmental Protection Agency with the purpose of limiting the pesticide exposure of farm workers and pesticide handlers.

21. Correct answer: A

Explanation: The Worker Protection Standard (WPS) statement on a pesticide label requires users to comply with other provisions of WPS that are not listed on the label. These may include the so-called generic provisions for pesticide safety training of workers and handlers, pesticide decontamination, emergency assistance, central information postings, and oral or written notices of pesticide applications. The concept of pesticide users being responsible for other instructions not listed on the pesticide label is called “labeling by reference”.

22. Correct answer: B

Explanation: Farmer owners and immediate family members (spouse and children) are exempt from the generic (labeling by reference) provisions of WPS. The generic provisions are: pesticide safety training, pesticide application notification, decontamination, emergency assistance, and central information posting.

23. Correct answer: E

Explanation: Farm owners and immediate family members must comply with label instructions for PPE and restricted entry intervals (REI's).

24. Correct answer: A

Explanation: Agricultural use pesticides will have either a 12, 24, 48, or 72 hour restricted entry interval (REI) or a manufacturer's REI. A few very low toxicity pesticides may have the REI reduced. Entry into the treated area by farm workers or crop advisors is restricted depending upon the situation and pesticide. All PPE must be worn if entry is allowable.

25. When using pesticides for agricultural plant uses, farm establishments with one or more workers will have to comply with the following generic provisions of the WPS:
- Pesticide safety training
 - Decontamination sites
 - Emergency assistance
 - Central information posting
 - All of the above
26. Owners or operators of farm establishments must provide PPE to employees and family members.
- True
 - False
27. On farms, any worker who might enter a treated area or walk within 1/4 mile of a treated area during application must be warned by:
- Oral notification of location and description of treated area and/or posted warning signs
 - Oral notification of pesticide used
 - Oral notification of pest in treated areas
 - a & b
 - a & c
28. A commercial pesticide handling establishment is a:
- Farm which employs workers
 - Forest which employs workers
 - Business which employs handlers
 - Business which employs crop advisors
 - c & d
 - a & c
29. A pesticide handler would perform the following tasks:
- Mix, load, or apply pesticides
 - Handle open pesticide containers
 - Flag
 - Assist with application
 - All of the above
30. Handlers must be provided PPE, have knowledge of the pesticide label for the product(s) being used, and they must receive training if they are not certified applicator.
- True
 - False

25. Correct answer: E

Explanation: A farm establishment with one or more employees who perform tasks related to the cultivation and harvesting of plants must comply with all the generic provisions of WPS, if the workers will be in an area which has been treated with pesticides within the last 30 days.

26. Correct answer: A

Explanation: The owner or operator of a farm establishment must provide PPE and is responsible that PPE be cleaned and maintained for the pesticide handler. Further, the farm owner or operator is responsible to make sure handlers wear the PPE, that no contaminated PPE is worn home or taken home, that handlers have a clean place to put on and take off PPE and store personal clothing, and that handlers be provided soap, towels and water for washing when PPE is removed.

27. Correct answer: A

Explanation: Farm owners and operators with one or more employees are required to comply with the generic provisions of the WPS. Among these provisions is the requirement to give either oral or written notification to workers who might enter or walk within 1/4 mile of a treated area. The oral warning must include the location and description of the treated area, time of REI, and instructions not to enter the treated area. A posted warning sign with certain requirements for site, color, wording, information and posting site may also be used to warn farm workers of treated areas.

28. Correct answer: E

Explanation: A commercial pesticide handling establishment is an establishment other than an agricultural establishment that employs handlers to apply, mix, load, and transfer pesticides. Handlers also perform tasks such as cleaning, adjusting or repairing spray equipment or performs tasks as a crop advisor.

29. Correct answer: E

Explanation: Pesticide handlers also would rinse pesticide containers, dispose of unrinsed containers or repair, clean or adjust contaminated equipment.

30. Correct answer: A

Explanation: The commercial employer must make sure that pesticide handlers be provided the appropriate PPE and that the PPE be worn, cleaned and maintained. Soap, water, and towels must be provided for the handlers when PPE is removed. Handlers must either read or be informed of pesticide label information and receive training on safe pesticide use.

31. Responsibility to ensure compliance with the provisions of the WPS rest with the:

- a. Worker
- b. Handler
- c. Pesticide dealer
- d. Employer

32. Information on how to comply with the WPS standard will be found in:

- a. OSHA regulations
- b. Ohio Pesticide Law
- c. Pesticide labeling
- d. FIFRA

33. Private applicator restricted use pesticide application records must contain:

- a. The name and certification number of the certified applicator.
- b. The pesticide product name and EPA registration number.
- c. The total amount applied and the rate of application.
- d. The date of application and location.
- e. The crop treated and the type of application equipment.
- f. The description of weather conditions
- g. Be held for a period of three years from the date of application.
- h. Be made available to Ohio Dept. of Agriculture representatives upon their request.
- i. All of the above.

34. The most important thing to remember and do before applying any pesticide is:

- a. Read pesticide labeling
- b. Read pesticide labeling
- c. Read pesticide labeling
- d. All of the above

31. **Correct answer: D**

Explanation: Employers have responsibility to make sure the WPS provisions are met for agricultural workers and pesticide handlers. An employer may delegate to another employee duties or tasks of the WPS, but the employer is still responsible to make sure WPS provisions are met.

32. **Correct answer: C**

Explanation: The pesticide labeling will provide instructions on PPE and restricted entry intervals. The generic provisions of the WPS are found in the EPA "How to Comply Manual."

33. **Correct answer: I**

34. **Correct answer: A, B, C, D**

GENERAL INFORMATION

Apply Depesto-W before weeds emerge or after removal of weed growth. Depesto-W controls a wide variety of annual broadleaf and grass weeds when used at selective rates in agricultural crops and ornamental plantings. When used at higher, nonselective rates in noncrop areas, it also controls many perennial broadleaf and grass weeds. Where a range of application rates is given, use the low rate on coarser textured soil and soil lower in organic matter; use the high rate on finer textured soil and soil higher in organic matter.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

Since Depesto-W enters weeds mainly through their roots, moisture is needed to move it into the root zone. Very dry soil conditions and lack of rainfall following application may necessitate shallow cultivation.

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 exemptions 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) of 12 hours.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Chemical-resistant footwear plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses

Do not enter treated areas without protective clothing, until sprays have dried.

ANNUAL WEEDS CONTROL

Following many years of continuous use of this product and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and similar herbicides. Where this is known or suspected and weeds controlled by this product are expected to be present along with resistant biotypes, we recommend the use of this product in registered combinations with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered nontriazine herbicide. Consult with your State Agricultural Extension Service for specific recommendations.

APPLICATION PROCEDURES

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AERIAL APPLICATION

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TURFGRASS FOR FAIRWAYS, LAWNS, SOD PRODUCTION AND SIMILAR AREAS

Apply 2.5-5 lbs. per acre, according to soil texture as indicated below.

Muck	Old Beds	within 2 days after lifting of sod
or peat 5 lbs.	New beds	3-4 days after sprigging or plugging
Sandy	Old Beds	within 2 days after lifting of sod
Soils 2.5 lbs	New beds	7-10 days after sprigging or plugging

VEGETABLE CROPS

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FRUIT AND NUT CROPS

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CORN - PREEMERGENCE APPLICATIONS ONLY

Sand, sandy loam	1-1/2 lbs
Loam, silt loam	2 lbs
Clay	3 lbs

ENVIRONMENTAL HAZARDS

This product can travel (seep or leach) through soil and can enter ground water which may be used as drinking water.

This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spill or equipment leaks, container or equipment rinse or wash-water, and rain-water that may fall upon the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad should have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-mentioned minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading sites.

States may have in effect additional requirements regarding well-head setbacks and operational area containment.

This product may not be mixed or loaded within 50 ft. of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 ft. of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 ft. around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 ft. buffer or setback from runoff entry points must be planted to crop, seeded with grass or other suitable crop.

Restricted Use Pesticide

Due to oncogenicity

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. The use of this product may be hazardous to your health. This product contains herbex, which has been determined to cause tumors in laboratory animals.

VIP DEPESTO - WP

Herbex Wettable Powder

ACTIVE INGREDIENTS:

Herbex (2-chloro-methyl (iso) fibulade) 80.0%

INERT INGREDIENTS: 20.0%

TOTAL 100.0%

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush with plenty of water. Get medical attention if irritation persists.

IF ON SKIN: Wash with plenty of soap and water.

IF SWALLOWED: Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger

IF INHALED: Remove victim to fresh air. Apply artificial respiration if necessary.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

Caution: Harmful if inhaled. Avoid breathing dusts, or spray mists. May be harmful if swallowed. May be harmful by skin contact. Avoid contact with skin or clothing.

The use of this product may be hazardous to your health. This product contains an ingredient which has been determined to cause tumors in laboratory animals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

Long-sleeved shirts and long legged pants

Coveralls

Chemical-resistant gloves

Chemical-resistant footwear plus socks

Keep and wash PPE separately from other laundry.