



## 4.1b Pesticide Use and Reading Labels

### Knowledge Check (2 of 4)

This Knowledge Check covers presentation segments  
Exposure and Risk, Personal Protection

1. Define risk as it relates to pesticide use.

Risk is the potential of a pesticide to cause harm. (presentation, slide 26)

2. Define toxicity as it relates to pesticides.

Toxicity is the ability to cause harm. (presentation, slide 26)

3. What is exposure as it relates to pesticides?

Exposure is when pesticides get in or on your body. (presentation, slide 26)

4. What is exposure's contribution to risk?

Exposure's contribution to risk depends on two factors – the dose (or how much you're exposed to) and the number of times the exposure occurs (time). If the dose and/or frequency of the exposure increases, then the risk increases. (presentation, slide 27)

5. Explain why a "least toxic" pesticide might not always equate to the "safest" pesticide.

A pesticide that's considered "least toxic" might not be the "safest" pesticide because of exposure. Many times a "least toxic" option may require multiple applications in order to control the pest. These multiple exposures lead to a higher risk. (Recall the risk equation.) In some cases, due to the larger number of exposure events, the risk of applying the "least toxic" option could end up being greater than applying a higher toxicity pesticide once or twice. (presentation, slide 29)

6. Indicate the factors of an individual that affects their risk of using pesticides and explain how they affect risk.

The individual factors affecting risk and why are: weight (heavier person, more pesticide required to enter the body to cause harm), age (younger and older populations are more sensitive to pesticide exposure), gender (males and females respond differently, particularly with how pesticides affect reproductive systems), health conditions (healthy individuals are less susceptible to pesticides compared to unhealthy individuals; pregnant people are more

susceptible to pesticide risk), and the environment (exposure to other chemicals in a person's environment increases the risk of pesticide poisoning). (presentation, slide 30)

7. Identify the four routes of entry and indicate which route receives the most pesticide exposure.

The four routes of entry are dermal, eye, inhalation, and oral. (presentation, slides 31-34)

8. How might non-pesticide applicators be exposed to pesticides.

Non-applicators can be exposed to pesticides through touching treated surfaces, inhaling vapors, or pesticide-treated food crops at harvest. (presentation, slide 35)

9. Where can exposure hazard information be found?

Exposure hazard information can be found on the pesticide label in the "Precautionary Statements" section. Typically, this information is listed under the "Hazards to Humans and Domestic Animals" heading. (presentation, slide 36)

10. What are three ways pesticides harm humans?

Three ways pesticides harm humans are through pesticide poisoning, pesticide injury, and allergic effects. (presentation, slide 38)

11. How do the harmful effects of pesticides appear in humans?

Harmful effects of pesticides can appear as contact (at the site of exposure) or systemic (at sites other than where the pesticide entered the body). These effects can be acute (occurring within 24 hours) or delayed (many days, weeks, months, or even years) after the exposure. The effects also can be reversible (not-permanent) or irreversible (permanent). (presentation, slide 39)

12. What does the signal word on a pesticide label tell you?

The signal word tells you the acute toxicity of a pesticide. (presentation, slide 40)

13. What are the signal words used on a pesticide label? Rank them from least toxic to most toxic.

The signal words used on a pesticide label are Danger, Warning, Caution. Caution is slightly toxic, Warning is moderately toxic, and Danger is the most toxic. (presentation, slide 40-41)

14. What does it mean if a pesticide does not have a signal word on the label?

If a label does not have a signal word, the pesticide is in the lowest EPA toxicity category (category 4) and isn't required to have a signal word. (presentation, slide 41)

15. Where on the pesticide label can you find the routes of entry a pesticide applicator needs to protect?

The routes of entry that you need to protect are listed under the “Precautionary Statements” section of the label. (presentation, slide 42)

16. What are six general precautions you can take to protect yourself when using pesticides?

Six general precautions you can take to protect yourself when using pesticides are:

- don't eat, drink, chew gum, or use tobacco products
- wash your hands after handling pesticides, touching treated surfaces, or before going to the bathroom; follow all label directions on personal protection
- don't wipe gloves on your clothes
- launder pesticide-exposed clothes separately from household laundry
- and use common sense! (presentation, slide 44)

17. What does personal protective equipment (PPE) mean?

Personal protective equipment means clothing and devices worn to protect a pesticide user from pesticide exposure. (presentation, slide 45)

18. What are the four characteristics of effective personal protective equipment (PPE)?

The four characteristics are that it: keeps pesticides away from your body; resists punctures and tears; is sealed at the seams; and is comfortable.

19. Explain how protection provided by personal protective equipment (PPE) varies.

Personal protective equipment varies in its protection due to the material type and thickness. Chemical resistant materials allow for no measurable movement of a pesticide through it unlike waterproof materials that only keep out water-soluble pesticides. Some materials (like cotton, leather, or canvas) are not chemical resistant because they draw the pesticide closer to the skin, increasing the risk of exposure. Woven materials (like cotton) may allow powders and dusts to move through them and may even retain these materials despite repeated washings. (presentation, slide 46)

20. Where on the pesticide label can you find required PPE?

Required PPE are listed in the “Precautionary Statements” section of the label. (presentation, slide 47)

21. Identify ways you can protect your skin from pesticide exposure.

Ways to protect your skin include: using any label-listed PPE; reducing exposure as much as possible; washing with soap and water after pesticide use and if pesticide contacts your skin; use sturdy clothing during a pesticide application; wear coveralls; wear waterproof or chemical resistant gloves depending on the type of pesticide being used; wear sturdy closed-toe shoes and socks; wear chemical resistant footwear; properly wear footwear by wearing

pant legs outside of the footwear; use protective headgear that doesn't contain absorbent materials. (presentation, slides 48-52)

22. Identify ways you can protect your eyes from pesticide exposure.

Eyes can be protected by using any label-listed PPE or using shielded safety glasses, goggles, or face shields. (presentation, slide 53)

23. Identify ways you can protect your respiratory system from pesticide exposure.

Respiratory protection includes using any label-listed PPE or, if none listed, using a respirator when the label says to not breathe vapors or spray mist. (presentation, slide 54)

24. How should you maintain personal protective equipment?

Maintaining personal protective equipment includes: storing in a clean area away from sunlight, moisture, extreme temperatures, and pesticides or other chemicals; washing PPE before removing it; for disposable PPE – disposing of them after use; for reusable PPE – cleaning according to manufacturer directions after each use and replacing them regularly and if they're damaged. (presentation, slide 55)

25. Where on a pesticide label can you find information about treating pesticide poisoning?

Pesticide poisoning treatment information can be found on the label under the First Aid section or the Statement of Practical Treatment sections. (presentation, slide 57)

26. When should you read label information on how to treat for pesticide poisonings and why?

You should read the first aid and/or Statement of Practical Treatment sections before you use a pesticide. That way you're familiar with what to do in case of an emergency and to lower the risk of injury. (presentation, slide 57)

27. What is the first step in administering first aid in case of pesticide poisoning?

The first step is to remove the victim from the source of the pesticide exposure. (presentation, slide 58)

28. What are the general first aid steps for a skin exposure?

General first aid steps for skin exposure are: remove contaminated clothing; drench area with water; wash with soap and water and rinse well; dry skin and wrap, if necessary; cover any chemical burns with a loose, clean, soft cloth; don't use any ointments, powders, etc. without medical guidance. (presentation, slide 59)

29. What are the general first aid steps for an eye exposure?

General first aid steps for eye exposure are: hold eyelids open and flush with clean water; don't use eye drops or other chemicals unless instructed by medical personnel; cover the eye and seek medical attention after rinsing. (presentation, slide 60)

30. What are the general first aid steps for an inhalation exposure?

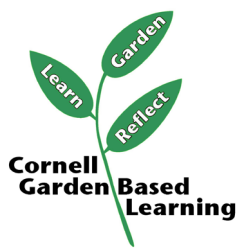
General first aid steps for inhalation exposure are: get to fresh air; loosen any tight clothing; avoid chills/overheating; keep chin up to ensure air passages remain open. (presentation, slide 61)

31. What are the general first aid steps for an oral exposure?

General first aid steps for an oral exposure are: if not swallowed – rinse mouth out with plenty of water and drink 1 quart of water or milk; if swallowed, contact Poison Control Center (800-222-1222) or a medical professional; induce vomiting only if the label AND the Poison Control Center or medical professional says to do so; seek medical attention. (presentation, slide 62)

32. Explain the responsibilities of Cornell Cooperative Extension educators and Master Gardener Volunteers when making pesticide recommendations.

Recommendations should be from documented authoritative sources; use the most current Cornell Crop and Pest Management Guidelines or updated Cornell department fact sheets that have been reviewed by the Pesticide Management Education Program at Cornell University; other sources can be used provided they've been reviewed by PMEP; minimum-risk (or 25(b)) pesticides can be recommended but they need to be vetted through PMEP first for compliance and use and the user needs to be informed that these products are not subject to EPA safety and efficacy testing. All recommendations – written or verbal – need to be documented, including the date, client's name, summary of the situation, and the details of the recommendation (including specific products and rates). For minimum-risk pesticide recommendations, the CCE educator or Master Gardener Volunteer must make a record that the client was notified that minimum-risk pesticides aren't subject to EPA efficacy or safety testing. Recommendations can be documented using the "Recommendations Record Book Form" provided in FORM Code 1501 or in a secured computer file. Recommendation records must be kept for a minimum of 7 years according to the records retention policy.



References: Pesticide Management Education Program (PMEP)

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