

Pesticides & Herbicides: An Introduction

Directions:

Fill in the blanks.

1. By damaging our crops, pests destroy around **45** percent of our nation's agricultural production every year.
2. Our history has witnessed the dramatic effects that pests can have, not only on the plant world, but on **mankind** itself. The most notable of these was the **potato blight**.
3. This plant disease destroyed the potato crops of Ireland and Europe in the **1840's**, and not only resulted in famine, but was also responsible for the immigration of **1.5** million people from Ireland to the United States and Canada.
4. Pests are actually defined as any **life** form that competes for **resources** or can be dangerous to another's health.
5. Aphids and **hornworms** are a major problem in gardens and crops, as they damage the leaves of plants, affecting their ability to effectively process energy.
6. Mosquitoes have recently posed health concerns to livestock and humans by transmitting the **West Nile** virus.
7. Some, such as **bees**, are actually a necessity for some plant's survival.
8. Nematodes are in fact a **parasite**, in that they sustain life and gain nutrition through another life form.
9. **Foliar** nematodes eat holes through the leaves of plants, affecting the **metabolic** capabilities of the plant.
10. Plant disease can be defined in many ways but one of the simplest definitions describes disease as any **condition** in a plant caused by living and nonliving agents that **interferes** with its normal growth and development.

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11. **Nonliving** disease agents, often called abiotic agents, include factors such as environmental stress or cultural care.
12. **Living** disease agents, called biotic agents or plant pathogens, include microorganisms such as fungi and bacteria.
13. The best way to control fungal disease is to **prevent** it by using dusts or sprays.
14. **Annual** weeds have a complete life cycle, from germination to producing a seed, within a **year**.
15. Biennial weeds typically live longer than a **year** but no longer than two **years**.
16. **Perennials** will live for several years and usually produce seeds every year.
17. The use of pesticides became a mainstream practice after **World War II**.
18. The most widely used pesticide in the world is something many of us come into contact with on a daily basis – **table salt** and **chlorine**.
19. A **pesticide** is any substance that reduces prevents, repels or eliminates pests.
20. Molluscicides which affect **snails**.
21. **Disinfectants** which kill microorganisms present in the shortest time with no damage to the contaminated substrate.
22. **Insecticides** are intended to eliminate or repel insects, thus avoiding the potential damage they can have on plant life.
23. Another way of looking at pesticides is as "**plant medicines**," these are compounds used to protect or cure plants from harmful agents.

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24. **Biorational pesticides** are considered to be environmentally friendly because they have minimal harmful effects on non-target organisms and the environment.
25. **Biological** pesticides are living agents used to control specific pathogens which are also living organisms.
26. Chemical pesticides are considered to be the "**traditional**" pesticides that are usually sprayed or broadcast on lawns, crops and gardens.
27. The **common** name of a pesticide is the name assigned to the active ingredient of the pesticide.
28. The **trade** name of a pesticide is the name assigned by the manufacturer or distributor of a particular product.
29. When considering pesticide safety, the first step is to always read, understand and follow **label** directions.
30. **Signal words** are used to provide a brief explanation of the hazards or toxicity of the product.
31. Protective gear such as **goggles** should always be worn to avoid overspray gaining contact with the eyes.
32. Store pesticides in a clean, **cool**, dry, well-**ventilated** building.
33. **Mix** only the volume of pesticide required for a particular application.
34. **Integrated Pest** Management (IPM) is an effective, useful and environmentally sensitive approach to pest management that relies on a combination of common-sense practices.
35. When practicing IPM, growers who are aware of the potential for pest infestation follow a **four-step** approach.
36. The **action threshold** is a point or level at which pest populations or environmental conditions indicate that pest control action must be taken.

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37. Accurately **monitoring** and **identifying** pests removes the chance that pesticides will be used when and where they are not needed.
38. **Cultural** controls such as mulches, crop rotation, time of planting, planting density, planting arrangement and proper irrigation.
39. **Herbicides** are a form of pesticides that prevent or eliminate weeds and thus replace or reduce manual and mechanical weeding.
40. **Weeds** are unwanted plants that compete with our wanted plants for water, nutrients and sunlight.
41. Weed management can come in a variety of options including **pulling**, chopping, and the easiest method, by using **herbicides**.
42. **Selective** herbicides kill certain types of plants, while leaving the desired plant unharmed.
43. **Non-Selective** herbicides must be used and applied precisely because it will kill any plant that it comes in contact with.
44. Pre-plant herbicides are often incorporated **mechanically** into soils or by the use of irrigation or rainfall and prevent **germination** and emergence of the plant before wanted vegetation is planted.
45. **Preemergent** herbicides control weeds by preventing the weed seeds from emerging.
46. Postemergent herbicides only affect plants that are actively **growing**.
47. The first type of postemergent herbicide is for use on annual weeds, and kills the plant by **foliar contact**, affecting only the leaves and green tissue that are contacted by the spray.
48. The second type of postemergent herbicide is **translocated** herbicides, which effect perennial weeds by absorbing through the leaves, traveling to the roots and killing the weed from the ground up.