

CROP PROTECTION REVIEWER

By Agriculture Review

1. The parasitic fungus *Puccinia graminis tritici* causes which of the following diseases in wheat?

- A. Loose smut
- B. Leaf blight
- C. Stem rust
- D. Flag smut

2. Which of the following statements best describes the mode of action of systemic fungicides?

- A. They kill pathogens by direct contact on plant surfaces.
- B. They are absorbed and translocated within the plant to protect new growth.
- C. They only inhibit spore germination on the leaf surface.
- D. They act by dehydrating fungal hyphae externally.

3. The economic threshold level (ETL) in pest management refers to the pest density at which:

- A. The pest population causes total crop failure.
- B. The pest population is first detected in the field.
- C. Control measures should be applied to prevent economic loss.
- D. The pest population is below economic injury level.

4. Which of the following is the most effective method for managing bacterial wilt of tomato caused by *Ralstonia solanacearum*?

- A. Application of systemic fungicides
- B. Crop rotation with non-solanaceous crops
- C. Application of nitrogenous fertilizer
- D. Spraying copper-based bactericides

5. Which of the following herbicides is classified as a non-selective contact herbicide?

- A. Glyphosate
- B. Paraquat
- C. Butachlor
- D. Atrazine

6. The disease “rice tungro” is transmitted by which of the following vectors?

- A. Leafhopper
- B. Aphid
- C. Whitefly
- D. Thrips

7. The herbicide 2,4-D primarily controls which type of weeds?

- A. Sedges
- B. Grasses
- C. Broadleaf weeds
- D. Aquatic weeds

8. In insect physiology, the process of shedding the old cuticle to allow growth is known as:

- A. Sclerotization
- B. Metamorphosis
- C. Molting
- D. Pupation

9. A fungal disease characterized by white powdery growth on leaf surfaces is known as:

- A. Downy mildew
- B. Powdery mildew
- C. Leaf spot
- D. Anthracnose

10. The process of pesticide degradation through the action of microorganisms in the soil is known as:

- A. Photodecomposition
- B. Hydrolysis
- C. Microbial degradation
- D. Chemical oxidation

11. The “disease triangle” concept in plant pathology involves interaction among three essential factors:

- A. Pathogen, host, and favorable environment
- B. Host, soil, and light intensity
- C. Pathogen, nutrient, and rainfall
- D. Host, pathogen, and fertilizer level

12. The virus causing mosaic disease in tobacco belongs to which of the following groups?

- A. Tobamovirus
- B. Cucumovirus
- C. Potyvirus
- D. Geminivirus

13. The presence of bacterial ooze on cut surfaces of infected plant tissue is a diagnostic symptom of:

- A. Fungal wilt
- B. Bacterial wilt
- C. Viral mosaic
- D. Nematode gall

14. Which of the following is a seed-borne disease of rice in the Philippines?

- A. Bacterial leaf blight
- B. Rice blast
- C. False smut
- D. Bunt disease

15. Which of the following best explains the term “pathogenicity” in plant pathology?

- A. Degree of damage caused by abiotic stress
- B. Ability of a pathogen to cause disease
- C. Capacity of plants to resist infection
- D. Intensity of infection within an area

16. Which of the following environmental conditions generally favors the development of late blight in potato?

- A. Hot and dry weather
- B. Cool and moist conditions
- C. Low humidity and strong sunlight
- D. Windy and arid environment

17. The resistant variety approach in disease management primarily works by:

- A. Killing the pathogen directly
- B. Reducing susceptibility of the host plant
- C. Changing the environmental conditions
- D. Eliminating inoculum from soil

18. The disease “banana bunchy top” is caused by which type of pathogen?

- A. Fungus
- B. Bacterium
- C. Virus
- D. Phytoplasma

19. The first step in diagnosing a plant disease accurately is to:

- A. Apply chemical treatment
- B. Observe visible symptoms on the plant
- C. Perform a soil nutrient analysis
- D. Conduct pesticide residue testing

20. Quarantine measures in plant protection are primarily intended to:

- A. Enhance yield of infected crops
- B. Prevent introduction and spread of exotic pests and diseases
- C. Reduce cost of disease control
- D. Maintain soil fertility during crop rotation

21. The order Lepidoptera includes insects that are characterized by:

- A. Piercing and sucking mouthparts
- B. Chewing and biting mouthparts
- C. Siphoning mouthparts and scaly wings
- D. Sponging mouthparts and hairy wings

22. The rice black bug (*Scotinophara coarctata*) primarily damages rice by:

- A. Chewing roots
- B. Sucking sap from plant tissues
- C. Boring into stems
- D. Feeding on developing grains

23. Which of the following insect pests of corn is known for producing characteristic “shot holes” on leaves during the seedling stage?

- A. Corn earworm
- B. Corn borer
- C. Flea beetle
- D. Cutworm

24. The golden apple snail (*Pomacea canaliculata*) damages rice mainly by:

- A. Cutting rice tillers at base
- B. Feeding on young seedlings
- C. Attacking panicles at heading
- D. Sucking plant sap during booting

25. Insects that undergo complete metamorphosis exhibit which of the following developmental stages?

- A. Egg, nymph, adult
- B. Egg, larva, pupa, adult
- C. Egg, instar, adult
- D. Egg, maggot, adult

26. Which of the following is a common predator of aphids in agricultural ecosystems?

- A. Lacewing larvae
- B. Whitefly
- C. Thrips
- D. Rice bug

27. Pheromone traps are primarily used in pest management to:

- A. Attract pollinators for crop production
- B. Monitor and trap adult male insects
- C. Repel insect pests from the field
- D. Enhance biological control activity

28. Which of the following statements about Bt crops is true?

- A. They express a bacterial gene toxic to specific insect larvae.
- B. They are resistant to fungal pathogens only.
- C. They repel insects through volatile emissions.
- D. They suppress weeds through allelopathy.

29. The biological control agent *Trichogramma japonicum* is widely used against which type of insect pest?

- A. Stem borers
- B. Aphids
- C. Leaf miners
- D. Cutworms

30. The sterile insect technique (SIT) primarily works by:

- A. Using radiation to sterilize adult pests released into the environment
- B. Applying insecticides that inhibit molting
- C. Feeding insects with hormone-based attractants
- D. Using biocontrol fungi to sterilize eggs

31. Which of the following best describes a "weed" in the context of weed science?

- A. Any plant that completes its life cycle within one season
- B. Any plant growing where it is not desired
- C. A cultivated crop used for animal feed
- D. Any plant having medicinal value

32. Which of the following characteristics is common among most successful weed species?

- A. Low seed production and slow growth
- B. High seed production and dormancy
- C. Dependence on specific pollinators
- D. Poor adaptability to environment

33. The loss in crop yield and quality due to the presence of weeds is primarily because of:

- A. Reduction in soil microorganisms
- B. Competition for nutrients, light, and water
- C. Increase in soil aeration
- D. Increased soil fertility

34. Parasitic weeds such as Striga and Orobanche mainly affect crops by:

- A. Attacking root systems and absorbing nutrients
- B. Producing toxic substances in the soil
- C. Blocking sunlight to crops
- D. Altering soil pH

35. In Philippine rice fields, the major aquatic weed known for rapid vegetative reproduction is:

- A. Echinochloa crus-galli
- B. Cyperus rotundus
- C. Hydrilla verticillata
- D. Imperata cylindrica

36. The effectiveness of crop rotation in weed control is mainly due to:

- A. Decreasing soil organic matter
- B. Interrupting weed life cycles and preventing specialization
- C. Increasing seed dormancy
- D. Promoting uniform weed growth

37. Which type of herbicide kills all vegetation regardless of species?

- A. Selective herbicide
- B. Non-selective herbicide
- C. Residual herbicide
- D. Systemic herbicide

38. The mechanism of action of glyphosate involves inhibition of which plant pathway?

- A. Photosystem I electron transport
- B. Lipid biosynthesis pathway
- C. Shikimic acid pathway
- D. Nucleic acid synthesis

39. Resistance of weeds to herbicides can be minimized by:

- A. Using the same herbicide continuously
- B. Rotating herbicides with different modes of action
- C. Increasing herbicide concentration every season
- D. Applying herbicides at random intervals

40. Integrated Weed Management (IWM) emphasizes:

- A. Exclusive use of herbicides for control
- B. Reliance on mechanical control only
- C. Combination of cultural, mechanical, biological, and chemical methods
- D. Dependence on a single method of control

41. Which of the following best defines a pesticide?

- A. Any substance used to promote plant growth
- B. Any chemical or biological substance intended to prevent, destroy, or control pests
- C. Any fertilizer that enhances soil fertility
- D. Any chemical used exclusively for weed nutrition

42. Wettable powders, emulsifiable concentrates, and granules are examples of pesticide:

- A. Formulation types
- B. Mode of action
- C. Application techniques
- D. Chemical families

43. Organophosphate insecticides act primarily by inhibiting which enzyme in the nervous system?

- A. Amylase
- B. Acetylcholinesterase
- C. Catalase
- D. ATP synthase

44. The concept of “selectivity” in pesticide science refers to:

- A. A pesticide’s ability to kill all organisms equally
- B. The ability of a pesticide to affect target pests while sparing beneficial organisms
- C. The concentration required to achieve 100% mortality
- D. The environmental persistence of a chemical

45. Which of the following best describes “pesticide resistance” in pest populations?

- A. Ability of pests to avoid pesticide exposure through migration
- B. Heritable decrease in sensitivity of pest populations to a pesticide
- C. Temporary recovery of pests after pesticide degradation
- D. Natural immunity of beneficial organisms

46. Which of the following pesticide application methods involves direct treatment of seeds before sowing?

- A. Foliar spray
- B. Soil drenching
- C. Seed treatment
- D. Aerial spraying

47. The persistence of a pesticide in soil primarily depends on its:

- A. Color and odor
- B. Solubility, volatility, and microbial degradation rate
- C. Method of packaging
- D. Price and formulation

48. In the Philippines, pesticide registration and regulation are primarily under the authority of:

- A. Department of Science and Technology (DOST)
- B. Fertilizer and Pesticide Authority (FPA)
- C. Bureau of Plant Industry (BPI)
- D. Department of Agriculture–PhilRice

49. In Integrated Pest Management (IPM), chemical control should be:

- A. Used as the first and only approach
- B. Avoided under all circumstances
- C. Used judiciously as a last resort within an integrated strategy
- D. Applied routinely on a calendar basis

50. The development of biopesticides and nanopesticides primarily aims to:

- A. Increase chemical residues in the environment
- B. Promote sustainable and eco-friendly pest control
- C. Replace organic agriculture practices
- D. Increase pest resistance rates

ANSWER KEY

1. C	11. A	21. C	31. B	41. B
2. B	12. A	22. B	32. B	42. A
3. C	13. B	23. C	33. B	43. B
4. B	14. B	24. B	34. A	44. B
5. B	15. B	25. B	35. C	45. B
6. A	16. B	26. A	36. B	46. C
7. C	17. B	27. B	37. B	47. B
8. C	18. C	28. A	38. C	48. B
9. B	19. B	29. A	39. B	49. C
10. C	20. B	30. A	40. C	50. B