

Crop Science Reviewer

By Agriculture Review

1. Which type of plant is generally the most efficient in photosynthesis and dry matter production under conditions of high temperature and high light intensity?

- a) C3 plants
- b) C4 plants
- c) CAM plants
- d) C2 plants

2. In CAM (Crassulacean Acid Metabolism) plants, when do the stomata predominantly open to allow CO₂ uptake while minimizing water loss?

- a) Early morning
- b) Midday
- c) Late afternoon
- d) Nighttime

3. Which plant hormone is primarily responsible for maintaining apical dominance by inhibiting the growth of lateral buds?

- a) Auxin
- b) Gibberellin
- c) Cytokinin
- d) Ethylene

4. Which of the following plant hormones is widely known as the 'ripening hormone' and exists as a gas?

- a) Absciscic acid
- b) Ethylene
- c) Cytokinin
- d) Indole-3-acetic acid

5. During periods of severe drought stress, which hormone accumulates in leaves to induce rapid stomatal closure?

- a) Gibberellin
- b) Auxin
- c) Abscissic acid
- d) Cytokinin

6. What is the primary function of xylem tissue in higher plants?

- a) Transport of photosynthates
- b) Transport of water and dissolved minerals
- c) Storage of starch
- d) Exchange of gases

7. Which group of plant hormones is heavily involved in promoting cell division and delaying leaf senescence?

- a) Auxins
- b) Cytokinins
- c) Ethylene
- d) Gibberellins

8. Root nodules in leguminous plants are specialized structures formed in symbiosis with which of the following?

- a) Mycorrhizal fungi
- b) Nematodes
- c) Rhizobium bacteria
- d) Agrobacterium tumefaciens

9. What vascular tissue is responsible for translocating sugars produced during photosynthesis from the leaves to other parts of the plant?

- a) Xylem
- b) Cambium
- c) Phloem
- d) Epidermis

10. Which hormone is commercially applied to sugarcane to increase internode elongation and overall yield?

- a) Auxin
- b) Gibberellic acid
- c) Ethylene
- d) Absciscic acid

11. In the growth stages of a rice plant, which phase is characterized by the emergence of new tillers from the main stem?

- a) Vegetative phase
- b) Reproductive phase
- c) Ripening phase
- d) Senescence phase

12. What is the most critical stage for water requirement in corn (maize) to ensure successful pollination?

- a) Seedling stage
- b) Knee-high stage
- c) Tasseling and silking stage
- d) Dough stage

13. What cropping system involves growing two or more crops simultaneously on the same field?

- a) Crop rotation
- b) Monoculture
- c) Intercropping
- d) Ratoon cropping

14. What is the primary agricultural benefit of practicing crop rotation?

- a) Increases the need for chemical fertilizers
- b) Prevents the build-up of specific pests and diseases
- c) Allows for continuous harvest of a single cash crop
- d) Eliminates the need for irrigation

15. What term describes the physiological response of a plant to the relative lengths of daylight and darkness?

- a) Vernalization
- b) Phototropism
- c) Photoperiodism
- d) Thermotropism

16. What is the induction of a plant's flowering process by exposure to the prolonged cold of winter called?

- a) Scarification
- b) Stratification
- c) Vernalization
- d) Etiolation

17. In agronomy, which soil texture is generally considered ideal for the cultivation of most crops due to its excellent balance of drainage and moisture retention?

- a) Heavy clay
- b) Pure sand
- c) Loam
- d) Silt

18. In what cropping system is a second crop planted into an established first crop before the first crop is harvested?

- a) Sequential cropping
- b) Relay cropping
- c) Strip cropping
- d) Alley cropping

19. At which phenological stage does the grain of a cereal crop start exuding a white liquid when squeezed?

- a) Booting stage
- b) Milk stage
- c) Dough stage
- d) Maturity stage

20. Which environmental factor is considered the primary driver of the transpiration stream in plants?

- a) Soil pH
- b) Atmospheric humidity and solar radiation
- c) Soil organic matter
- d) Wind direction

21. What type of seed germination occurs when the cotyledons are pushed above the ground?

- a) Hypogeal germination
- b) Epigeal germination
- c) Viviparous germination
- d) Cryptogeal germination

22. Which of the following crops typically exhibits hypogeal germination?

- a) Mungbean
- b) Common bean
- c) Corn (Maize)
- d) Squash

23. In grafting, what is the term for the upper part of the combined plant that produces the new shoot system?

- a) Rootstock
- b) Scion
- c) Cambium
- d) Callus

24. What is the primary advantage of asexual (vegetative) propagation over sexual propagation?

- a) Produces high genetic variation
- b) Offspring are true-to-type clones of the parent
- c) Always requires specialized lab equipment
- d) Takes much longer to produce mature plants

25. In the Philippine seed certification system, what color tag is used to identify Foundation Seeds?

- a) White
- b) Red
- c) Green
- d) Blue

26. Which class of seed is produced directly by the originating plant breeder and is identified by a white tag?

- a) Breeder Seed
- b) Foundation Seed
- c) Registered Seed
- d) Certified Seed

27. Which seed viability test relies on a chemical reaction that turns living, respiring seed tissues red?

- a) Floatation test
- b) Tetrazolium (TZ) test
- c) Germination test
- d) Purity test

28. What specific type of grafting uses a single bud as the scion?

- a) Cleft grafting
- b) Inarching
- c) Budding
- d) Marcotting

29. Certified seeds, which are the seeds typically sold to farmers for commercial crop production, are identified by which color tag?

- a) White
- b) Red
- c) Green
- d) Blue

30. Which asexual propagation method involves inducing roots on a stem while it is still attached to the parent plant?

- a) Stem cutting
- b) Air layering (Marcotting)
- c) Whip and tongue grafting
- d) Tissue culture

31. Which implement is classically used for primary tillage to cut, lift, and invert the soil?

- a) Spike-tooth harrow
- b) Rotavator
- c) Moldboard plow
- d) Seed drill

32. What is the main objective of zero tillage (no-till) farming?

- a) To maximize soil disturbance
- b) To control weeds entirely through manual labor
- c) To conserve soil moisture and prevent erosion
- d) To increase the oxidation of soil organic matter

33. Which irrigation method generally provides the highest water use efficiency by delivering water directly to the root zone?

- a) Furrow irrigation
- b) Flood irrigation
- c) Sprinkler irrigation
- d) Drip irrigation

34. In Integrated Pest Management (IPM), what is the 'Economic Injury Level' (EIL)?

- a) The pest population density where control measures must be applied to prevent economic loss
- b) The lowest pest population density that will cause economic damage
- c) The point at which all pests are eradicated from the field
- d) The cost of the pesticide used

35. Which farming system strictly prohibits the use of synthetically compounded fertilizers, pesticides, and genetically modified organisms?

- a) Conventional farming
- b) Precision agriculture
- c) Organic farming
- d) Hydroponics

36. What term describes the amount of water remaining in the soil after excess water has drained away by gravity?

- a) Permanent wilting point
- b) Saturation point
- c) Field capacity
- d) Available water capacity

37. What soil moisture state is reached when plants can no longer extract water and wilt irreversibly?

- a) Field capacity
- b) Saturation
- c) Permanent wilting point
- d) Osmotic potential

38. What is the primary purpose of secondary tillage operations like harrowing?

- a) To invert the soil profile completely
- b) To create a fine seedbed and control emerged weeds
- c) To break up deep hardpans
- d) To incorporate deep crop residues

39. The use of Trichogramma wasps to parasitize the eggs of lepidopteran pests is an example of what type of pest control?

- a) Chemical control
- b) Cultural control
- c) Biological control
- d) Mechanical control

40. In lowland rice production, why is the field often kept flooded?

- a) To maximize weed growth
- b) To control aquatic pests
- c) To suppress the growth of upland weeds and increase nutrient availability
- d) To increase soil oxygen levels

41. At what stage has a crop reached its maximum dry weight and maximum yield potential?

- a) Harvest maturity
- b) Physiological maturity
- c) Dough stage
- d) Senescence

42. What process involves gradually exposing greenhouse-grown seedlings to outdoor conditions before transplanting?

- a) Vernalization
- b) Stratification
- c) Hardening
- d) Etiolation

43. To prevent fungal growth and spoilage, to what safe moisture content should staple grains like rice and corn typically be dried before long-term storage?

- a) 20-22%
- b) 18-20%
- c) 12-14%
- d) 5-8%

44. Which chemical is commercially used to artificially accelerate the ripening of climacteric fruits like bananas and mangoes?

- a) Gibberellic acid
- b) Calcium carbide (source of acetylene/ethylene)
- c) Potassium nitrate
- d) Indole-butyric acid

45. What is the term for the post-harvest process that allows the healing of wounds and thickening of the skin in root crops like sweet potatoes and bulb crops like onions?

- a) Curing
- b) Blanching
- c) Pasteurization
- d) Fermentation

46. Why are harvested fruits and vegetables often placed in cold storage?

- a) To increase their transpiration rate
- b) To slow down respiration and metabolic processes
- c) To enhance the production of ethylene
- d) To eliminate all internal moisture

47. What post-harvest operation involves the removal of the hull and bran layers from paddy rice?

- a) Threshing
- b) Winnowing
- c) Milling
- d) Drying

48. Which of the following fruits is considered 'climacteric', meaning it continues to ripen significantly after being harvested?

- a) Citrus
- b) Pineapple
- c) Mango
- d) Strawberry

49. At what stage should forage crops generally be harvested to achieve the best balance between high yield and high nutritional digestibility?

- a) Seedling stage
- b) Just before or at early flowering
- c) Full seed maturity
- d) After complete senescence

50. During grain drying, excessively high temperatures can cause which detrimental effect to the rice kernel?

- a) Increased germination rate
- b) Fissuring and increased breakage during milling
- c) Enhanced aroma
- d) Increased protein content

Answer Key

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