

Crop Science Reviewer

1. Which plant cell organelle is primarily responsible for photosynthesis in green plants?

- A. Mitochondria
- B. Ribosome
- C. Chloroplast
- D. Nucleus

2. The process of conversion of atmospheric nitrogen into a form usable by plants is called:

- A. Ammonification
- B. Nitrification
- C. Nitrogen fixation
- D. Denitrification

3. In the botanical classification of crops, rice (*Oryza sativa* L.) belongs to which family?

- A. Fabaceae
- B. Solanaceae
- C. Poaceae
- D. Malvaceae

4. The process by which plants lose water vapor through stomata is known as:

- A. Respiration
- B. Transpiration
- C. Photosynthesis
- D. Osmosis

5. The inflorescence of rice is scientifically known as:

- A. Spikelet
- B. Panicle
- C. Ear
- D. Raceme

6. Which of the following best describes the main advantage of hybridization in crop improvement?

- A. Increases variability and combines desirable traits from parents
- B. Reduces heterozygosity and ensures uniformity
- C. Prevents natural selection
- D. Eliminates the need for selection

7. The essential macronutrient required by plants for protein and chlorophyll synthesis is:

- A. Phosphorus
- B. Potassium
- C. Nitrogen
- D. Calcium

8. Which of the following best describes the process of photoperiodism in plants?

- A. Response of plants to day length for flowering
- B. Response of plants to soil pH
- C. Movement of water through xylem
- D. Absorption of nutrients by roots

9. In plant breeding, which selection method is most effective for self-pollinated crops?

- A. Mass selection
- B. Pure line selection
- C. Recurrent selection
- D. Pedigree selection

10. A typical C₄ crop such as maize has which of the following characteristics?

- A. Low photosynthetic efficiency at high light intensity
- B. High CO₂ compensation point
- C. Presence of Kranz anatomy and high water-use efficiency
- D. No photorespiration at all

11. The region of the root where most absorption of water and minerals takes place is known as:

- A. Root cap region
- B. Region of elongation
- C. Root hair region
- D. Meristematic region

12. Which of the following tissues is responsible for the secondary growth in dicot stems?

- A. Apical meristem
- B. Intercalary meristem
- C. Vascular cambium
- D. Parenchyma

13. The primary function of xylem in vascular plants is:

- A. Transport of food from leaves to roots
- B. Transport of water and minerals from roots to aerial parts
- C. Storage of carbohydrates
- D. Secretion of plant hormones

14. In the anatomy of a leaf, which layer contains the highest number of chloroplasts for photosynthesis?

- A. Lower epidermis
- B. Palisade mesophyll
- C. Spongy mesophyll
- D. Upper cuticle

15. In plants such as cassava and sweet potato, the major storage organ is the:

- A. Stem
- B. Storage root
- C. Fruit
- D. Seed

16. Which plant hormone promotes cell elongation and apical dominance?

- A. Gibberellin
- B. Cytokinin
- C. Auxin
- D. Absciscic acid

17. Which type of pollination occurs when pollen is transferred from the anther of one flower to the stigma of another flower on the same plant?

- A. Autogamy
- B. Geitonogamy
- C. Xenogamy
- D. Cleistogamy

18. The process of breaking seed dormancy by subjecting seeds to a period of low temperature is called:

- A. Scarification
- B. Stratification
- C. Vernalization
- D. Photoperiodism

19. The opening and closing of stomata are primarily regulated by the:

- A. Guard cells
- B. Xylem vessels
- C. Phloem sieve tubes
- D. Root hairs

20. The process in which sugars produced in leaves are transported to other parts of the plant is called:

- A. Respiration
- B. Transpiration
- C. Translocation
- D. Photosynthesis

21. Agriculture is best described as:

- A. The art and science of raising animals only
- B. The art, science, and business of crop and livestock production
- C. The process of soil formation
- D. The cultivation of forest trees only

22. The earliest form of agriculture practiced by early Filipinos was primarily:

- A. Commercial farming
- B. Subsistence agriculture
- C. Industrialized agriculture
- D. Hydroponic farming

23. Which of the following best describes agriculture's contribution to the Philippine economy?

- A. It employs a small portion of the population with low GDP contribution
- B. It employs a significant portion of the population and supports food security
- C. It is limited only to export production
- D. It contributes mainly through industrial products

24. The DA program “Masagana 99” was implemented during which administration in the Philippines?

- A. Corazon Aquino
- B. Ferdinand Marcos
- C. Gloria Macapagal-Arroyo
- D. Rodrigo Duterte

25. Biotechnology in crop production primarily aims to:

- A. Decrease crop yield for biodiversity
- B. Develop genetically improved crop varieties with higher resistance and productivity
- C. Replace traditional farming practices entirely
- D. Focus only on organic farming methods

26. Under botanical classification, corn (*Zea mays* L.) belongs to which family?

- A. Poaceae
- B. Fabaceae
- C. Solanaceae
- D. Malvaceae

27. Crops that complete their life cycle within one growing season are classified as:

- A. Annual crops
- B. Biennial crops
- C. Perennial crops
- D. Seasonal crops

28. In the agronomic classification, sugarcane is considered as a:

- A. Pulse crop
- B. Fibre crop
- C. Plantation crop
- D. Root crop

29. The crop originally domesticated in Mexico and later introduced widely in the Philippines is:

- A. Rice
- B. Corn
- C. Abaca
- D. Coconut

30. Scientific naming of plants using a two-word Latin system (genus and species) is known as:

- A. Polytypic naming
- B. Binary nomenclature
- C. Taxonomic ranking
- D. Morphological classification

31. The transition from vegetative to reproductive phase in most crop plants is primarily triggered by:

- A. Increased nitrogen supply
- B. Photoperiod and temperature
- C. High soil moisture
- D. Application of phosphorus fertilizer

32. Which physiological process is most directly responsible for the cooling of plant leaves during the daytime?

- A. Photosynthesis
- B. Transpiration
- C. Respiration
- D. Absorption

33. The period from flowering to seed maturity in rice is known as the:

- A. Lag phase
- B. Ripening phase
- C. Reproductive phase
- D. Grain filling stage

34. C4 plants such as maize are more efficient under high light and temperature conditions because they:

- A. Have high photorespiration
- B. Possess Kranz anatomy and CO₂ concentration mechanism
- C. Grow only in shaded environments
- D. Use less ATP per glucose formed

35. In the context of crop growth analysis, Leaf Area Index (LAI) represents:

- A. Ratio of leaf area to ground area
- B. Ratio of total dry matter to fresh weight
- C. Number of leaves per plant
- D. Area of a single leaf

36. Which of the following best describes a limiting factor for crop production?

- A. The factor that is least abundant relative to plant needs
- B. The factor that is most abundant in soil
- C. The factor supplied through fertilizers only
- D. The factor that affects photosynthesis only

37. Soil aeration is crucial for healthy crop growth because it directly influences:

- A. Nitrogen fixation and root respiration
- B. Transpiration rate only
- C. Light absorption
- D. Pollen viability

38. The most critical stage for water stress in rice crop is during:

- A. Seedling establishment
- B. Tillering stage
- C. Flowering stage
- D. Maturity stage

39. Which cropping system involves growing two or more crops simultaneously on the same land without a definite row arrangement?

- A. Relay cropping
- B. Mixed cropping
- C. Intercropping
- D. Sequential cropping

40. The interaction of temperature, humidity, and wind speed affecting plant water loss is referred to as:

- A. Hydrothermal index
- B. Evaporative demand
- C. Microclimatic factor
- D. Climatic coefficient

41. The primary objective of hybridization in plant breeding is to:

- A. Increase vegetative growth only
- B. Combine desirable traits from two parents
- C. Produce pure lines
- D. Eliminate all genetic variability

42. Mutation breeding is most effective in developing new varieties of:

- A. Highly cross-pollinated crops
- B. Vegetatively propagated crops
- C. Self-pollinated crops
- D. Wind-pollinated crops

43. The seed class directly produced from breeder seed under the National Seed System is known as:

- A. Certified seed
- B. Registered seed
- C. Foundation seed
- D. Commercial seed

44. Marker-assisted selection (MAS) in crop breeding primarily helps in:

- A. Selecting plants based on visible morphological traits
- B. Identifying desired genes through DNA markers
- C. Increasing seed germination rate
- D. Enhancing nutrient uptake

45. In tissue culture, the ability of a single cell to regenerate a complete plant is termed as:

- A. Totipotency
- B. Plasticity
- C. Mutagenicity
- D. Hybrid vigor

46. Golden Rice was genetically engineered primarily to combat deficiency of:

- A. Iron
- B. Vitamin A
- C. Zinc
- D. Vitamin C

47. Which cultural practice primarily reduces weed competition and soil erosion in sustainable crop production?

- A. Intensive tillage
- B. Mulching
- C. Excessive irrigation
- D. Monocropping

48. The farming practice that integrates crops, livestock, and trees for long-term ecological and economic benefits is called:

- A. Agroforestry
- B. Crop rotation
- C. Intercropping
- D. Sequential cropping

49. In the seed certification system, which tag color is used for Certified Seed?

- A. White
- B. Purple
- C. Blue
- D. Golden Yellow

50. Conservation tillage helps promote sustainability mainly by:

- A. Increasing soil compaction
- B. Reducing soil disturbance and conserving moisture
- C. Eliminating crop residue
- D. Enhancing weed seed germination

Answer Key

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