

Crop Science Reviewer

By Agriculture Review

1. Which rice ecosystem is characterized by continuous flooding and is typical for lowland, transplanted rice culture?

- A. Upland rainfed rice
- B. Irrigated lowland (flooded) rice
- C. Deepwater rice
- D. Aerobic rice

2. In maize hybrid production, what is the primary advantage of producing single-cross hybrids compared to open-pollinated varieties?

- A. Lower seed production cost
- B. Greater heterosis and uniformity
- C. Longer seed storage life
- D. Reduced need for fertilizers

3. Which nitrogen management practice reduces nitrogen losses and improves nitrogen use efficiency in upland crops?

- A. Single large basal application only
- B. Split application synchronized with crop demand
- C. Application during heavy rains
- D. Broadcasting without incorporation

4. Which legume is commonly used in the Philippines for soil improvement because of its fast biomass production and nitrogen-fixing ability?

- A. Cowpea (*Vigna unguiculata*)
- B. Maize
- C. Rice
- D. Sugarcane

5. What is the principal purpose of ridge planting in root and tuber crops like sweet potato?

- A. Increase soil compaction
- B. Improve drainage and root/tuber development
- C. Encourage waterlogging
- D. Prevent sprouting

6. Which of the following describes “leaf area index (LAI)” used in crop physiology?

- A. Ratio of leaf length to plant height
- B. Total leaf area per unit ground area
- C. Number of leaves per plant
- D. Leaf thickness measurement

7. Which integrated pest management (IPM) tool is primarily preventive rather than curative?

- A. Pesticide calendar with routine sprays
- B. Use of resistant varieties and crop rotation
- C. Emergency chemical fumigation
- D. Spot treatment after outbreak

8. Which soil conservation practice is most effective on sloping land to reduce runoff and soil erosion?

- A. Contour bunding and terracing
- B. Planting across the slope vertically
- C. Continuous deep plowing down the slope
- D. Burning crop residues

9. What is the main advantage of conservation agriculture (zero/minimum tillage, residue retention, crop rotation)?

- A. Immediate increase in pest outbreaks always
- B. Improved soil structure, moisture conservation and long-term sustainability
- C. Elimination of the need for crop rotation
- D. Guaranteed higher yields from year one

10. Which sampling method is commonly used to estimate pest population density across a large field?

- A. Entire-field exhaustive counting
- B. Systematic or random quadrant/plot sampling
- C. Only sampling at field borders
- D. Sampling only after harvest

11. In seed technology, what does the term “vigor” of seed refer to?

- A. Color of the seed coat
- B. Capacity of seed to perform under a wide range of field conditions
- C. Seed size only
- D. Time taken to dry seeds

12. Which tool is commonly used to measure soil pH in the field?

- A. Refractometer
- B. pH meter or pH test strips
- C. Hygrometer
- D. Anemometer

13. Which physiological disorder in tomatoes is commonly associated with calcium deficiency?

- A. Powdery mildew
- B. Blossom end rot
- C. Bacterial wilt
- D. Leaf rust

14. Which method is an example of biological nitrogen fixation used in cropping systems?

- A. Chemical urea application
- B. Inoculation of legumes with Rhizobium bacteria
- C. Foliar spray of ammonium nitrate
- D. Burning residues

15. Which postharvest practice is most important to reduce grain deterioration during storage?

- A. Maintain low grain moisture and good sanitation
- B. Store grains wet to prevent brittleness
- C. Store at high temperature and humidity
- D. Mix grains from different seasons freely

16. Which practice is characteristic of precision agriculture?

- A. Uniform blanket application of inputs across fields
- B. Site-specific management using GPS and variable-rate technology
- C. Hand broadcasting seeds with no mapping
- D. Only manual ploughing

17. Which weed species management would be best approached by using stale seedbed technique?

- A. Perennial deep-rooted weeds only
- B. Annual flushes of weed seedlings before crop sowing
- C. Weeds that emerge after harvest only
- D. Woody shrubs

18. In crop breeding, what is the purpose of backcrossing?

- A. Create entirely new species
- B. Transfer one or few desirable traits into an adapted cultivar
- C. Randomly mix genes
- D. Sterilize pollen

19. Which is a common symptom of iron deficiency in many crop species?

- A. Interveinal chlorosis of new leaves
- B. Root necrosis only
- C. General leaf thickening
- D. Excessive fruit set

20. What is the principal objective of seed certification systems?

- A. Increase seed market prices
- B. Assure genetic purity and quality standards of seed lots
- C. Restrict farmer access to seed
- D. Eliminate small seed sellers

21. Which irrigation scheduling method estimates crop water use by reference evapotranspiration (ET_o) and crop coefficient (K_c)?

- A. Soil color method
- B. Blaney-Criddle only
- C. ET_o × K_c (reference evapotranspiration method)
- D. Random daily watering

22. Which disease of rice is commonly caused by a fungus and characterized by panicle blight and grain discoloration?

- A. Bacterial leaf blight
- B. Sheath blight
- C. Rice blast
- D. Tungro (viral)

23. Which farm business practice improves traceability and market access for high-value crop producers?

- A. Maintaining production and sales records and lot labeling
- B. Discarding all farm records
- C. Only bartering produce
- D. Mixing product lots without labeling

24. Which factor most directly increases soil salinity problems in irrigated agriculture?

- A. Use of high-quality rainwater
- B. Poor drainage and irrigation with saline water
- C. Addition of organic compost
- D. Crop rotation with legumes

25. Which of the following is an advantage of using improved certified planting materials for smallholder farmers?

- A. Guaranteed pest outbreaks
- B. Higher genetic uniformity, vigor and yield potential
- C. Increased seed dormancy
- D. Increased postharvest losses

26. Which tool is most appropriate for quick assessment of leaf chlorophyll (as proxy for N status) in the field?

- A. Chlorophyll meter (SPAD)
- B. pH strips
- C. Refractometer
- D. Anemometer

27. Which of the following is a major constraint for cassava production in some Philippine provinces?

- A. Cassava mosaic virus (not common in Philippines)
- B. Root rot and mealybug infestation
- C. Need for heavy fertilization like cereals
- D. Inability to grow in lowlands

28. What practice is recommended to manage plant-parasitic nematodes in vegetable production?

- A. Continuous monocropping of susceptible crops
- B. Crop rotation with non-hosts and use of biofumigant cover crops
- C. Over-irrigation to drown nematodes
- D. Rely only on broad-spectrum herbicides

29. Which postharvest treatment is used to reduce insect infestation in stored grain without chemical residues?

- A. Proper sanitation and airtight hermetic storage
- B. Mixing grain with fresh wet soil
- C. Leaving grain uncovered
- D. Adding untreated compost

30. Which crop is the world's leading source of vegetable oil produced from its seed?

- A. Sunflower
- B. Soybean
- C. Rapeseed (canola)
- D. Coconut (copra oil)

31. Which postharvest practice helps reduce aflatoxin contamination in stored maize?

- A. Drying grain to safe moisture levels and good storage hygiene
- B. Storing wet grain
- C. Mixing old and new harvests freely
- D. Keeping grain exposed to rain

32. Which management practice reduces incidence of stem-borers in rice?

- A. Synchronized planting and removal of infested stubbles
- B. Continuous ratooning without monitoring
- C. Avoid any field sanitation
- D. Always delay planting by months

33. What is the main advantage of using cover crops in orchards?

- A. Increase erosion, weed pressure and soil compaction
- B. Improve soil organic matter, reduce erosion and suppress weeds
- C. Rapid depletion of soil nutrients only
- D. Promote rodent infestation exclusively

34. Which physiological measurement helps estimate crop water stress by measuring canopy temperature?

- A. Infrared thermometry (canopy temperature measurement)
- B. Soil color observation
- C. Counting leaves only
- D. Measuring stem diameter only

35. Which of the following is an example of a mechanical weed control method suitable for smallholder farms?

- A. Hand weeding and hoeing
- B. Aerial herbicide spraying
- C. Burning entire field annually
- D. Flooding with saltwater

36. Which cereal crop has the greatest tolerance to waterlogged conditions and is often grown in flooded paddies?

- A. Wheat
- B. Rice (*Oryza sativa*)
- C. Sorghum
- D. Pearl millet

37. Which nutrient is most associated with promoting root development and early growth?

- A. Nitrogen (N) only
- B. Phosphorus (P)
- C. Sodium (Na)
- D. Chlorine (Cl)

38. Which policy instrument in the Philippines aims to stabilize rice supply and support farmers (example: safety net or buffer stock management)?

- A. National Food Authority (NFA) buffer stock and procurement programs
- B. Department of Education school feeding only
- C. Local zoning for urban expansion only
- D. Tourism tax incentives

39. In integrated nutrient management, which practice balances nutrient supply and maintains soil fertility sustainably?

- A. Sole reliance on chemical fertilizers
- B. Combining organic manures, green manures and judicious chemical fertilizers
- C. Burning residues to ash only
- D. Never testing soil

40. Which fungal pathogen causes rice blast, a major disease on leaves, nodes and panicles?

- A. Magnaporthe oryzae
- B. Xanthomonas oryzae
- C. Ralstonia solanacearum
- D. Phytophthora infestans

41. Which postharvest method is commonly used to reduce physiological respiration and extend shelf life of freshly harvested vegetables?

- A. Pre-cooling and cold storage
- B. Sun-drying immediately
- C. Storing at ambient high temperature
- D. Exposing to smoke

42. Which component is NOT part of Good Agricultural Practices (GAP) for crop production?

- A. Record keeping and traceability
- B. Proper pesticide use and preharvest intervals
- C. Use of banned or unregistered pesticides
- D. Worker hygiene and safe water use

43. Which rotation sequence is useful to break pest and disease cycles in cereal-based systems?

- A. Continuous rice every season
- B. Rice – legume – upland cereal
- C. Continuous monoculture without break
- D. Only fallow management

44. Which indicator is used to measure grain yield potential in a cereal crop during breeding trials?

- A. Grain weight per unit area (e.g., t/ha)
- B. Stem color
- C. Number of leaves per plant only
- D. Size of seed packet

45. Which farming practice contributes most to greenhouse gas emissions among cropping activities?

- A. Methane emissions from flooded rice systems
- B. Manual weeding only
- C. Using horse-drawn ploughs
- D. Growing cover crops

46. Which method is commonly used to propagate virus-free potato seed tubers?

- A. Planting farm-saved tubers without testing
- B. Use of certified seed tubers from accredited sources
- C. Allowing volunteer plants to be seed source
- D. Storing tubers in wet, warm conditions

47. Which practice is part of integrated soil fertility management (ISFM)?

- A. Combining mineral fertilizers with organic inputs and improved germplasm
- B. Ignoring soil test results
- C. Exclusive reliance on one fertilizer type
- D. Removing all crop residues

48. Which storage structure is designed to reduce postharvest losses of grains in smallholder contexts by protecting from pests and moisture?

- A. Traditional open heap on bare ground
- B. Elevated, well-ventilated granary or hermetic bags
- C. Storing under tree canopy exposed to animals
- D. Leaving grain in the field

49. Which biotech tool allows marker-assisted selection to speed up breeding programs?

- A. Use of molecular markers linked to traits
- B. Only visual selection without markers
- C. Random seed mixing
- D. Burning breeding plots

50. Which economic analysis metric helps a farmer decide if an investment in an improved cultivar is profitable?

- A. Benefit–cost ratio (BCR) or net present value (NPV)
- B. Counting only number of seeds used
- C. Ignoring costs and only recording yields
- D. Estimating by visual farm appearance

Answer Key

Q1: B	Q11: B	Q21: C	Q31: A	Q41: A
Q2: B	Q12: B	Q22: C	Q32: A	Q42: C
Q3: B	Q13: B	Q23: A	Q33: B	Q43: B
Q4: A	Q14: B	Q24: B	Q34: A	Q44: A
Q5: B	Q15: A	Q25: B	Q35: A	Q45: A
Q6: B	Q16: B	Q26: A	Q36: B	Q46: B
Q7: B	Q17: B	Q27: B	Q37: B	Q47: A
Q8: A	Q18: B	Q28: B	Q38: A	Q48: B
Q9: B	Q19: A	Q29: A	Q39: B	Q49: A
Q10: B	Q20: B	Q30: B	Q40: A	Q50: A

