

CHAPTER – 9
Mineral Nutrition

1. Which of the following is a primary macronutrient for plants?
 - a) Iron
 - b) Calcium
 - c) Nitrogen
 - d) Zinc

2. The role of potassium in plants includes:
 - a) Protein synthesis
 - b) Photosynthesis
 - c) Water regulation
 - d) Nucleic acid formation
3. Which of the following minerals is essential for chlorophyll formation?
 - a) Magnesium
 - b) Manganese
 - c) Boron
 - d) Copper

4. The deficiency of which mineral causes stunted growth and poor development of roots?
 - a) Nitrogen
 - b) Phosphorus
 - c) Potassium
 - d) Calcium

5. Which mineral is involved in the activation of many enzymes in plants?
 - a) Magnesium
 - b) Iron
 - c) Sodium
 - d) Boron

6. Which of the following nutrients is most often deficient in sandy soils?
- a) Nitrogen
 - b) Phosphorus
 - c) Potassium
 - d) Calcium
7. The process by which plants absorb minerals from the soil is known as:
- a) Transpiration
 - b) Absorption
 - c) Photosynthesis
 - d) Respiration
8. Which element is essential for cell wall structure and integrity?
- a) Calcium
 - b) Potassium
 - c) Magnesium
 - d) Nitrogen
9. The deficiency of which mineral causes leaf chlorosis and poor fruit development?
- a) Calcium
 - b) Phosphorus
 - c) Magnesium
 - d) Potassium
10. Which mineral is a crucial component of nucleic acids and ATP?
- a) Phosphorus
 - b) Calcium
 - c) Iron
 - d) Manganese
11. Deficiency of which mineral leads to the formation of necrotic spots on leaves?

- a) Iron
- b) Boron
- c) Potassium
- d) Zinc

12. Which nutrient deficiency is characterized by interveinal chlorosis in older leaves?

- a) Nitrogen
- b) Magnesium
- c) Phosphorus
- d) Potassium

13. Which of the following minerals is most essential for the synthesis of proteins in plants?

- a) Nitrogen
- b) Phosphorus
- c) Potassium
- d) Calcium

14. What role does sulfur play in plant nutrition?

- a) Protein synthesis
- b) Water regulation
- c) Cell wall formation
- d) Photosynthesis

15. Which of the following nutrients is often added to fertilizers to improve soil fertility?

- a) Magnesium
- b) Iron
- c) Phosphorus
- d) Manganese

16. Which of the following minerals is crucial for the activation of enzymes involved in carbohydrate metabolism?

- a) Potassium
- b) Calcium
- c) Boron
- d) Iron

17. The deficiency of which mineral causes leafcurling and reduced growth?

- a) Potassium
- b) Calcium
- c) Magnesium
- d) Nitrogen

18. Which mineral deficiency results in poor fruit set and reduced yield in crops?

- a) Calcium
- b) Nitrogen
- c) Phosphorus
- d) Magnesium

19. Which of the following nutrients is involved in the synthesis of nucleic acids and ATP?

- a) Phosphorus
- b) Potassium
- c) Calcium
- d) Iron

20. Which of the following elements is essential for the regulation of stomatal opening and closing?

- a) Calcium
- b) Sodium
- c) Magnesium
- d) Potassium

21. Deficiency of which mineral causes poor leaf development and interveinal chlorosis?

- a) Potassium
- b) Calcium
- c) Phosphorus
- d) Iron

22. Which of the following is NOT a secondary macronutrient for plants?

- a) Calcium
- b) Magnesium
- c) Sulfur
- d) Iron

23. Which nutrient is essential for the synthesis of chlorophyll and contributes to overall plant health?

- a) Nitrogen
- b) Potassium
- c) Magnesium
- d) Calcium

24. The role of iron in plants includes:

- a) Nitrogen fixation
- b) Photosynthesis
- c) Enzyme activation
- d) Cell division

25. Which of the following minerals is known to be essential for root development?

- a) Phosphorus
- b) Calcium
- c) Potassium
- d) Magnesium

26. Which mineral is crucial for the proper functioning of the plant's water regulation

system?

- a) Potassium
- b) Nitrogen
- c) Calcium
- d) Iron

27. A deficiency of which nutrient causes premature leaf drop and reduced plant growth?

- a) Phosphorus
- b) Magnesium
- c) Calcium
- d) Nitrogen

28. Which element is crucial for the synthesis of amino acids and proteins in plants?

- a) Nitrogen
- b) Phosphorus
- c) Potassium
- d) Calcium

29. Which mineral is essential for the formation of cell membranes and cell walls?

- a) Phosphorus
- b) Magnesium
- c) Calcium
- d) Sulfur

30. Which of the following is an indicator of zinc deficiency in plants?

- a) Leaf curling
- b) Chlorosis in young leaves
- c) Leaf necrosis
- d) Root rot

31. Which mineral is essential for the production of ATP and nucleic acids in plants?

- a) Magnesium
- b) Calcium
- c) Phosphorus
- d) Iron

32. A deficiency in which mineral causes leaf spots and reduced photosynthesis?

- a) Calcium
- b) Potassium
- c) Boron
- d) Nitrogen

33. Which element is involved in the synthesis of plant hormones and overall plant growth?

- a) Boron
- b) Potassium
- c) Phosphorus
- d) Iron

34. Which nutrient is essential for the formation of root hairs and nutrient absorption?

- a) Phosphorus
- b) Potassium
- c) Nitrogen
- d) Calcium

35. The primary role of calcium in plants is to:

- a) Enhance cell division
- b) Strengthen cell walls
- c) Regulate stomatal opening
- d) Support chlorophyll production

36. Which of the following nutrients is important for protein and nucleic acid synthesis in

plants?

- a) Nitrogen
- b) Phosphorus
- c) Potassium
- d) Calcium

37. Which mineral deficiency leads to leaf necrosis and poor seed development?

- a) Magnesium
- b) Calcium
- c) Phosphorus
- d) Potassium

38. Which of the following nutrients is crucial for maintaining enzyme activity in plants?

- a) Iron
- b) Calcium
- c) Magnesium
- d) Potassium

39. Which mineral is essential for the production of energy in plant cells?

- a) Phosphorus
- b) Magnesium
- c) Boron
- d) Zinc

40. Deficiency of which mineral causes a delay in flowering and poor fruit development?

- a) Potassium
- b) Calcium
- c) Phosphorus
- d) Nitrogen

41. Which element is critical for the synthesis of ATP in plant cells?

- a) Phosphorus
- b) Calcium
- c) Potassium
- d) Iron

42. Which nutrient deficiency causes the leaf margin to curl and turn brown?

- a) Potassium
- b) Magnesium
- c) Nitrogen
- d) Calcium

43. Which of the following elements is involved in the synthesis of nucleic acids and cell division?

- a) Phosphorus
- b) Calcium
- c) Magnesium
- d) Potassium

44. Which mineral is known to influence the activity of various enzymes in plants?

- a) Zinc
- b) Potassium
- c) Boron
- d) Calcium

45. Deficiency of which mineral causes the inhibition of cell elongation and root growth?

- a) Phosphorus
- b) Calcium
- c) Nitrogen
- d) Magnesium

46. Which nutrient is important for maintaining cell turgidity and overall plant health?

- a) Potassium
- b) Calcium
- c) Phosphorus
- d) Magnesium

47. Which mineral deficiency is associated with poor leaf and flower development?

- a) Calcium
- b) Iron
- c) Phosphorus
- d) Boron

48. Which element is essential for the proper functioning of the plant's vascular system?

- a) Calcium
- b) Magnesium
- c) Phosphorus
- d) Potassium

49. Which nutrient is important for the regulation of osmotic pressure in plant cells?

- a) Potassium
- b) Calcium
- c) Phosphorus
- d) Magnesium

50. Which mineral deficiency causes poor fruiting and lower crop yield?

- a) Potassium
- b) Calcium
- c) Nitrogen
- d) Phosphorus

Answer Key for Chapter 9 (Mineral Nutrition)

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