



PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: MINERAL NUTRITION

21. (1)
Roots do not spend any energy on this type of mineral absorption. So application of a metallic inhibitor will not retard the process.
22. (3)
Nutrients which are required in large amounts in functioning of plant are known as macronutrients eg. Ca, Mg, N. Nutrients required in trace amounts are known as micronutrients. Manganese is a micronutrient for plants essential for synthesis of chlorophyll. It is also required for activation of enzymes of respiration and nitrogen metabolism.
23. (3)
Iodine is the only such element which is an essential mineral for animals but is not required by plants.
The natural iodine content in soil is low. While iodine is not an essential nutrient for plant growth, fertilizing with iodine derivatives has been shown to aid in biomass production and increase the antioxidant levels in plants which provide drought and stress resistance.
24. (4)
Phosphorous and nitrogen ions generally get depleted in soil because they usually occur as negatively charged ions. Both the elements are essential for plants and acts as macromolecules which are required in large quantities.
25. (3)
Potassium is not a constituent of any enzyme but is an activator of enzymes. Potassium is an essential mineral and is found in more amounts in actively dividing cells such as buds, young leaves, root tips, etc. It has some other roles like regulating stomatal movement and protein synthesis.
26. (4)
Copper: Electron transfer
($\text{Cu}^+ \rightleftharpoons \text{Cu}^{2+}$)
Maintenance of carbohydrate/nitrogen balance, chlorophyll synthesis.
Iron: Electron transport in photosynthesis and respirations ($\text{Fe}^{2+} \rightleftharpoons \text{Fe}^{3+}$)
development of chloroplasts, chlorophyll and other pigments, protein synthesis.
Manganese: Metabolism and photolytic evolution of oxygen.
27. (4)
Grey spots of oat are caused by deficiency of Manganese.

In oats, Mn deficiency produces a condition called 'grey speck' which occurs in patches. Oats become pale green and young leaves have spots or lesions of grey/brown necrotic tissue with orange margins. These lesions will coalesce under severe Mn deficient conditions. Plants are weak, stunted, floppy and pale green-yellow and appear water-stressed even when adequate soil moisture is available (lose examination of the leaf may show slighter intercanal chlorosis). The distinction between green veins and yellow interveinal areas is poor. Symptoms can be confused with red leather leaf, which is favoured by prevailing high humidity in high rainfall areas. Symptoms can also be mistake for take-all.

28. (3)

Deficiency of magnesium produces chlorosis due to breakdown of chlorophyll. Chlorosis is a condition in which plant foliage produces insufficient chlorophyll. When this happens leaves do not have their normal green colour they may be pale green, yellow, or yellow-white.

The affected plant has little or no ability to manufacture carbohydrates and may die unless the cause of its chlorophyll insufficiency is treated. Specific nutrient deficiencies (often aggravated by high pH) cause chlorosis, which may be corrected by supplemental feedings of iron, magnesium or nitrogen compounds in various combinations. Some pesticides particularly herbicides may also cause chlorosis, both to target weeds and occasionally to the crop being treated.

29. (3)

Etiolation is the response of a plant to stimuli. When plant seeds are grown in insufficient light, (either in partial or complete absence of light) the seedlings will have long, weak stems, smaller and fewer leaves because of longer internodes, and a pale yellow colour (chlorosis). This is due to a lack of chlorophyll. The increase in height helps the plant reach a possible source of light faster.

30. (2)

Symbiotic relationship between roots of higher plants and fungi is called mycorrhiza, e.g., *Pinus* roots are associated with fungal hyphae.