

# Integrated Management

# Nutrient

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**In News:** Government has set a target of doubling farmers' income by the year 2022.

## Nutrients

- **Plants require some nutrients** in large quantities called **macronutrients** while some in smaller quantities known as **micronutrients**.
  - Gases such as carbon dioxide and oxygen are provided through the air while hydrogen is provided by water.
  - Soil supplies thirteen additional micronutrients (Iron, copper, zinc, chlorine, boron, manganese) and macronutrients (calcium, magnesium, potassium, nitrogen, phosphorus).
- **Deficiency of these nutrients** inhibits the growth of plants, affects their life cycle, processes and decreases their immunity against diseases.
- **Soil's fertility can be increased** by providing nutrients in the form of manure and fertilizers.

## Nutrient Management

- Nutrient management **refers to the efficient use of crops to improve productivity**.
  - It is necessary to balance the soil nutrient input with the crop requirement.
  - If the nutrients are applied at the right time and in adequate quantities, optimum crop yield is obtained.
  - If applied in huge amounts, it will harm the crop, and if applied in small quantities it limits the yield.

- The nutrients that are not utilized by the crops leach into groundwater or nearby surface water.

### **Concepts of Integrated Nutrient Management**

- The nutrients stored in the soil.
- The nutrients purchased from outside the farm.
- Plant nutrients present in crop residues, manures, and domestic wastes.
- Nutrient uptake by crops at harvest time.
- Plant nutrients lost from the field during crop harvest or through volatilization.

### **Integrated Nutrient Management**

- **Integrated Nutrient Management (INM) is being promoted by the Government of India and it involves conjunctive use of both inorganic and organic sources** of nutrients to sustain good soil health and higher crop productivity in the country.
  - For this purpose, the **National Project on Management of Soil Health and Fertility (NPMSHF)** has been introduced during 2008-09 to promote soil test based balanced and judicious use of chemical fertilizer in conjunction with organic manure and bio-fertilizer.
- Integrated nutrient management is the **combined application of chemical fertilizers and organic manures** for crop production.
- **Aim is the maintenance of soil fertility and the supply of plant nutrients in adequate amounts.**
- It is ecologically, socially and economically viable.

### **National Project on Soil Health and Fertility**

- This scheme is for setting up Soil Testing Laboratories (STL) / mobile STLs/Fertilizer Quality Control Laboratories (FQCLs) and their strengthening for paving the way for judicious use of chemical fertilizers.

- Soil Health Management is aimed at promoting location as well as crop specific sustainable soil health management including residue management, organic farming practices by way of creating and linking soil fertility maps with macro-micro nutrient management, appropriate land use based on land type.
- This scheme also includes the Soil Health Cards scheme which provides information to farmers on soil nutrient status and recommendation on appropriate dosage of nutrient to be applied for improving soil health and its fertility