

### Olsen's P (kg/ha)

| Available P <sub>2</sub> O <sub>5</sub> | Rating |
|---|--------|
| ≤10                                     | Low    |
| 11-25                                   | Medium |
| >25                                     | High   |

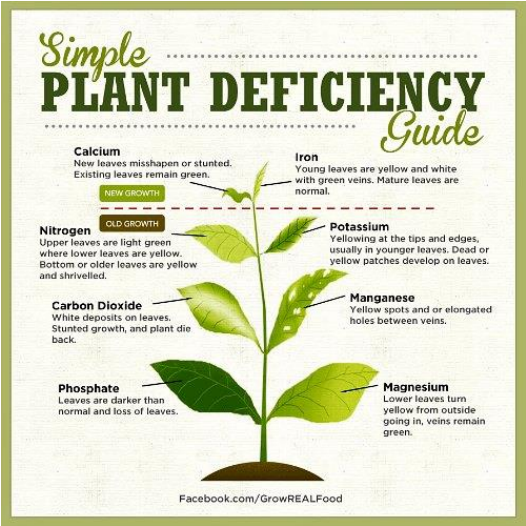
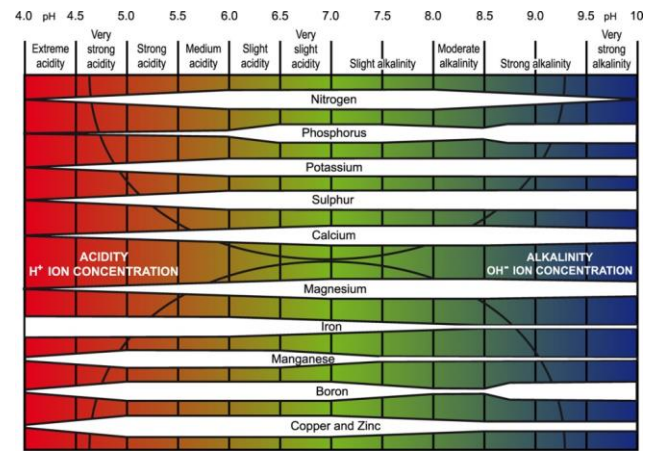
### Ammonium Acetate-K (kg/ha)

| Available K <sub>2</sub> O | Rating |
|----------------------------|--------|
| ≤ 120                      | Low    |
| 121-280                    | Medium |
| >280                       | High   |

### General recommended doses of Micronutrient fertilizers:

| Micronutrient | Material and doses for application       |  |
|---------------|--|--|
|               | Soil application                         | Foliar spray                           |
| Zinc          | Zinc sulphate = 25 kg ha <sup>-1</sup>   | 0.5 % Zn SO <sub>4</sub> + 0.25 % Lime |
| Iron          | Ferrous sulphate= 50 kg ha <sup>-1</sup> | 1 % Fe SO <sub>4</sub> + 0.5 % lime    |
| Copper        | Copper sulphate= 10 kg ha <sup>-1</sup>  | 0.1 % Cu SO <sub>4</sub> + 0.05% lime  |
| Manganese     | Mn sulphate = 10 kg ha <sup>-1</sup>     | 1 % MnSO <sub>4</sub> + 0.25 % Lime    |
| Boron         | Borax= 10 kg ha <sup>-1</sup>            | 0.2 % Borax                            |

| pH      | Range                |
|---------|----------------------|
| <3.5    | Ultra acidic         |
| 3.5-4.4 | Extremely acidic     |
| 4.5-5.0 | Very strongly acidic |
| 5.1-5.5 | Strongly acidic      |
| 5.6-6.0 | Moderately acidic    |
| 6.1-6.5 | Slightly acidic      |
| 6.6-7.3 | Neutral              |
| 7.4-7.8 | Slightly alkaline    |
| 7.9-8.4 | Moderately alkaline  |
| 8.5-9.0 | Strongly alkaline    |



# SOIL HEALTH CARD

## Healthy Soil for a Healthy Crop



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## What is Soil Health Card:

A soil health card is a document that provides information to farmers about the health of their soil. It contains details about the nutrient status of the soil, recommendations for appropriate fertilizers, and other suggestions to improve soil health and fertility. The primary goal of a soil health card is to help farmers make informed decisions about crop planning and nutrient management based on the specific characteristics of their soil.

### Key components of a soil health card typically include:

1. **Basic Information:** This includes details about the farmer, location of the farm, and the type of crops grown.
2. **Physical Properties:** Information about the texture, structure, and moisture-holding capacity of the soil.
3. **Chemical Properties:** Details about nutrient levels in the soil, including levels of essential elements such as nitrogen, phosphorus, potassium, and micronutrients. This information is often provided in terms of nutrient content per unit area.
4. **pH Level:** The acidity or alkalinity of the soil, which can influence nutrient availability to plants.
5. **Crop-wise Recommendations:** Specific recommendations for crops that are suitable for the given soil, along with suggested fertilizers and application rates.
6. **Soil Health Improvement Measures:** Suggestions for practices that can enhance soil health, such as cover cropping, organic matter incorporation, and water management.

Distribution of Soil Health Card initiated in 2015, and more than 22 crore Soil Health Card has been distributed all throughout the Nation through Soil Health Card Scheme.

### 12 Parameters of Soil Health Card includes:

- |       |        |
|-------|--------|
| 1. pH | 7. S   |
| 2. EC | 8. Fe  |
| 3. OC | 9. Zn  |
| 4. N  | 10. B  |
| 5. P  | 11. Mn |
| 6. K  | 12. Cu |

|                       |   |
|-----------------------|---|
| <b>pH</b>             | The pH is a measure of H <sup>+</sup> activity of the soil-water systems. It indicates whether the soil is acidic, neutral or alkaline in reaction. The pH scale ranges from 0-14. The first half 0-7 lies in the acidic range while 8-14 lies in the basic range.  |
| <b>EC</b>             | Electrical Conductivity (EC) is a measure of the concentration of soluble salts in the soil at any particular temperature. It can be measured using Conductivity meter.   |
| <b>OC</b>             | Organic carbon is a major constituent of organic matter, and it is often used as an indicator of soil quality. It is derived from the breakdown of plant and animal residues by microorganisms in the soil.   |
| <b>NPK</b>            | Nitrogen (N): It plays a vital role in plant growth, development, and overall vigour. Phosphorus (P): Phosphorus is essential for energy transfer in plants, as it is a component of ATP (adenosine triphosphate) Potassium (K): Potassium is important for enzyme activation, osmoregulation, and the synthesis of carbohydrates and proteins. It plays a key role in the overall stress resistance of plants. |
| <b>Micronutrients</b> | Out of the 8 essential micro nutrients- SHC consist of information of 5 such micronutrients- Mn, Zn, N, Cu and Fe, they are required by plants in trace amount, however are essential for growth and development  |

### Ratings of OC, N, P and K

#### Organic Carbon:

| O.C %     | Rating |
|-----------|--------|
| ≤ 0.5     | Low    |
| 0.51-0.75 | Medium |
| >0.75     | High   |

#### Alkaline KMnO<sub>4</sub>-N (kg/ha)

| Available N | Rating |
|-------------|--------|
| ≤ 280 ≥     | Low    |
| 281- 560    | Medium |
| >560        | High   |

### Some Indicator plants of Nutrient Deficiency:

|            |   |
|------------|---|
| Nitrogen   | Maize, Mustard, apple, Citrus                                       |
| Phosphorus | Maize, Barley, lettuce, tomato                                      |
| Potassium  | Potato, lucerne, beans, tobacco, cucurbits, cotton, tomato, maize   |
| Calcium    | Lucerne, legumes  |
| Magnesium  | Potato, Cauliflower   |
| Sulphur    | Lucerne, raya   |
| Iron       | Sorghum, Barley, Citrus, peach                                      |
| Zinc       | Maize, Onion, Citrus, Peach   |
| Manganese  | Apple, Cherry, Citrus, Maize, Oats, pea, radish, Wheat              |
| Copper     | Apple, Citrus, barley, Maize, lettuce, oats, Onion, Tobacco, tomato |
| Boron      | Lucerne, Turnip, Cauliflower, apple, peach                          |
| Chlorine   | Lettuce   |
| Molybdenum | Cauliflower, Crucifers, Citrus, Legumes, oats, spinach              |