

Horticultural Points of Interest – March 2015

- **Fertilizer Basics**
 - Major Components
 - Three Numbers (N-P-K) are the Percentage by Weight of these Elements in the Fertilizer
 - Nitrogen (N): Necessary for strong Leaf and stem growth. Too much can weaken Plant and delay or prevent Flowering.
 - Phosphorus (P): Needed for root development, flowering and seed and fruit formation. Essential for plant Metabolism.
 - Potassium (K): Increases Plant strength, disease resistance, stress and drought tolerance.
 - For Blooms & Transplants: Low Nitrogen, relatively high Phosphorus & Potassium
 - For Evergreens & Vegetative Growth: High Nitrogen, moderate Phosphorus & Potassium
 - Minor Components
 - Calcium (Ca): Needed for plant enzymes and cell wall formation. Too little results in Stunted growth
 - Magnesium (Mg): Needed for Chlorophyll formation and the production of plant enzymes
 - Sulfur: Again needed for the formation of Chlorophyll. Too little results in light green Leaves.
 - Trace Elements (In general most soils are contain these)
 - Boron (B): Used in cell wall formation, calcium intake and cell membranes. Too little results in stunted or irregular growth
 - Chlorine (Cl): Involved in Osmosis. Deficiency results in wilting, stubby roots and yellowing of Leaves
 - Copper (Cu): Plays a part in Nitrogen metabolism. Deficiency results in die back of growth tips.
 - Iron (Fe): Needed for Chlorophyll formation. Too little results in yellowing of the Leaves
 - Manganese (Mn): Needed for enzyme activity for Photosynthesis, Respiration and Nitrogen Metabolism
 - Molybdenum (Mo): Constituent of enzymes that reduce nitrates to ammonia. Deficiency results in poor growth & poor seed production
 - Zinc (Zn): Component of enzymes. Deficiency result in yellowing of Leaves
 - Inorganic Fertilizer
 - Chemical composition dissolves quickly in water & is immediately available to plants
 - Excessive amounts of fertilizer can damage plants
 - Can even happen with Houseplants always watered & fertilized from the bottom
 - Once a month use plain water from the top and let drain from the bottom to take away excess salts in the soil

- **Fertilizer Basics (Continued)**

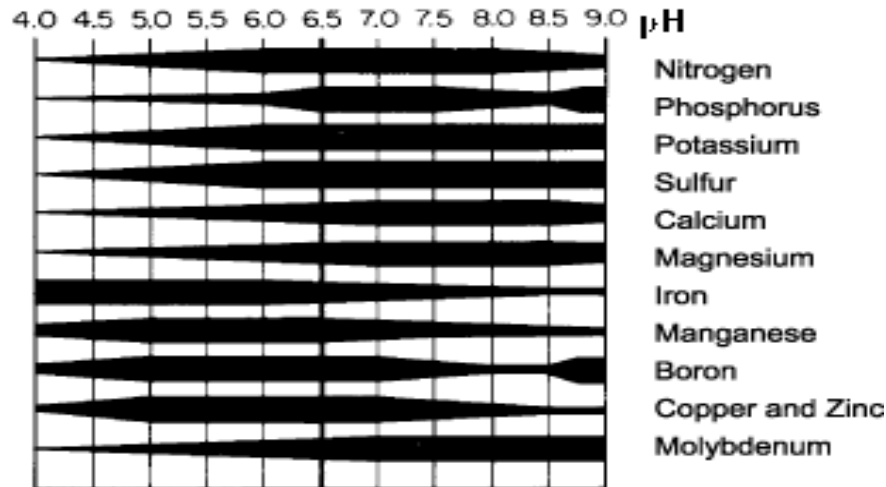
- Organic Fertilizer
 - Usually requires action of water, modest temperature, and microbes to make nutrients available to plants & so slower acting but longer lasting
 - May improve the composition, aeration and texture of the soil
- Time Release Fertilizer
 - Polymer encapsulated inorganic fertilizer gradually releases nutrients over a period of months
 - Often only N-P-K components

- **Soil Acidity**

- Measured by a number, the soil pH

Very strongly acidic	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline
pH 4.5 – 5.0	pH 5.1- 5.5	pH 5.6 – 6.0	pH 6.1 – 6.5	pH 6.6 – 7.3	pH 7.4 – 7.8	Ph 7.9 – 8.4

- pH Affects the Nutrients that are Soluble and Available to Plants



After Colorado State University Cooperative Extension

- Changing pH
 - Increase Acidity
 - Short Term: Aluminum Sulphate or elemental Sulphur
 - Longer Term: Plant with Sphagnum Peat Moss added
 - Increase Alkalinity
 - Short Term: Limestone Lime (Calcium Carbonate and/or Magnesium Carbonate). Hydrated Lime (Calcium Hydroxide) must be applied with great care to avoid too much pH change.
 - Longer Term: Plant with crushed Sea Shells or weathered, broken Concrete or Limestone added to Soil

- **Proactive Pest Treatment**

- Spray shrubs and smaller trees with Horticultural Oil at the end of March
- Always use care when spraying but Horticultural Oil is among the safest pesticides
 - Suffocates Pests
- Kills eggs of Winter Moths and Viburnum Beetles both of which are problems in our area