

# **Humic Soil Conditioners**

Humic substances are effective chelators of nutrients and improving soil structures. They are formed through chemical and biological decomposition of plant and animal matter. Their main fraction are Humic and Fulvic acids, usually derived from materials such as leonardite (soft brown version of coal).

#### Benefits of Humic Materials

#### Physical benefits

- Improve soil structure and reduce high water and nutrient loss in light sandy soils (USGA type constructions)
- In heavier soils improves structure leading to better air/moisture balance

### Chemical benefits

- Regulate and neutralise extreme pH values
- Improve and optimise water and nutrient uptake
- Reduce the availability of toxic substances in soil

# **Biological benefits**

- Stimulates plant enzymes and proliferation of desirable micro-organisms
- Enhances plants natural resistance against disease
- Promotes the development of chlorophyll and plant sugars
- Stimulates plant growth (higher biomass production) by accelerating cell division, increasing the development of root systems

# **Buffering Benefits**

- **Acidic Soils** 
  - Neutralize acidic soils: where acid-caused stress for the plant root is reduced
- **Alkaline Soils** 
  - Humic acid buffer the high pH and convert nutrients and trace elements into plant receptive forms.
  - Phosphate bound by calcium is re-solubilised and made available











