

## **UPGRO**

Upgro is an acidic solution that consists of fulvic acids and amino acids. Upgro act as a soil conditioner by increasing acidity levels in alkaline soils, making the nutrients more available to the plant. Micro organisms also benefits from upgro.

### **BENEFITS**

Upgro, as a soil conditioner, is used as follows:

#### **Alkaline soils**

Upgro can be used in alkaline soils, both sandy and clay soils, to lower the pH levels of the soils. The uptake of nutrients (e.g. potassium, calcium or phosphates) improves with the use of Upgro, making these nutrients more available to the root system.

#### **Water**

In areas with alkaline water, Upgro can be used to acidify the water.

#### **Urea**

Urea and Upgro can be applied together and through bonding of ions, the urea becomes an organic nitrogen, which in return prevents leaching and volatilization of urea-N.

#### **Fertilizer**

Upgro can be applied with fertilizers, such as potassium sulphate ( $K_2SO_4$ ), potassium nitrate ( $KNO_3$ ) etc. to increase uptake by the plants. Upgro also prevents these fertilizers to bond with clay colloids. Increasing the fertilizer uptake also increases the root growth and development.

#### **Cations carrier**

Fertilizers that have cations as elements, especially the micro elements (e.g. Zn, Fe, Cu and Mn), can be taken up better by plants' root system when using Upgro. The Upgro chelates the cations and acts as a carrier. By carrying these cations Upgro prevents cation fixation. The effectiveness of cations (Terra Trace (Zn), Terra Trace (Fe), Terra Trace (Cu), Terra Trace (Mn), Terra Trace (NKD) en Terra K Phos) are improved.

#### **Dormancy breakers (Dormex) and herbicides**

The uptake, in the plant root system, is improved when Upgro is applied with the dormancy breaker (Dormex) or herbicides such as glyphosate.

### **APPLICATION**

*\*Depending on soil type and crop type applications may vary. Consult Terra Dynamics before applying any products.*

- Alkaline soils can be from 5 liters/ha/week to 20 liters/ha once off.
- Optimum ratio with urea is 1 liter Upgro to 5 kg urea.
- Ratio with phosphoric acid is 1 liter Upgro tot 5 liters phosphoric acid.
- Ratio with other fertilizers is 4 – 6 liters Upgro tot 25 kg fertilizers.

- As a carrier to cations the ratio is 1 liter cation to 2 liters Upgro (especially in heavy and high pH soils).
- Dormex application is 6 liters Upgro/ha in tenk before adding Dormex to the water.

*\*Upgro can be applied with certain fertilizer.*

