

PureGrade Liquid Plant Food

PureGrade™ Chelated Micronutrients and Boron

PureGrade offers a broad line of chelated micronutrients manufactured for all types of grain/oil/fiber crops, forages, vegetables, fruits, tree nuts and root crops.

Iron: 4.5% HEDTA Chelated*	Calcium: 3% EDTA Chelated
Zinc: 9% EDTA Chelated	Manganese: 6% EDTA Chelated
Boron: 10%*	Magnesium: 2.5% EDTA Chelated
Copper: 7.5% EDTA Chelated	Molybdenum: 5% Sodium molybdate*

*Only micronutrients with a positive charge may be chelated, i.e. Ca⁺⁺, Mg⁺⁺, Cu⁺⁺, Fe⁺⁺, Mn⁺⁺ and Zn⁺⁺.
Micronutrients with a negative charge cannot be chelated, i.e. Boron and Molybdenum.

Use PureGrade Chelated Micronutrients for:

- Foliar (ground/aerial) applications
 - Compatible with most herbicides
 - Compatible with NPK foliar fertilizers—even those containing 100% orthophosphate
- Starter fertilizer banded in or near the seed furrow
 - Efficiency of EDTA micronutrients is 4-6 times better compared to sulfate micronutrient sources when banded with starter fertilizer
 - Compatible with insecticides
 - Compatible with all types of liquid starter fertilizers including 100% orthophosphates
 - EDTA micronutrients do not fix with the soil, thus they remain mobile and available to the developing root system
- Fertigation
 - PureGrade EDTA micronutrients can be added to the sprinkler irrigation system for a fast, easy treatment of deficiencies
 - Get quick foliar response
 - EDTA micronutrients remain mobile in the soil for easy assimilation by roots
 - Combine with NPK foliar fertilizers for a complete fertigation program

Why add micronutrients to a fertility program?

- Original soil parent material may have been low in one or more micronutrients.
- Many years of farming have depleted readily available forms of micronutrients.
- Today's high yields remove more nutrients than ever before from the soil.
- Excessive quantities of some nutrients create deficiencies or “fix” micronutrients into unavailable forms.
- Many crops experience “transient” deficiencies during certain growth stages such as flowering and seed fill.
- Stressful growing conditions such as low temperatures and saturated soil conditions can render micronutrients temporarily unavailable due to reduction in root growth.
- Soil pH may limit micronutrient availability.

Why use chelated micronutrients?

The word “chelate” is Latin for claw. Nutrients are reacted with chelating agents like EDTA and in the case of iron, HEDTA, to form a molecule with a negative charge. Chelating protects the positively charged micronutrients like calcium, magnesium, copper, iron, manganese and zinc from naturally occurring negative charged particles such as soil colloids and leaf surfaces. This allows the plant to take up the nutrient because it is not being tied up by the negatively charged surfaces.

EDTA and HEDTA chelates utilize the strongest and most effective chelating agents used in agriculture today. The PureGrade line of chelated micronutrients have the highest efficiency, which means growers can use less product per acre to achieve the same results as compared to non-chelated nutrients.

