

## NACHURS® Micronutrients

- Premium micronutrients for a variety of applications
- 100% EDTA chelated nutrients which prevents tie up with the soil and with other nutrients\*
- Helps correct deficiencies to maximize yield potential
- Designed to be used on a wide range of crops
- Compatible with NACHURS liquid fertilizers and many crop protection products

**Boron • Copper\* • Calcium\***  
**Iron\* • Magnesium\* • Manganese\***  
**Molybdenum • Zinc\***

Contact us today  
to learn about how to  
**maximize yield and  
increase profitability**  
with NACHURS® Liquid Fertilizers

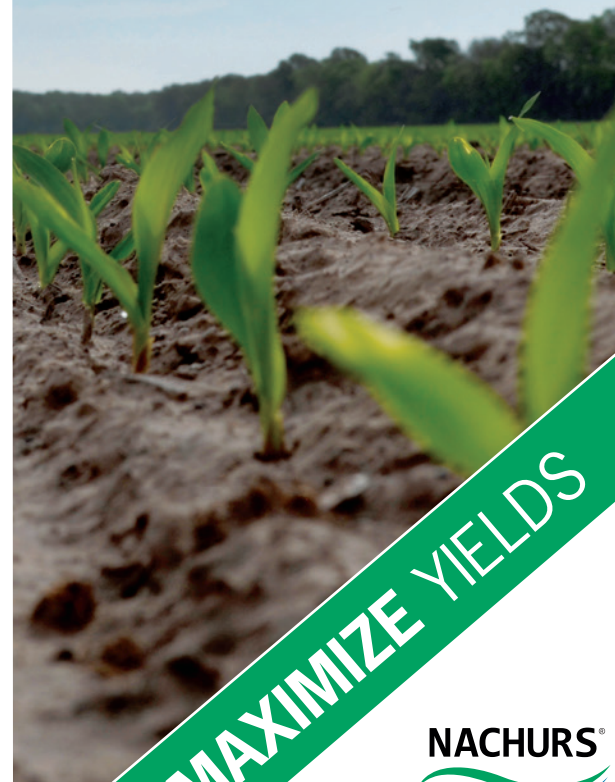


visit us online: [www.nachurs.com](http://www.nachurs.com)  
or call: 800.622.4877 x 255

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# NACHURS® Micronutrients

For the prevention and correction  
of micronutrient deficiencies



**MAXIMIZE YIELDS**



# THE ROLE OF MICROS

## Boron (B)

Boron is vital to the growth and development of the plant. Without adequate boron, new growth ceases. It is necessary in the pollination and seed production stages. Boron is essential for maintaining a balance between sugars and starches. A small amount of Boron is beneficial to plants but too much can be toxic to plants.

## Copper (Cu)

Copper is important as a co-enzyme. It is needed to activate several plant enzymes, including building and converting amino acids to proteins. Since Copper is an immobile nutrient, deficiency symptoms usually occur on new growth. Copper deficient plants will become chlorotic and take on a bleached appearance. New growth may die.

## Calcium (Ca)

A secondary element in plant nutrition, calcium is needed in the plant to promote early root formation and growth. Improves general plant vigor and stiffness of stalk. With Calcium deficiencies, leaves have a wrinkled or crinkled appearance and in some instances, young leaves may never unfold. Roots are also short and are very bunched.

## Iron (Fe)

Iron is required for the formation of chlorophyll in plant cells. It serves as an activator for biochemical processes such as respiration, photo-synthesis and symbiotic nitrogen fixation.

## Magnesium (Mg)

Magnesium is the key element in the molecule of chlorophyll. It regulates the uptake of other nutrients in the plant and acts as a carrier of phosphorous in the plant. Deficiencies usually occur in sandy soils or in soils with extremely high pH. Magnesium deficiencies cause corn plants to develop light yellow or white appearance between the parallel veins.

## Manganese (Mn)

Manganese is essential to plants but too much is toxic. Manganese functions in chlorophyll development and serves as a catalyst in several enzyme systems in the oxidation-reduction process. Manganese deficiencies are very similar to iron deficiencies and appears in the younger leaves of the plant first. Color may be pale between the veins of broadleaf plants.

## Molybdenum (Mo)

Molybdenum helps to transform basic nitrogen into amino acids, which are building blocks for proteins. It also helps legumes to symbiotically fix atmospheric nitrogen. Molybdenum is a catalyst in many oxidation-reduction process within plants.

## Zinc (Zn)

Zinc is necessary for starch formation and proper root development. It is also essential for seed formation and maturity. The most common symptom of zinc deficiency is interveinal chlorosis on older leaves with shortening of the internodal area. This shortening often results in a short compressed plant with a rosetted appearance.

# CHELATES

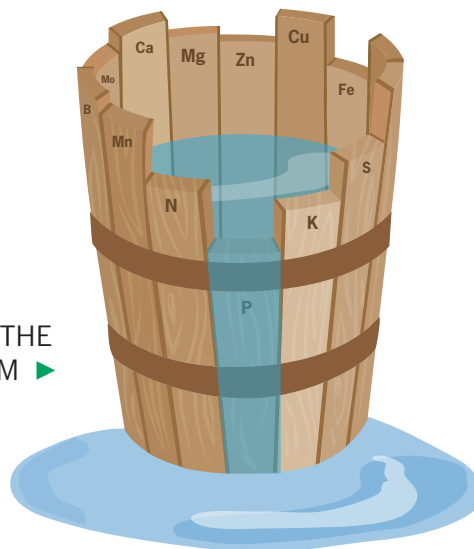
A chelate is a complex organic molecule that surrounds the nutrient ion. Chelates are used as carriers for micronutrients, to keep them in solution and protect them from reactions that cause the micronutrient to become insoluble and unavailable to the plant. Chelation allows nutrients to remain available to the plant even if environmental conditions are less than optimal. There are many forms of chelates that can be used, ranging from EDTA, citric acid, amino acids, and organic acids.

EDTA fully chelated micronutrients are specifically formulated to prevent nutrient tie up. With the EDTA chelating process, a ring-like structure is placed around the micronutrient, protecting it from being tied up with the soil or other nutrients, thus ultimate nutrient availability to the plant is assured, and deficiencies can be corrected.

## NACHURS® 100% EDTA CHELATES

Other manufacturers do not offer EDTA chelates or use a percentage of EDTA and some other chelating agent. NACHURS micronutrients are fully chelated and can be applied to soil at planting time. The stability of NACHURS chelated micronutrients won't settle out or react with other components in NACHURS liquid fertilizers. NACHURS 100% EDTA chelated micronutrients include: calcium, copper, iron, magnesium, manganese, and zinc.

## LIEBIG'S LAW OF THE MINIMUM ►



Most growers are well aware of Liebig's Law of the Minimum which states that any deficiency in a nutrient, no matter how small, will hold back the yield potential. As growers have evolved their crop nutrition programs to provide the maximum nutrients to achieve optimum yields, it is often a micronutrient deficiency that is restricting the plant from reaching its genetic potential.

Type of Micronutrient	Chemical	Stability	The Facts
Chelated	EDTA DTPA EDDHA	Strong	Stable at high pH Stable with phosphates Crop safe
Sequestered	Phenolics Lignosulphonates	Moderate	Only for foliar application
Complexed	Amino Acids Citrates Glucoseptonates	Weak	Cheap but poor storability
Inorganic	Sulfates Nitrates Carbonates	None	Only for foliar application High rates required Risk of phytotoxicity



Growers must take into account the interactions of nutrients with each other. Any over supply of one nutrient can cause another nutrient to become the limiting factor. Balance of nutrient supply is critical.

## LIQUID MICRONUTRIENTS

- NACHURS 10% Boron
- NACHURS 7.5% Cu EDTA
- NACHURS 2.5% Mg EDTA
- NACHURS 10% Molybdenum
- NACHURS 3% Ca EDTA
- NACHURS 4.5% Fe EDTA
- NACHURS 6% Mn EDTA
- NACHURS 9% Zinc EDTA

## MICRONUTRIENT PACKAGES

- in-furrow: **NACHURS CropMax®** - 1-2 pt/ac  
(2-0-2-0.1B-0.15Cu-0.3Fe-1.5Mn-0.0005Mo-4Zn)
- in-furrow/foliar: **NACHURS SoyGrow®** - 1-2 pt/ac  
(.5Mg-.36Fe-2.6Mn-1.5Zn)

Contact a NACHURS representative for specific recommendations. It is always recommended that a jar test be done when adding to other fertilizer or chemicals.