



What is a Chelate?

A chelate is a complex organic molecule that surrounds the nutrient ion.

Chelates are used as carriers for micronutrients, to keep them in solution & protect them from reactions that cause the micronutrient to become insoluble & unavailable to the plant.



To hook up to the

ALPINE LIQUID ADVANTAGE

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Micronutrients for Soil & Foliar Applications



the starter fertilizer company®

Zinc (ZN 9%)

Zinc is necessary for starch formation & proper root development. It is also essential for seed formation & maturity. The most common nutrient deficiencies include interveinal chlorosis on older leaves with shortening of the intermodal area. This shortening often leaves a short compressed plant w/a rosetted appearance.

Manganese (Mn 6%)

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

Boron (B10% non-chelated)

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

Copper (Cu 7.5%)

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

Iron (Fe 4.5%)

Iron functions as a catalyst in several processes within the plant. It plays a vital role in the formation of chlorophyll & also functions in the respiratory enzymes. Iron serves in the transportation of energy in the plant. Iron is also an immobile nutrient & nutrient deficiencies are usually noticed first in the young leaves. They will first exhibit interveinal chlorosis which will spread over the entire leaf & turn the leaf white. New growth will cease & the leaves will die.

Crop	Micronutrient Response					
	Mn	B	Cu	Zn	Mo	Fe
Alfalfa	M	H	H	L	M	M
Barley	M	L	M	M	L	H
Beans (dry)	H	L	L	H	M	H
Clover	M	M	M	L	M	
Corn	M	L	M	H	L	M
Grass	M	L	L	L	L	H
Oats	H	L	H	L	L	M
Potatoes	H	L	L	M	L	
Rye	L	L	L	L	L	
Soybeans	H	L	L	M	M	H
Sugar Beets	M	H	M	M	M	H
Wheat	H	L	H	L	L	L
Canola	M	H	H	M	L	
Peas	H	L	L	L	M	

Legend:

H ... High

M ... Medium

L ... Low

Why use ALPINE micronutrients?

Even though micronutrients are required in minute quantities, they are essential for healthy plant growth & profitable crop production.

ALPINE micronutrients provide an economical source for correcting nutrient deficiencies & improving plant health.

ALPINE micronutrients are fully chelated & can be used in both foliar & soil applied applications.



ALPINE®

... ONE STEP AHEAD

