



Chelating Agents vs. PHCA-Foliar (Complexing Agent)

Chelating Agents,

The word “chelate” is latin for claw. A Chelating agent, such as Lignin Sulfonate, Citric Acid, or EDTA, is reacted with the nutrients and forms a claw or ring formation around the metal ion (nutrient) and attaches itself in two or more sites. This changes the nutrient to a negative charge and forms a new molecule. This chelating process protects the normally positively charged nutrients from being tied up with the naturally occurring negatively charged particles such as soil colloids and leaf surfaces. This process only allows the plant the “opportunity” to take in the nutrients because they are not being tied up on the negatively charged surfaces. Some of the problems with synthetic chelates are; the molecule formed is in many cases larger than the pores that they are supposed to be absorbed into, the nutrients are being held so tightly, in two or more sites, that the rate of release is very slow, and they do nothing to stimulate the plants metabolism to better utilize the nutrients.

PHCA-Foliar (Complexing Agent)

PHCA-Foliar Technology, PolyHydroxyCarboxylic Acid, is a natural organic complexing agent that is extracted directly from plant tissue. It is composed of unique carboxylic acids and carbohydrates that are involved directly with the photosynthesis and respiration processes of the plant allowing them to activate the absorption process and be completely metabolized and utilized by the plant. Because the PHCA-Foliar is naturally found in the plant it actually masks the nutrients and allows them to move freely within the plant. Whereas the PHCA-Foliar does act like a “typical” chelating agent by changing the nutrient to a negative charge so as not to get tied up, it only attaches to the nutrient in one site thus allowing it to be released and utilized much easier once it is within the plant. Also the PHCA-Foliar creates a much smaller molecule than “typical” chelating agents allowing for much easier absorption through the leaf surface. The end result is that by rapidly increasing the absorption rate and becoming much more efficient within the plant you can achieve the same results with lower rates.