PHYTOBIOTICS

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A New Source of Foliar Applied Minerals for Plants and in support of Plant Health

Our Solution | High Performance Foliar Nutrition

Folia-IQ is a family of micronutrients designed for use in crops, using amino acid chelation and complexing technology. Foliar nutrition, when applied at the right time also helps support the plant during periods of high demand, environmental stress, while maximizing crop production.

Soil Nutrition & Plant Bioavailability

Micronutrients can be present in the soil but are not always readily available to the plant for optimal absorption. Furthermore, some disadvantageous soil conditions may badly influence nutrient absorption leading to a deficiency.

High performing crops require new approaches in plant nutrition

143% in yield in the last 50 years[1]

Which Micronutrient Option Is Right For You?

- Inorganic
- Organic
- High Molecular Weight
- Low Molecular Weight

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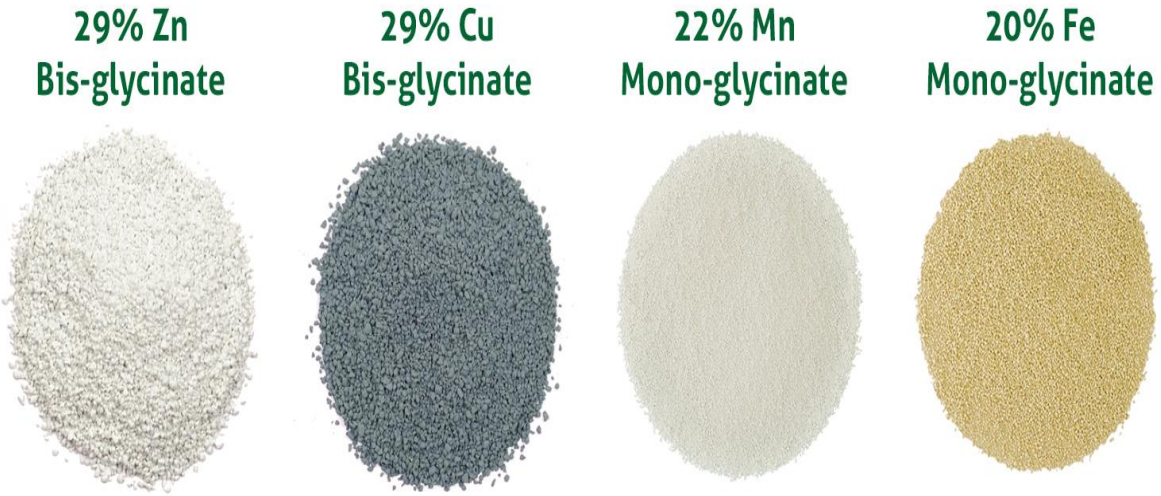
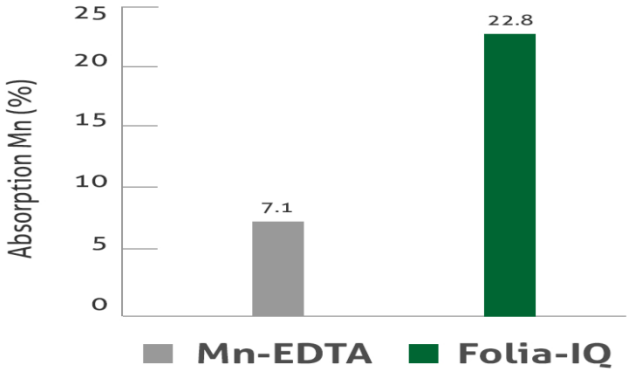
In Marschner's and Huber's plant nutrition books Zn, Mn, Cu, and Bo have fungicidal activity. The challenge has always been to get them inside the plant. The use of either PO3 (phosphites) or amino acids (Glycine) provided the proper mechanism to do so.

How It Works

Glycine's small molecular size facilitates the absorption of micronutrients and minimizes the energy required for the transportation of minerals into the plant.

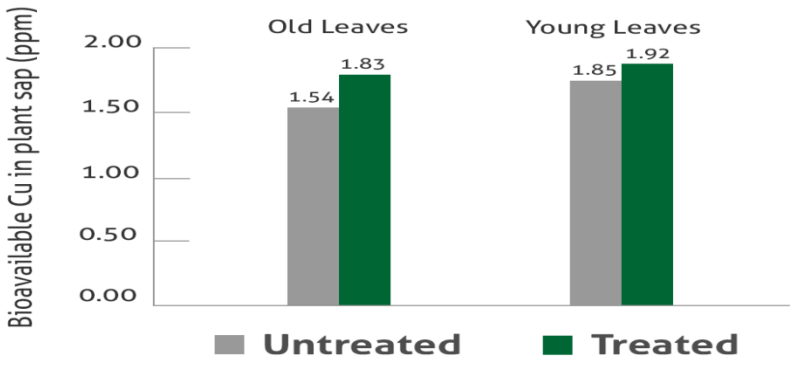


Higher Mn Absorption[2]
(Soybeans)



With FOLIA·IQ **+221%** vs. Mn-EDTA

Copper Sap Analysis
Old vs. Young Leaves (12 DAT)[3]
(Corn)



With FOLIA·IQ **+19%** In Old Leaves

+4% In Young Leaves

Fertilizer Efficiency Folia-IQ vs. Zinc Sulfate & Zinc Glucoheptonate[4]
(Citrus)

Sap analysis indicates Folia-IQ is more efficient in delivering Zinc into the plant.

With FOLIA·IQ **+72%** vs. Zinc Sulfate

+32% vs. Zinc Gluco-heptonate

Less Is More

Once **absorbed** into the leaf, glycine and the attached micronutrients are **translocated** through the plant so lower application rates can be used.

1. Nielsen, R.L. (2017, May). Historical Corn Grain Yields for the U.S. Retrieved from www.agry.purdue.edu/ext/corn/news/timeless/YieldTrends.html
2. Data on file; T. Eichert e. al. HGoTECH GmbH, 2017
3. Data on file; Ohio corn field test 2019, Buckeye Ag Testing data, Crop Health Labs sap analysis.

Summary

- Readily bioavailable foliar micronutrients
- Shown to assimilate and translocate
- High mineral content among chelated products
- Supports plant growth, health and yield potential
- Environmentally responsible

About Folia-IQ Copper

Folia-IQ Cu is designed for use as a foliar fertilizer in crops deficient in copper and is non-toxic when used in compliance with label instructions.

It is a dry product that disperses easily into a tank-mix solution, via conventional spray rig loads or low-volume airplane applications.

Guaranteed Analysis (w/w):

Total Nitrogen (N).....12.0%
1.5% Water Insoluble Nitrogen (N)
10.5% Water Soluble Nitrogen (N)
Copper (Cu).....29.0%
Derived from Copper Bis-Glycinate

Packaging: 3.53 lbs material in a 2.5 gallon jug

Our Solution

Plants commonly use organic acids, such as amino acids, to transport minerals throughout their vascular bundles. Folia-IQ Cu uses bis-glycinate amino-acid chelation technology, which facilitates the absorption and translocation of its copper.

Copper itself is known to activate enzymes that convert amino acids into proteins, and plays an integral part in nitrogen metabolism and disease resistance.

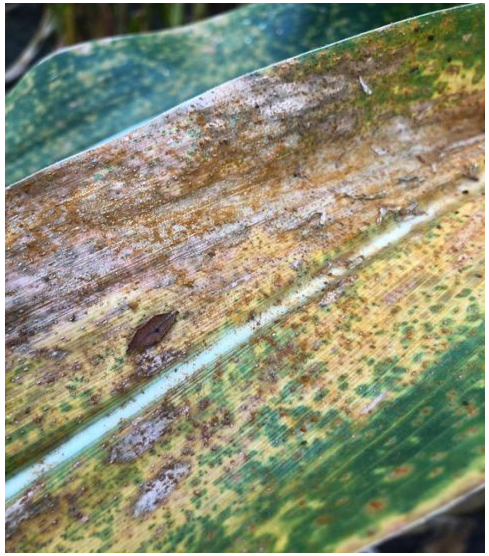
Folia-IQ also provides free amino acid glycine to the plant, which supports growth and improves survivability during stress conditions.

Excellent Absorption and Translocation

Glycine's small molecular size facilitates the absorption of micronutrients and minimizes the energy required for the transportation of minerals into the plant.

Replanted corn acres, late milk to early dough stage on Aug 25. Severe infection with many pustules and heavy spore load. B37 genetics. Sprayed aerially with 2 oz Cu-bisGlycinate from PhytoBiotics. Totally systemic. It should make a perfect product for appyling to wheat and other grass crops.

Severe S Rust on Corn 8/2020 Irrigated in N Mo






Results from the Cu application. Wow , oh wow. How many bushels were saved?

These are better panoramic pictures of the Cu-bisGlycinate treated corn plants in the N Missouri irrigated corn fields two weeks after treatment.

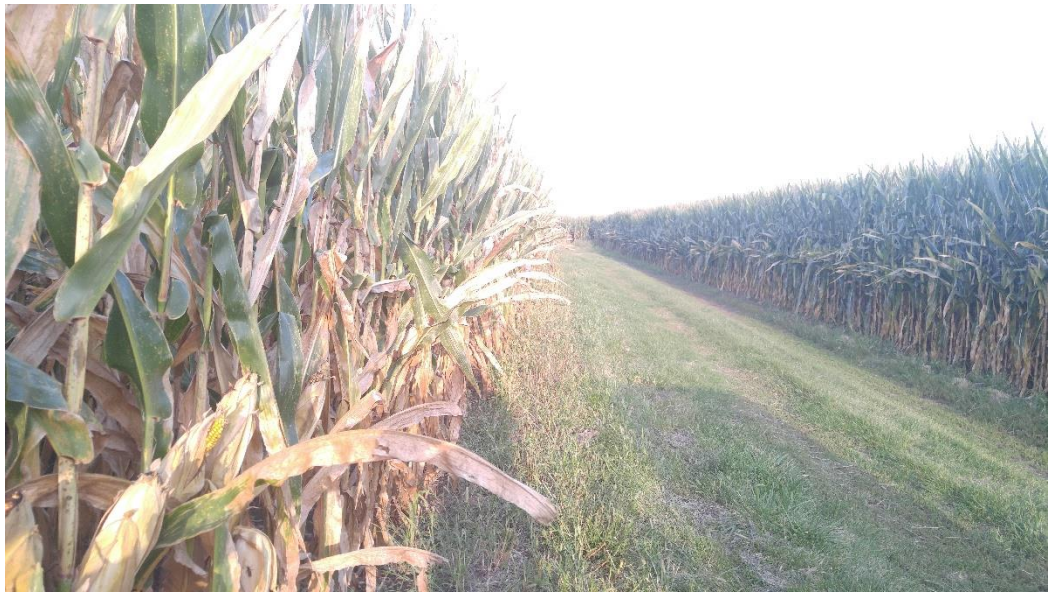
The green coloration and near perfect health stayed for 40 to 50 days allowing for maximum grain fill and standability.

The benefits are that it is not a fungicide, is a health promoting mineral, not a soil or human health hazard, is completely curative and systemic. Aerial application will fit it perfectly. It works by boosting the immune function of the plants such that it forces out any invading fungi.

I see it being added to labeled fungicides due its properties and advantages for row crops and stand alone for veggies and specialty crops.

Cu Glycinate sprayed late Aug vs Strob/Triaz/Carbox mix on Aug 1.

These are photos taken of a field on the left (N) being one sprayed Aug with a strobe-triazole-carboxamide along side the field to the right (S) that received the Cu BisGlycinate in late August. Both were irrigated and the one on the right was planted earlier. The large difference is in the green vs brown leaves from the ear leaf and above.



Trials and tests on other crops. We wanted to see which crops showed a response to the Cu bis-Glycinate . So far grasses, broadleaves and woody crops all responded. Glycine is the smallest of all amino acids, thus it offers the most mobility thru the far reaches of the plants. Cedar Apple Rust at .66 oz/A Cu.

A burr oak tree, D3 drought , Carroll Co, IA, suffering from Dicamba drift with heavy leaf rosetteing. 15” of growth in Aug as it regrew.