Liquid Nitrogen-Copper Fertilizer

AMINA-Cu

Organic certified

AMINA-Cu is a liquid fertilizer that offers organic nitrogen, amino acids, peptides, enzymes and chelated copper. Due to its composition, **AMINA-Cu** is easily absorbed by the leaf tissues and penetrates inside the plant cells achieving the rapid correction of the copper and nitrogen deficiencies and the stimulation of the cellular processes as well.

TYPICAL ANALYSIS	(% w/w)	(% w/v)
Nitrogen (N)	**2.25**	**2.80**
Organic-N	2.25	2.80
Copper (Cu)	**5.00**	**6.25**
Amino-acids	**17.00**	**21.50**

Amino acids are organic compounds which are the monomers of proteins while they are a basic compound for the biosynthesis of a large amount of organic compounds inside the plant. Amino acids contribute to the formation of chlorophyll leading to the amplification of the photosynthetic activity of the plants. As a consequence the concentration of the carbohydrates in the plant cells is significantly increased. It is known that carbohydrates offer energy (glycose), are energy store (starch) and also act as structural components of the plant cells (cellulose). In addition, amino acids contribute to the increase of the permeability of cellular membrane of plant cells resulting in a much greater uptake of nutrients by the plant cells.

Copper is one of the major trace elements which are necessary for the plants nutrition. It can also be used for the treatment of several fungal and bacterial diseases in many crops. It's mode of action is not systemic but instead copper acts as protectant. That is why copper remains on the surface of the fruit and is certified organic in many countries around the world. Apart from its action as fungicide or bactericide, copper acts as a disinfectant with excellent results on pruning wounds, on wounds caused during harvest as well as on wounds generated by damages due to extreme weather phenomena (hail, strong winds).

PROPERTIES-USES

AMINA-Cu can be used in all crops offering the following benefits:

- ✶ Corrects quickly and efficiently the copper and nitrogen deficiencies.
- ✶ Stimulates plant growth.
- ✶ Contributes to the activation and improvement of the cellular processes inside the plants.
- ✶ Fortifies the vigour and the resistance of the plants against various environmental and biotic factors.
- ✶ Assists in the increase of the plants' productivity.
- ✶ Improves the quality of the harvest.

HUMOFERT

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AMINA-Cu is being used efficiently for the rapid correction of the Nitrogen and Copper deficiencies.
Chlorophyll production, protein synthesis and cellular respiration are important plant functions that need copper to be accomplished. Copper deficiency can induce early senescence or lowered levels of chlorophyll that lead to yield reductions. Chlorosis, yellowing of the leaf centres while the leaf margins and veins remain green are some of the copper deficiency symptoms. Nitrogen deficiency causes stunted plant growth while the leaves become chlorotic due to the reduced chlorophyll. Further symptoms are reduced flowering and fruiting. Under extreme nitrogen deficiency leaves approach a yellowish white colour.

Copper is mainly used as fungicide and/or bactericide in many crops. Especially in crops sensitive to fungal diseases such as vineyard where downy mildew is prevalent, the use of copper is required for the prevention and control of the fungi growth. After pruning (fruiting or shape) the coating of pruning wounds with copper is essential in order to avoid the penetration and growth of pathogen micro organisms that cause tumours inside the plant.
In olive trees, leaf spot disease is one of the worst fungal diseases. High humidity is a beneficial factor for the growth of the fungus that causes leaf spot disease. That is why the application of copper after rainfall and under conditions of high humidity is recommended. Also the use of copper is suggested after harvest in order to disinfect the wounds created during harvest.

APPLICATIONS-DOSAGES

AMINA-Cu is suitable for vegetables (open field and greenhouse cultivated), strawberry, fruit trees, citrus, vineyard, ornamental plants (bushes and trees), cereals, cotton, corn etc. It is recommended for foliar sprays and applications in the soil by fertigation according to the following application rates:
Foliar spray: 0.5-2 l/ha (dilution rate 1:200-400)
Fertigation: 5-10 l/ha
Hydroponics: 0.5-1.0 l/500 l of network water
Note: At the first stages of the crop it is recommended to apply at minimum dosage.

APPLICATIONS NUMBER- TIMING

The number of the applications is determined mainly by the appearance and the intensity of the copper deficiencies. Applications start at the first symptoms and continue until the elimination of the deficiency.
Also, **AMINA-Cu** can be applied for the improvement of the plants vigour and the enforcement of the plants resistance against stress caused by environmental and biotic factors. In this case applications start at the beginning of the growth and continue every 15-30 days until harvest.

RECOMMENDED APPLICATIONS PER CROP

Olive: After pruning for the prevention of pathogens entry in the created wounds.
Citrus:After pruning and under conditions of high humidity.
Vineyard: After harvest or pruning.
Vegetables: Under conditions that favour the growth of fungal or bacterial diseases.