nanopowder plant

ForGrowth

Micronutrient fertilizers

ForGrowth

Nano micronutrients

A NEW ERA IN PLANT NUTRITION

ForGrowth Nano Micronutrient Fertilizer is a fast-acting complex that contains a combination of plant micronutrients in nanoscale form.

The innovative design of the nano-sized particles ensures a unique absorption and metabolism of the micronutrients, resulting in greater efficiency and efficacy. The data has been confirmed by tests on a variety of crops.

When used in combination with basic fertilizers, the trace elements in ForGrowth improve germination and growth, enhance bactericidal properties, stimulate and improve metabolism, and increase resistance to soil salinity, drought, heavy metal contamination, and other adverse conditions.

Versatility

For use on a variety of crops

FROM CEREALS AND VEGETABLES TO BERRY CROPS

Wheat

Maize

Sugar beet

Rapeseed

Potato

Soybean

Barley

Sunflower

Rye

Berries and fruits

Vegetables

Rice

Cotton

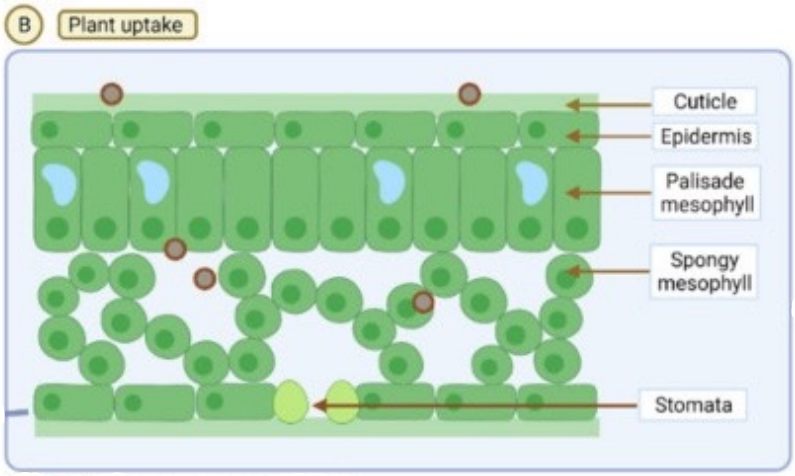
Innovative
Mechanism of action

THROUGH THE LEAF AND ROOT SYSTEM

The active elements are nanoparticles of trace element compounds, which have the property of super permeability through the protective cell membranes of plants. It is this property that allows it to provide the highest biological effect compared to traditional micro fertilizers. Micronutrients are used for the synthesis of metal-dependent enzymes in cell organelles. Consequently, only those elements that penetrate the cells - provide efficacy. There are several obstacles in this pathway.

The main obstacle in the way of the elements occurs when they try to penetrate from the intercellular space into the cell. From the destructive action of the increased salt factor, cells are reliably protected by the lipid membrane, which has a charge and freely lets only neutral fat and protein compounds through. Traditional salt and chelate micro fertilizers are soluble, dissociating to form charged ions that are repelled by the protective membrane. Plants have a mechanism of ion transport using carrier proteins. But the resource of such transport is limited. To achieve the effect, plants have to be treated with excessive amounts of elements, but only a small fraction of them penetrates the cells.

Nanoparticles are insoluble compounds of trace elements. They have no charge and are not perceived by the hydrophobic protective membrane as electrically charged foreign bodies. The size of our nanoparticles (2-40 nm) is smaller than the size of pores, channels, and membranes (up to 50 nm), which allows them to freely penetrate through pores to intracellular organelles. A much smaller amount of micronutrients in the form of nanoparticles is sufficient to achieve a high effect since their ability to penetrate cells is hundreds of times greater than that of ions and chelates.



Innovation for operational efficiency

COMPATIBILITY

High compatibility even for the most specialized premixes.

SUSTAINABILITY

Ensures maximum recycling and minimum waste, allowing you to make a choice in favor of sustainable development, benefiting both your company and the environment.

HIGHLY CONCENTRATED

The nanoscale of the elements provides the maximum content of trace elements, which reduces the total volume in the premix.

Ensures operational efficiency – for example, reduces the need for transportation and storage space.

Build Exceptional Performance

Essential trace elements, exceptional benefits for plants

ForGrowth is designed to improve production efficiency, maintain profitability, and optimize plant nutrition and productivity.

Good plant structure

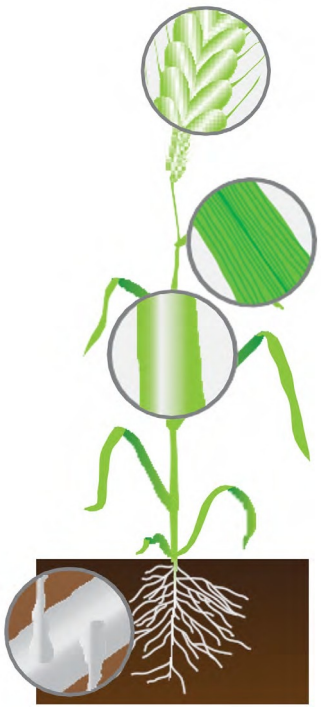
- **Cu** promotes lignification, reducing susceptibility to lodging;
- **Zn** helps to increase the level of auxin, which leads to optimal development of the canopy;
- **Fe** is important for fighting chlorosis, preventing premature leaf fall and giving healthy, green color to trunks

Cu Zn Fe

Healthy roots

- **Mn** provides a high content of lignin in the roots, which increases resistance to pathogens affecting the roots

Mn



Proper development of grain

- **Cu** during lignification promotes the release of pollen, increasing fertilization and reducing the frequency of empty grains;
- **Zn** during sowing can lead to an increase in the number and size of grains

Cu Zn

Green leaves

- **Mg** is a key component of chlorophyll; its optimal intake determines the photosynthetic activity in the sheet;
- **Mn** and **Zn** play a key role in chlorophyll production and photosynthesis;
- **C** promotes plant growth, improving photosynthesis processes

Mg Mn Zn C

Every plant needs essential trace elements

At Nanopowder Plant, we understand that healthy plants contribute to a profitable and sustainable plant, and to truly thrive, plants must receive optimal micronutrients at all stages of development. Although micronutrients are only required in small amounts, they provide plants with essential nutrients for key metabolic functions such as photosynthesis, immunity, and stress tolerance.

We use science-based solutions to create products with proven absorption and assimilation to provide plants with all the benefits of active micronutrients.

ForGrowth

FORMULATED FOR ROOT AND FOLIAR FERTILIZATION

Zn

ForGrowth Zn
Liquid Complex of nano-Zinc

Mg

ForGrowth Mg
Liquid Complex of nano-magnesium

Cu

ForGrowth Cu
Liquid Complex of nano-copper

Fe

ForGrowth Fe
Liquid Complex of nano-iron

Fe, Mn, Mg, Zn, Cu

ForGrowth Base
Liquid complex of nano-iron, nano-manganese, nano-magnesium, nano-zinc, and nano-copper

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For more information about our ForGrowth product line, please contact us:
hello@nanopowderplant.com