

FOLIAR FERTILIZATION

SOIL FERTILIZATION

Macronutrients (N, P, K)
Efficient supply in times of high nutrient demand, rapid plant growth, low soil availability, and plant stress.

Secondary Nutrients (Ca, Mg, S)
To produce high-quality crops and counteract limited soil uptake due to Ca immobility and nutrient antagonisms (e.g., high K supply that inhibits Mg uptake).

Micronutrients (B, Cu, Fe, Mn, Mo, Zn)
Complete and effective nutrition to exploit the full NPK and yield potential, bypassing micronutrient fixation in soil.

- + High nutrient efficiency for a quick correction of deficiencies.
- + Nutrients are directly delivered to the place of demand.
- + No risk of losses by leaching or fixation.
- + Convenient application together with plant protection products.
- Cannot supply the crops' full demand of N, P and K alone.
- A high-quality formulation is needed to guarantee crop safety and independence from weather conditions.

Nutrient application
Easy application of large nutrient quantities.

Nutrient uptake
Plants can take up huge amounts of nutrients via the roots.

Nutrient availability
The share of plant-available nutrients of the total amount depends on many factors, such as soil type, pH, drought, or organic matter content.

- + Soil fertilization is the basis for crop nutrition, especially regarding the supply with N, P and K.
- + Wide variety of different soil fertilizer types.
- Soil overfertilization (esp. with N and P) affects soil fertility and environment due to acidification, groundwater pollution, or surface water eutrophication.
- Nutrients applied to the soil are exposed to several types of losses due to leaching, volatilization, or fixation and thus show reduced availability, esp. under extreme weather conditions.

Add foliar fertilizer to your mix



52.4 kg N/ha

was the gross Nitrogen balance of the EU member states on average in 2015.

20% less fertilization than plant nutrient removal is the legal guideline in German regions with high nutrient pollution.

The use of nutrients, especially regarding Nitrogen and Phosphate, is and will be limited more strictly in countries all around the world.

INFO

More than 98 % of the nutrients are bound minerally or organically in the soil. Only 2 % are adsorbed to exchangers or are freely available in the soil solution.

80%

of marine ecosystems are affected by eutrophication.

43,2 megatons of Nitrogen and 8,6 megatons of Phosphorous enter into seas and rivers per year worldwide, with an increasing tendency.

36% has been the estimated increase in mean nitrate levels in global waterways since 1990.

Comply with regulations

- Promote plant growth effectively with the use of small nutrient amounts via the leaves.
- Be more flexible than with traditional ground fertilization alone.

Protect the environment

- Reduce impact on soil, ground, and surface water contamination by applying nutrients via the foliage.
- Act sustainably with regard to biodiversity, climate, and human health.

Deal with difficult conditions

- Secure plant growth under stress conditions with foliar fertilization.
- Use the fast and reliable effect of foliar-applied nutrients to protect your yield.

Get a better return on investment

- Use foliar nutrition to avoid nutrient losses by leaching, fixation, or volatilization.
- Focus on the right nutrients to optimize yield, e.g., micronutrients, which are only needed in small amounts.

≈ 72%

of the global land is likely to undergo aridification in the future, with aridity increases of > 30 % in Middle East, North Africa, South Africa, South Europe, and Australia.

More than 50% of the global average yield decrease of important crops is caused by abiotic stresses such as aridity, salinization, and cold.

50% of land area in all aridity zones is projected to be at least +5 % more arid by 2075.

TIP

The area for nutrient uptake provided by the leaves is 2 – 6 times higher than the area that is provided by the soil surface.

< 50%

is the worldwide crop Nitrogen use efficiency. Crop nutrient use efficiency from soil-applied fertilizers is 30 – 60 % only.

50 – 60% Nitrogen can be lost due to leaching under severe conditions.

15 – 20% of Nitrogen or even more can get lost by volatilization during the conversion from urea to ammonia in the form of NH_3 within one week, under warm and sunny conditions, if the fertilizer is not incorporated.

Would you like to learn more?

Talk to your area's WUXAL expert to hear more about the benefits of foliar fertilization and improve crop growth, business, and environment.

You will find more information on our website as well: www.wuxal.com

