NutrActive®

Dynamic nutrition of the crops

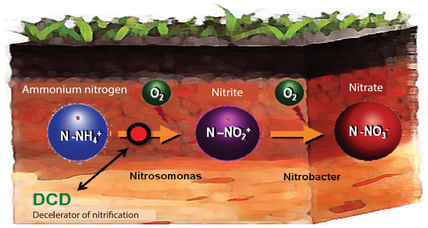
The presence of both Nitrogen forms in the soil and sufficient supply to the plants, in a regular pattern and according to their needs, constitute the "key of success" for increased yield and quality of the production.
With "traditional" fertilizers, fertilizing cannot be successfully adapted to the needs of the crops. Nitrogen supply diverges from the requirements of the plants, and fertilizing is accompanied by a large fertilizer losses to the deeper layers of the soil and to the atmosphere.
The new generation Nutractive® fertilizers, prevent fertilizer losses, "stabilize" Nitrogen in the soil, and extend its availability to the crops for a long period of time.
Via the nitrification retardant DCD, they alter the Nitrification rate, regulate Nitrogen supply based on the requirements of the crops, and ensure continuous supply to the plants for the duration of the farming period.
With Nutractive® fertilizers, the dynamic process between the fertilizer and the crops is restored. Fertilizing is adapted to the specific requirements of the plants, its effectiveness is increased, and the integral nutrition and high productivity of the crops are achieved.

Properties

Nutractive® are new generation fertilizers, the results of years of research and experimentation in the field of crops nutrition.

During their production process, the active factor 1-cyano-guanidine (DCD), which slows down the Nitrification process and extends the presence of Nitrogen in the soil for a long period of time, is integrated in each grain. Besides long-term Ammoniac Nitrogen, they also contain 30-40% of Nitric Nitrogen, which covers the immediate and short-term needs of the plants.

They are available in the form of Nitrogenous (N), complex Nitrogen-Phosphorus (NP) and multinutrient (NPK) fertilizers, to cover the basic and top fertilizing of all types of crops. Their excellent granulometry, high solubility, increased availability of nutrients, and the high Sulphur (S) content make Nutractive® fertilizers the best choice regarding the rational management of fertilizing and increased yield in modern agriculture.



Nutractive® effect on Nitrificitation process

Mechanism of action

For a robust growth and high productivity of crops, regular supply of plants with both Nitrogen forms is required.

In the case of fertilizing with traditional fertilizers, the entirety of added Nitrogen is quickly transformed to Nitrite and subsequently Nitrate salts.

Due to this transformation, the roots of the crops fertilized with traditional fertilizers can only access Nitrogen in the form of Nitrate in the soil.

The plants are thus forced to unilateral Nitrate nutrition, they are deprived from the metabolically essential Ammoniac Nitrogen, and the quantity and quality of the products is undermined.

Nutractive® fertilizers, via the nitrification retardant DCD, stabilize Ammoniac Nitrogen, they protect it from microbial oxidation, and extend its presence in the soil for 6 to 10 weeks.

By slowing down the transformation rate of Ammoniac Nitrogen to Nitric, Nutractive® fertilizers ensure an extended nutrition of the crop with both Nitrogen forms. At the same time, they regulate the supply of Nitrogen based on the needs of the plants, minimize losses due to leaching and vaporization, and maximize the effectiveness of fertilizing.

The long-term and balanced supply of the plants with both Nitrogen forms promotes the growth of the root system, increases the absorption of water and nutrients, and achieves a robust growth and high productivity of the crops.

Nitrogenous Nutractive® N fertilizers

Nutractive® 27N
27-0-0(+12S)

Nutractive® grow
25-0-0 (+12S)+0,5Zn+ 0,5FeSO4

The Nitrogenous Nutractive®-N fertilizers have been developed to ensure a regular and extended nutrition of the crop with Nitrogen for the duration of the farming period. Via the contained active factor 1-cyano-guanidine (DCD), they slow down the Nitrification process, regulate Nitrogen supply based on the needs of the plants, minimize losses due to leaching and vaporization, and maximize the effectiveness of fertilization. Having an ideal ratio of "stabilized" Ammoniac and Nitrate Nitrogen, they fully cover both the short-term and long-term needs of the crop. Their additional high Sulphur (S) content increases the utilization of Nitrogen by the plants and promotes the quantitative and qualitative characteristics of the production. They are ideal for top fertilizing of all types of crops, offering flexibility regarding the time of application and the guaranteed utilization of the fertilizer.

Complex Nutractive® NP fertilizers

Nutractive® smart
25-10-0(+8S)

Nutractive® zinc
25-10-0(+7S)+0,5Zn

Nutractive® expert
20-20-0(+9S)

Nutractive® - NP are innovative Nitrogen-Phosphorus fertilizers developed for top fertilizing of field crops. Their specialized production process ensures the highest solubility (90%) of Phosphorus, maximizing its absorption by the crop. Their additional enrichment with Sulphur achieves a better utilization of Nitrogen and the rest of the nutrients. The high content in long-term "stabilized" Nitrogen minimizes losses and spreads the supply of the crop over a long period of time, while potecting Phosphorus from immobilization and increasing its availability to the plants. The combination of all the aforementioned technologies make Nutractive® - NP the most advanced NP fertilizers regarding the basic fertilization of winter and spring cereals and all field crops.

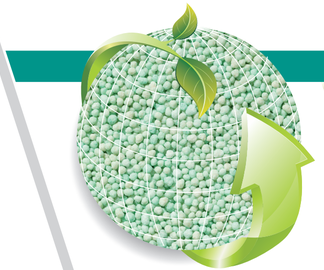
Complex Nutractive® NPK fertilizers

Nutractive® leader
15-15-15(+7S)

Nutractive® power
20-5-10(+8S)+2MgO+ 0,5B

Nutractive® plus
24-6-7(+5S)+0,3Zn

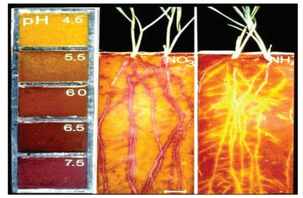
Nutractive® - NPK are complex multinutrient fertilizers that incorporate all contemporary expertise in the field of crops nutrition. They have a balanced ratio, specialized form, and completeness of the nutrients that are required for an integral nutrition of the crop. Their high solubility, excellent granulometry, and high Sulphur content maximize the availability of the nutrients in the soil and boost the successful establishment and the robust growth of the plants. At the same time, via the Nitrification Retardant, they offer long-term and integral nutrition to the crops fertilized with them. The Nutractive® - NPK fertilizers were developed to meet the special requirements of arboriculture, viticulture, horticulture, cereals, and industrial crops, and they are the ideal choice for the basic and top fertilizing of these types of crops.



Advantages– Benefits

Utilization of bound nutrients

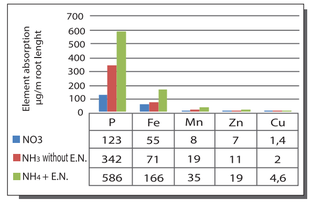
By slowing down the Nitrifcation rate, Nutractive® fertilizers ensure the extended nutrition of the crop with both Nitrogen forms. Balanced nutrition promotes a robust growth of the root system. The plants can utilize a greater volume of soil and increase their absorption of water and nutrients. At the same time, the absorption of the Ammoniac Nitrogen in Nutractive® fertilizers leads to a lower pH on the rhizosphere surface, thus releasing nutrients that were already in the soil but were strongly bound and not available to the plants. Via this mechanism, the crop can now utilize the immobilized nutrients in the soil as well as the unused elements from past fertilizings besides the fertilizer, thus maximizing the effectiveness of fertilizing.



Nutractive® fertilizers increase Ammoniac nutrition, leading to pH reduction on the rhizosphere surface.

Increased absorption of Phosphorus and Trace Elements

Nitrate nutrition is accompanied by rhizosphere alkalization and obstructs the absorption of Phosphorus and the trace element that form dissoluble compounds in the soil. Plant fertilizing with common Ammoniac Nitrogen improves the absorption of these elements. However, due to the fast transformation of Ammoniac Nitrogen into Nitrate, rhizosphere alkalization recurs, making the absorption of the required quantities of Phosphorus and Trace elements by the crop more difficult. Fertilizing with Ammoniac Nitrogen that contains a Nitrification Retardant (N.R.) acidifies the rhizhosphere, solubilizes Phosphorus and the trace elements, and increases their absorption by the crop.

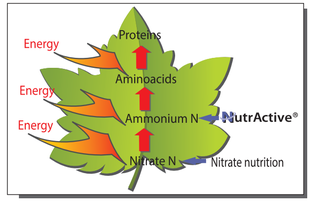


	P	Fe	Mn	Zn	Cu
NO3	123	55	8	7	1,4
NH_3 without E.N.	342	71	19	11	2
NH_4 + E.N.	586	166	35	19	4,6

Phosphorus and Trace elements absorption increase with the use of Ammoniac Nitrogen and Nitrification Retardant (N.R.)

Energy saving – increased yield

Nitric Nitrogen, although absorbable, cannot be used as it is by the plants. The plant consumes energy, in order to first transform it to Ammoniac and then use it to synthesize amino-acids and proteins. Nutractive® fertilizers increase Ammoniac nutrition and supply the plants with Nitrogen that can be immediately utilized by their metabolism. Energy wasting is thus reduced and the effectiveness of fertilizing is increased. The extended Ammoniac Nitrogen supply to the crop, boosts the synthesis of cytokines and polyamines by the plants. These substances boost a robust flowering and fruit-setting of the crop, and they increase the yield per square kilometer as well as the production quality.



The Ammoniac nutrition achieved with **Nutractive®** fertilizers decreases the waste of energy, promotes fruition and increases production.

Strength superiority ...


NutrActive® 27N


NutrActive® grow


NutrActive® 20-10


NutrActive® 22-11


NutrActive® smart


NutrActive® zinc


NutrActive® expert


NutrActive® leader


NutrActive® power


NutrActive® plus

Advantages

- **Integration of Nitrification Retardant in the grain during fertilizer production process, for guaranteed Nitrogen stabilization**
- **Continuous and extended nutrition of the crop for over two months**
- **Increase of yield per square kilometer due to the regular nutrition of the plants with both forms of Nitrogen**
- **Controlled Nitrogen supply to the crop according to its specific requirements at the time**
- **Protection of the Nitrogen in the soil and minimization of the losses due to leaching and vaporization**
- **Robust growth of the root system and improved water and nutrient intake**
- **Increased Phosphorus and Trace element intake and energy saving by the plants**
- **Flexibility regarding the time of fertilizing and guaranteed Nitrogen supply in all weather conditions**
- **Labor and cost saving fertilizing due to decreased applications**
- **Environmental and health benefits due to reduced Nitrates in the water and in the final products.**

Products	Total Nitrogen (N)	Ammoniac Nitrogen (NH_4)	Nitric Nitrogen (NO_3)	Cyanamide Nitrogen	Phosphorus (P_2O_5)	Potassium (K_2O)	Sulfur (S)	Magnesium (MgO)	Zinc (Zn)	Iron ($FeSO_4$)	Boron (B)
Nutractive® 27N 27-0-0 (+12S)	27%	18,7%	8%	0,3	-	-	12%	-	-	-	-
Nutractive® grow 25-0-0 (+12S)+0,5Zn+0,5$FeSO_4$	26%	18,1%	6,9	-	-	-	12%	-	0,5%	0,5%	-
Nutractive® smart 25-10-0 (+8S)	25%	17,2%	7,5%	0,3%	10%	-	8%	-	-	-	-
Nutractive® zinc 25-10-0 (+7S)+0,5Zn	25%	16,5%	8,24%	0,26%	10%	-	7%	-	0,5%	-	-
Nutractive® expert 20-20-0 (+9S)	20%	17,1%	2,6%	0,3%	20%	-	9%	-	-	-	-
Nutractive® leader 15-15-15 (+7S)	15%	12,2%	2,6%	0,2%	15%	15%	7%	-	-	-	-
Nutractive® power 20-5-10 (+8)+2MgO+0,5B	20%	12,4%	7,4%	0,2%	5%	10%	8%	2%	-	-	0,5%
Nutractive® plus 24-6-7 (+5S)+0,3Zn	24%	14,9%	8,9%	0,22%	6%	7%	5%	-	0,3	-	-

Guarantee of quality HELLAGROLIP

Unique Quality
High Solubility
Excellent Granulometry

- Guaranteed supply of nutrients
- uniform dispersion, without gaps in the field
- absence of dust

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