www.cich.ro

CICh®
ROMÂNIA

PRODUCT CATALOG

for a good growth

NAVODARI CHEMICAL FERTILIZERS PLANT

About us

NAVODARI CHEMICAL FERTILIZERS PLANT

CICh Romania is the pioneer and market leader of fertilizers developed with the controlled release technology of the Nitrogen mass, in Romania. It is also the ideal partner in obtaining a correct nutrition plan, adjusted to the needs of the crops, being able to bring at present standards, consecrated traditional products, by using the newest technology in the field.

CICh Romania is a company with entirely private capital, set up in 2002, that operates on the platform of the former Navodari Chemical Fertilizers Plant. The success of our company relies on over 50 years of experience in the production of chemical fertilizers.

The company`s mission, emphasized by the slogan – for a good growth, is to support through efficient solutions the nutrition of plants, irrespective of the typology of the agricultural works and of the soils. It is in the same time, our method of showing respect towards the environment and specialised agriculture.

At the core, this is our day-to-day challenge, to find solutions for the needs of farmers, irrespective of the variety of crops and soils.

CICh Romania is **the only producer in Romania of Single Superphosphate** and other Phosphorus based-recipes, products homologated and registered in accordance with the national and international standards.

SSP (0-20-0) is a premium product of CICh Romania , with a significant quantity of Phosphorus, containing also meso elements such as Ca, S, as well as essential micro elements in the development of plants (Fe, Mg, Zn), with positive impact upon the quality of obtained crops.

As of 2016, we will also produce and commercialise Triple Superphosphate (0-46-0), becoming the national leader of Phosphorus–based fertilizers.

We promote the correct and the strategic planning of the agricultural production, as well as the performing of water/soil analysis, through our national sales team, which is actively close to farmers and provides specialised support.

At the basis of our activity rely various attributes namely quality, seriousness, transparency and respect.

We want to live in a healthier world.

Support along with us the good growth!

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As of 2016, we will also produce and commercialise

TRIPLE SUPERPHOSPATE 0-46-0 **46% P_2O_5**

Triple Superphosphate is a phosphate fertiliser with a high P_2O_5 concentration, having excellent physical and chemical properties. It is suitable for all types of soil and crops, supporting the growth of plants and the development of the root system, enhancing the resistance of plants to freeze and helping the complete absorption of the humidity from the soil.

Complete portfolio of Phosphorus-based Fertilizers

Logistics

The strategic location, near 2 harbours, one with opening to the Black Sea and one with opening to the Danube River, and the logistics and storing facilities, turn CICh Romania into a true force in the agribusiness field.

Logistics is one of the directions where we have remarkably invested and we will also continue to focus on this in the future, being aware of the fact that it represents a real competitive advantage.

The storing spaces reach at present a total capacity of approximately 200,000 tons, of which 100,000 tons in covered halls and other 100,000 tons in open spaces.
The storing spaces are represented by covered halls and covered platforms, being possible to store both packed and bulk products.

The goods accepted in bulk may be packed within our company, in big bags of 500/600/1000 kg and in bags of 50 kg. Our plant has a capacity of delivery of goods of 1000 tons per day.

The access in the storing spaces of the plant may be made both by road and by railways, **CICh Romania having its own railway network connected to the national network.**

Considering the logistic capacities we have, we are able to offer our clients a various range of logistic services, respectively:

- Download/load on ships/barges
- Transfer of goods from harbour to the warehouses of the company
- Storage services
- Packaging
- Load/delivery of goods in containers, trucks with tarpaulin, cereal trucks, etc.
- Load/delivery on railway.

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Classics

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Complex Binary Fertilizers

Our Complex Binary Fertilizers represent the suitable answer to the specific needs of plants and soils: recommended for the fertilization of autumns cereals, rice, beta and soybean.

Complex Ternary Fertilizers

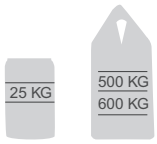
- Fertilizers by excellence

A wide range of products that are distinguished by the fact that they include the three macro-elements, as well as a highly enough percentage of SO_3, that nowadays is considered to be the fourth most important nutrient due to the function fulfilled in the plants nutrition.
These are mono granulated complex fertilizers. The versatility of our production unit means that a diversity of variations of the products from the catalogue may be made upon request.

Available in:

- 25 kg bags per 1500 kg pallet

- 500-600 kg maxi-bags



Complex Ternary Fertilizers

With low Chlorine concentration

Our Complex Ternary Fertilizers with low Chlorine concentration include all the advantages of the above-mentioned NPK, with the addition of low-chlorine potassium (<2%), form in which this element has the best quality (EC Reg. 2003/2003).

Products	Method of use	Doses kg/ha	Crops
Complex Binary NP Fertilizers			
5. 25 + 2 MgO + 5 SO_3		**200-500**	
10. 25		**200-500**	
10. 30		**200-500**	
20. 20		**200-500**	
Complex Binary PK Fertilizers			
0. 14. 28 + 2 MgO		**200-500**	
0. 20. 20		**200-500**	
0. 24. 12		**200-500**	
Complex Binary NK Fertilizers			
16. 0. 30 + 15 SO_3		**200-500**	
20. 0. 20 + 24 SO_3		**200-500**	
Complex Binary NPK Fertilizers			
5. 15. 30		**200-500**	
6. 12. 24 + 8 SO_3		**200-500**	
7. 14. 21 + 6 SO_3		**200-500**	
7. 20. 14		**200-500**	
8. 16. 20 + 11 SO_3		**200-500**	
8. 24. 24		**200-500**	
13. 5. 20 + 25 SO_3		**200-500**	
15. 15. 15 +7 SO_3		**200-500**	
20. 10. 10 +16 SO_3		**200-500**	
Complex Ternary NPK Fertilizers with low Chlorine concentration			
8. 24. 20 + 16 SO_3		**200-500**	
11. 22. 16 + 11 SO_3		**200-500**	
20. 10. 10 + 21 SO_3		**200-500**	

***upon request, available also with ME (micro-elements)**

Phosphorus-based fertilizers

CICh Romania is specialized in the production of Superphosphates and other Phosphorus-based consecrated recipes

Starting with 2016 we will produce and commercialise

TRIPLE SUPERPHOSPHATE 0-46-0 46% P_2O_5

The Triple Superphosphate is a phosphate fertiliser with a high P_2O_5 concentration, having excellent physical and chemical properties.
It is suitable for all types of soils and crops, supporting the growth of plants and the development of the root system, enhancing the resistance of plants to freeze and helping the complete absorption of the humidity from the soil. It is applied in autumn before the deep tilling for the basic fertilization of autumn or spring crops, before seeding the spring crops, at the same time with soil processing.

Packaging: 500-600 kg big bags

Unique producer of TSP and SSP in Romania!

SINGLE SUPERPHOSPHATE 20% P_2O_5

Chemical composition:

Phosphorus (P_2O_5)	20%
Calcium (Ca)	20%
SO_3	30%
Magnesium (Mg)	0.3%
Iron (Fe)	0.8%
Zinc (Zn)	0.2%

Granulometry:
Between 2 and 4 mm minimum 90%
Under 2 and over 4 mm maximum 10%

Packaging: 500-600 kg big bags

Single Superphosphate is a mineral fertilizer that is applied before tilling, the phosphate from this fertilizer, being considered an investment in time for the soil and having also a corrective role for the deficiencies of phosphorus that are found in the soil, in the most advantageous way.

It is recommended to be applied before seeding with disk opener for rapeseed, wheat, and barley.

EKOPHOS 26% P_2O_5

Chemical composition:

Phosphorus (P_2O_5)	26%
SO_3	10%
Bor (B)	0.02%
Manganese (Mn)	0.05%
Zinc (Zn)	0.18%

Granulometry:
Between 2 and 5 mm minimum 95%
Under 2 and over 5 mm maximum 5%

Packaging: 500-600 kg big bags

Ekophos is an ideal fertiliser for the fertilisation of autumn ploughed fields for all crops, especially for cereals and technical plants.

It is recommended to be applied before tilling, but in certain cases it may be also applied before preparing the germination bed from summer-autumn.

CEREALFOS 40% P_2O_5

Chemical composition:

Phosphorus (P_2O_5)	40%
Calcium (Ca)	17%
SO_3	10%
Magnesium (Mg)	0.5%
Iron (Fe)	0.03%
Zinc (Zn)	0.03%

Granulometry:
Between 2 and 4 mm minimum 90%
Under 2 and over 4 mm maximum 10%

Packaging: 500-600 kg big bags

Cerealfos is a universal fertilizer used in the basic fertilisation of the cereals, oleaginous plants (sunflower, rapeseed) crops, vegetables, vineyards plantations and orchards. It is usually administered before tilling, but also before preparing the germination bed, correcting the phosphorus deficiencies that may be found in the soil.

In addition, it may be also used for corn, but it must be administered in the preceding autumn.

- **The Calcium** found in the composition of these products, significantly contributes to the development of plants, being a basic element for the nutrition of plants, these not being able to develop without this chemical element.

- The insufficiency of calcium has as main effect the decrease of the resistance of the plants to severe cold and drought, while a presence of calcium in the plants confers them a high quality and structure, both to plants and fruits, assuring a better capacity of absorption from the soil and helps in creating and developing the mechanism of self defence against fungi, bacteria and insects.

- Calcium facilitates, among others, the adequate aeration of the soil, the correct circulation of water in the soil, an efficient washing for the removal of excessive salts and a better development of the roots.

The presence of phosphorus:

- stimulates the development of the root system;
- influence in a favourable manner the fructification processes;
- has a role in chlorophyll synthesis;
-shortens the period of vegetation;
- speeds the ripening;
- increases the resistance of the plant to diseases and bad weather;
- it is present in all enzymes that participate in forming vitamins B1, B2.





The deficiency in phosphorus is shown by:

- leaves yellowing;
- early falling of leaves and fruits of the fruit trees;
- reduction of fructification;
- delay of fruits maturation.

The deficiency of phosphorus is more pronounced in the soils with high degree of acidity (sandy soils) as well as in alkaline soils.

- **Sulphur** is an essential constituent of proteins, which, among others, intervene in the formation of chlorophyll. Thus, as consequence of the lack or the poor presence of the sulphur in the soil, it has been proven that this deficit has as consequence, the obtaining of inadequate quality cereals (for example: the wheat does not fulfill the necessary characteristics for bakery).

- Together with **phosphorus** and **sulphur**, these fertilizers may also include microelements essential for the metabolism of the plants. With remarkable effects upon the quality of obtained products, such as: **iron, manganese, and zinc.**

- **The Phosphorus** found in the composition of the fertilizer is represented as active substances, under P_2O_5 assimilable form.

- The plants that react very well with phosphorus based fertilizers are: wheat, corn, alfalfa, sugar beet, various vegetables and potatoes.

for a good growth

CICh® ROMÂNIA

PREMIUM NS Range

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BALANCED NUTRITION – Optimum ratio between Nitrogen and Sulphur

PREMIUM NS 40 40% N + 14% SO_3

40% N of which:
- Ammoniacal NITROGEN (N) 4.6%
- Ureic NITROGEN (N) 35.4%

14% SO_3 (sulphuric anhydride)
Colour: orange
Granulometry: between 2 and 5 mm, minimum 95%
pH: between 8 and 8,5

PREMIUM NS 33 33% N + 29% SO_3

33% N of which:
- Ammoniacal NITROGEN (N) 10%
- Ureic NITROGEN (N) 23%

29% SO_3 (sulphuric anhydride)
Colour: orange
Granulometry: between 1 and 4 mm, minimum 95%
pH: between 6.8 and 7

Why NITROGEN and SULPHUR?

The Sulphur is an essential nutrient for the agricultural production. It ranks as secondary element together with Magnesium and Calcium, but many specialists considers it already as being the fourth macronutrient, together with Nitrogen, Phosphorus and Potassium.

Sulphur became more and more important as limitative element in the agricultural production, due to a few factors with direct impact, among which:

- The rapeseed crops need a more high quantity of sulphur
- Using DAP, MAP, Urea an Ammonium Nitrate type fertilizers which do not have sulphur in their composition
- Application of products has been reduced for the protection of the Sulphur based plants
- The sulphur releases in the atmosphere have been reduced, on the one hand because of deindustrialisation and on the other hand because that the present industry reduced significantly the gas releases in the atmosphere.





APPLICABILITY IN ALL AGRICULURAL WORKS

By launching this range of products, we have a complete portfolio of fertilizers based on Nitrogen and Sulphur !

PREMIUM NS Range

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Sulphur has numerous important roles in the physiology of the plants. It is used for the formation of amino acids, proteins and oils. It is also necessary for the chlorophyll synthesis, supports the formation and development of knots in leguminous plants, has an essential uptake in activating enzymes and vitamins and is found in two components, out of the 21 amino acids.

The needs in Sulphur of the crops are directly related with the needs of Nitrogen. This relationship is not surprising because both are components of proteins and are main factors in chlorophyll formation. Generally, the crops, which need a large amount of Nitrogen, need also a large amount of sulphur.

The deficiency in sulphur is very similar with the one in Nitrogen. The insufficiency in sulphur in the plants nutrition produces delay in the process of increase and after, it even stops.
The leaves begin to turn yellow and to get on an enough large surface, a red/violet colour.
The deficiency in Sulphur contributes to the increase of the soluble Nitrogen and makes that the protein substances to form more slowly.

In case of cereals, the deficiency in Sulphur produces an increase of the aspartic acid and the decrease of other essential amino acids. In the same time, the sulphur deficiency leads to a lower quantity and quality production of wheat.

In case of rapeseed and sunflower, the deficiency in sulphur leads to a weakly developed and smaller flower crown and many times sterile capsules, having in the same time, a negative impact at the level of the oil content which becomes lower.

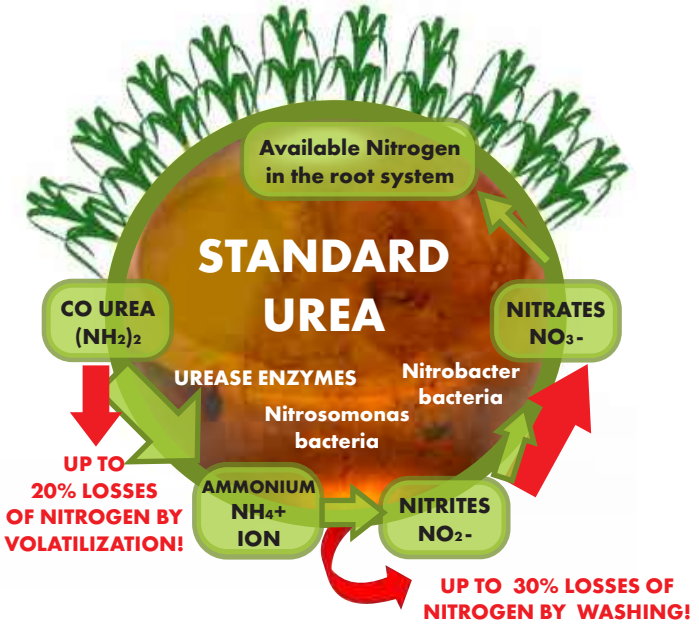
In case of leguminous plants, the deficiency in sulphur has a negative effect on forming of the root knots with direct influence upon the capacity of fixing the atmospheric Nitrogen.

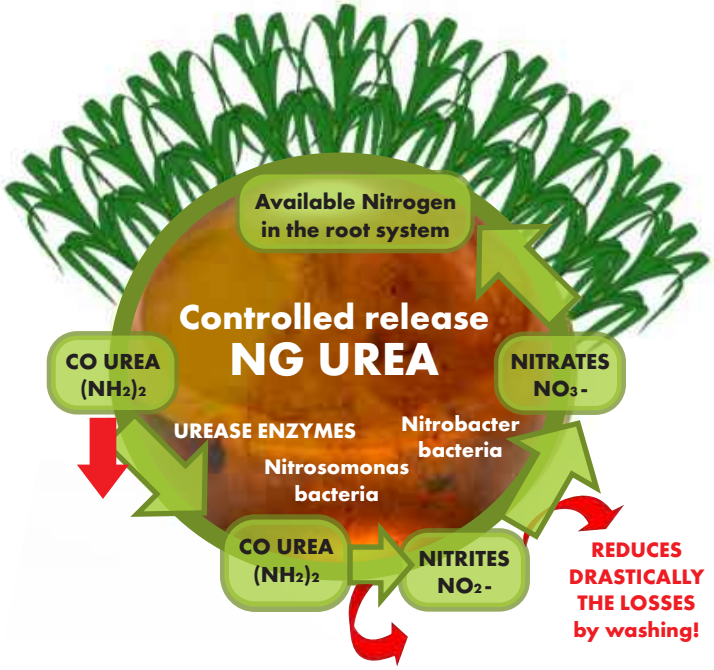
Crop	Method of use	PREMIUM NS 33	PREMIUM NS 40
Corn, sorghum		350-500 kg/ha	320-470 kg/ha
Wheat, barley		220-380 kg/ha	200-350 kg/ha
Vitis vinifera, fruit trees		200-250 kg/ha	170-220 kg/ha
Sunflower, rape bean		250-300 kg/ha	220-270 kg/ha
Rice		250-400 kg/ha	220-270 kg/ha
Horticulture		250-450 kg/ha	220-420 kg/ha





The NG Effect applied to UREA





N-GUARD

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for a good growth

In Romania, exclusively by naturEVO®

N-GUARD RANGE

controlled release fertilizers

- **NG products** are adjusted to all the needs of crops and types of soil.
- **NG range** - premium products developed with controlled release technology of the Nitrogen mass.

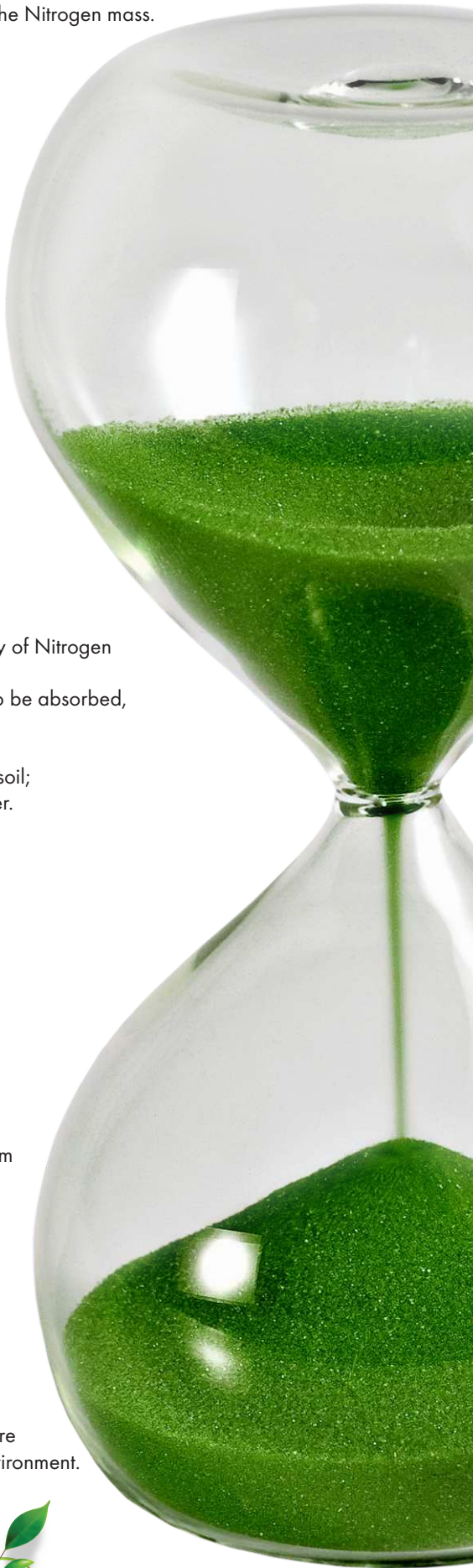
What is NG?

N-GUARD inhibitor is a 100% natural product, based on vegetable oil.
NG provides maximum agronomical efficiency, the Nitrogen consumption by the nitrification bacteria being slowly made and in a controlled manner.
In addition, it has a repellent effect, delaying the attack of insects on the crops!

The complete control

of the Nitrogen that plants need

NG range consists of slow, constant and controlled release of Nitrogen.
It increases the efficiency of the Nitrogen from the soil for the plants, prolonging the time of absorption and removing the losses by leaching.



Benefits

- Improving the ratio between the administered quantity of Nitrogen and the quantity of Nitrogen absorbed by the crop;
- Prolongation of the period in which Nitrogen remains at the disposal of the plant to be absorbed, removing the risks of the Nitrogen deficit;
- Reduction of Nitrogen losses through leaching and denitrification;
- Increase of the yield of the crops reducing the Nitrogen doses administered in the soil;
- Another positive effect is the possibility of early applying irrespective of the weather.

Advantages

- Increase the efficiency of Nitrogen in the soil;
- Drastically reduce the Nitrogen losses by leaching and denitrification;
- Assure the efficient nutrition of the plants
- A range suitable for all crops and types of soil;
- Lower amount of work and costs by fewer applications of fertilizer;
- NG products considerably support the increase of the crops yield and the profit of the farm.

Navodari Chemical Fertilizers Plant is the only company that has the authorisations from the Ministry of Agriculture and Rural Development for the production of NG Products, in Romania.
Avoid imitations!

NG is synonymous with the specialized agriculture, the quality of production and respect for the agronomic environment. It is the rational answer of a modern company, concerned about the agronomic and economic results, interested on the environmental aspects related to the use of nitrogen and traditional fertilizers, which in certain agricultural areas with high sensitivity create environmental issues.

Our company, in comparison with other companies, is very careful concerning the future and for this reason we have created the NG products range – from respect for the environment.

We want to live in a healthier world!
Join us!

CICh® ROMÂNIA
for a good growth

UREA NG

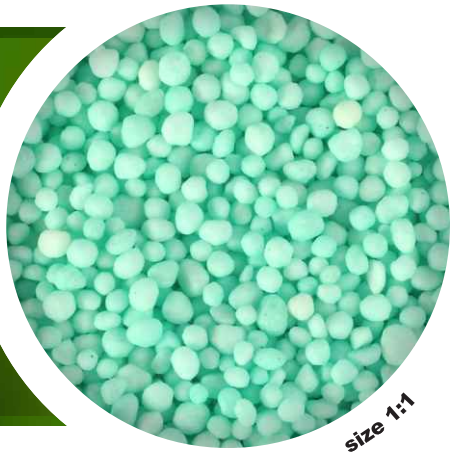
Chemical composition:
Total Nitrogen (N) 46%
N-GUARD Inhibitor (vegetable oil)

Granulometry:
2-5 mm (92%)

Particularities:

Neutral, suitable for all types of soil;

Excellent results in cereal crops, especially to wheat.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UTIL SAN NG

Chemical composition:
Total Nitrogen (N) 21%
SO_3 soluble in water 58%
N-GUARD Inhibitor (vegetable oil)

Granulometry:
1,7-3 mm (90,8%)

Particularities:

Acid product, recommended for basic or alkaline soil;

Excellent results in rape bean and sunflower crops.


size 1:1

BAZIC 27 NG

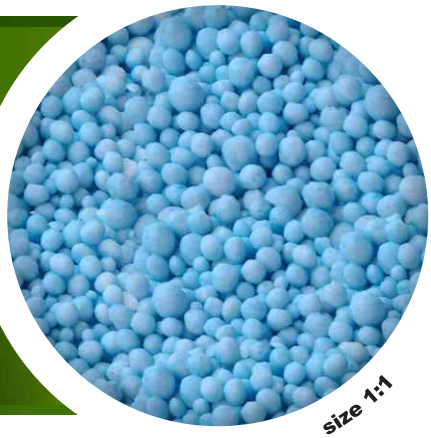
Chemical composition:
Total Nitrogen (N) 26%
Calcium Oxide (CaO) 13%
Magnesium Oxide (MgO) 9%
N-GUARD Inhibitor (vegetable oil)

Granulometry:
2-5 mm (95%)

Particularities:

Recommended for low acid or even acid soil;

Excellent results in all agriculture crops.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AMOSULF NG

In Romania exclusively by naturEVO®

Chemical composition:
Total Nitrogen (N) 33%
Ureic Nitrogen 23%
Ammoniacal Nitrogen 10%
SO_3 soluble in water 29%
N-GUARD Inhibitor (vegetable oil)

Granulometry:
2-5 mm (92%)

Particularities:

Neutral, suitable for all types of soil;

Excellent results for wheat, rape bean and sunflower crops.


size 1:1

N-GOOO Range

We increase the yield using the superpower of DCD inhibitor.

A nutritive cocktail, developed for a variety of crops.

Advantages **of the N-GOOO range fertilizers:**

- The variety of recipes offers the possibility to use fertilizers with inhibitors in all the agriculture works and in the areas with high sensitivity of the environment;
- DCD nitrification inhibitors is uniformly present inside each grain of the N-GOOO fertilizers. This characteristic makes them unique and guarantees a higher agronomic efficiency;
- The fast decomposition of the grains favours the immediate availability of phosphorus and of potassium as well as the start of the slowing effect of the mineralisation process of the ammoniacal Nitrogen;
- Helps to the reduction of Nitrogen losses through the volatilisation of ammonia and the leaching of nitrates;
- Helps plants to increase their Nitrogen absorption, irrespective of the weather;
- Lower work amount and costs by fewer applications of fertilizers;
- Considerably supports the increase of the yields of the culture and the profit of the farm.

The ideal choice is the application of N-GOOO products, already from the pre-seeding phase or localized seeding, in order to distribute the Nitrogen, Phosphorus and potassium quantities needed for an optimum start of the crop, without imbalances and without losses. In the same time, Phosphorus and Potassium are important elements both in initial stages and in those of the growth of the crops.

Therefore they must be provided since the first stage of development, especially in poor soils. The nutrition of the plant in adequate quantities and in the moment of actual needs, is the guarantee of productivity and financial efficiency.

N-GOOO Products

Products	Method of use	Doses Kg/ha	Crops
NP 10.20 + 10%SO_3 + 0,05%Cu + 0,09%B + 0,07%Zn		200-400	
NP 18.18 + 5%SO_3 + 0,02%B + 0,01%Cu + 0,06%Fe		200-400	
NP 5.25 + 5%SO_3 + 0,02%B + 0,05%Mn + 0,18%Zn		200-400	
NP 20.10 + 32%SO_3 + 0,1%Zn		200-400	
NPK 7.20.14 + 6%SO_3 + 0,04%Zn + 0,01%Cu + 0,08%Mn + 0,02%B		200-400	
NPK 5.15.15 + 7%SO_3 + 2%MgO + 0,05%Cu + 0,08%B		200-400	

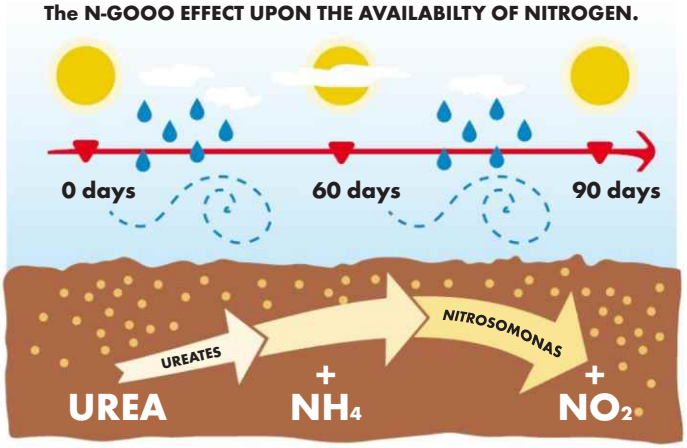
Evo N-GOOO Prodcts

In Romania exclusively by naturEVO®

Products
NPK 10.20.10 (5%SO3+0,02%B+0,01%Cu+0,06%Fe+0,01%Zn)
NP 14.20 (8%SO3+0,02%B+0,01%Cu+0,06%Fe+0,01%Zn)

Based on the analysis of your soils, we are also able to produce other recipes with the addition of micro elements.

The N-GOOO EFFECT UPON THE AVAILABILTY OF NITROGEN.



... and the innovation does not stop here!

CICh® ROMÂNIA

for a good growth

PRACTIC OPTIMAL
(Ammonium Sulphate)
21%N and 58%SO_3

Chemical composition:

Total Nitrogen	21%
Ammoniacal Nitrogen	21%
Total SO_3	58%

Granulometry:
Between 1 and 5mm minimum 95%
Under 1 and over 5mm maximum 5%

Package: 500-600 kg big bags

Practic Optimal is an easily soluble fertiliser.

This has an acid physiological reaction, it is recommended on alkaline or neutral soils; it has the capacity to transform the phosphates from the soil in soluble phosphorus.

Practic Optimal is specially recommended for the rice, rape bean and potatoes crops, but it may be used with optimum results for the rest of the crops also.

How it is used

Horticulture	
Green - Yellow melon	-
Carrot	-
Onion	-
Turnips	-
Tomatoes	-
Soybean	20 - 50 kg/ha
Industrial crop	
Sugar beet	200 - 300 kg/ha
Tobacco	-
Potatoes	300 - 400 kg/ha
Rape bean	300 - 400 kg/ha
Sunflower	300 - 400 kg/ha
Pomiculture– Viticulture	
Citrus	200 - 300 kg/ha
Olive tree	200 - 300 kg/ha
Apricot tree – Peach tree – Sweet Cherry tree – Plum tree	
Hazel nut tree	-
Kiwi	-
Apple tree – Pear tree	200 - 300 kg/ha
Vineyards (wine grapes)	-
Vineyards (table grapes)	-
Cereals	
Wheat / Barley	300 - 400 kg/ha
Rice	200 - 400 kg/ha
Corn	400 - 600 kg/ha

USE:

To be applied by spreading on the surface of the soil before tilling or before preparing the soil for seeding.

- **Practic Optimal** is an inorganic compound with chemical formula $(NH_4)_2SO_4$.
- This has a wide range of commercial use, being an important fertilizer for the soil.
- **Practic Optimal** is a better fertilizer for the rice plantations, the conditions of anaerobiosis leading to important losses of nitrogen.
- **Practic Optimal** has a grain form, providing an easier distribution compared to the classical crystalline ammonium sulphate.
- It presents the advantage that is not hygroscopic and, for this reason, does agglomerate lesser.
- Among N fertilizers, **Practic Optimal** has the strongest residual acidifying effect per kg of applied N, therefore it is contraindicated on the acid soils, being recommended only on alkaline soil.
- Due to the high sulphur content, $(NH_4)_2SO_4$ is a good fertilizer for the soil with deficit in this element.
- In order to avoid the losses of N volatilisation, on the limestone soils and on those alkalinised, the fertilizer must penetrate the soil; from the same reason this is not applied at the same time with the limestone amendments.
- It may be applied in autumn before tilling or even in the spring.

POTASSIUM SULPHATE

What is
Potassium Sulphate?

It is a product with high concentration of Potassium and Sulphur and does not include chlorine; the mix of these elements causes the difference from Potassium chloride.

K_2O - 50% | **S - 18%**

Why Potassium?

- Choosing Potassium in this formula allows the minimum reduction of fertilizer`s salinity and removes the uptake of chlorine, low tolerated element by the plant.
- Sulphur facilitates the assimilation of the Nitrogen and improves the metabolism of amino acids and of the proteins of the crops, increasing the yield and the quality of crops.
- Potassium improves the colour of the product and increases the content in sugar and acids that consolidate the fruits vegetables flavour.
- Potassium also increases the firmness of the tissues of the plant and the resistance of the harvested product to transport and storage.
- The nutrients from the Potassium Sulphate are soluble in water and therefore, immediately assimilable by plants
- Potassium Sulphate produces effects irrespective of pH value of the soil.
- The fertilization with potassium sulphate may be provided to all the crops, shortly before seeding or planting. A covering fertilization is possible without risking leaves burning. Our potassium sulphate is resulted from the processing of the best quality raw materials.
- The acid pH of this product avoids the formation of limestone deposits in the irrigation installations, if hard water is used.

POTASSIUM CHLORIDE

Potassium, together with Nitrogen, is one of the main nutrients needed by the plant.

The plants absorb it in high quantity, many times even in excess, compared to their real needs.

K_2O - 60%

- Potassium contained by the plants is characterized by high mobility; a higher absorption of the element takes place during the vegetative development.
- The element fulfilled numerous physiological and biochemical functions and encourages the water absorption by the plant.
- It has a role during the sweating process, increasing the osmotic potential of the cells and regulating the mechanism of opening and closing stomata, considerably influencing the quality of production.
- The plants with deficit in potassium shows chlorosis (deficit of chlorine, the plant turns yellow), weakening the stem, increased sensitiveness to pathogen agents, increased sensitiveness to freeze.
- Generally, the soils contain a certain amount of potassium, but this is only a little bit assimilated by the plants, being necessary to adequately administer the Potassium-based fertilizers.

CICh® ROMÂNIA

STARTER effect
fertilizers

TURBOSTART RANGE

High quality effect fertilizers with guaranteed starter effect and positive impact since the first stages of vegetation.
Helps to outline a complete nutrition plan
A remarkable contribution in obtaining profitable agronomic results

The **micro granulated** fertilizers range, induces the starter effect and is applied on seeding and transplantation of the crops, having as result the fast assimilation of nutrients by the merely formed root system. The complex fertilizers that constitute the **TURBOSTART** range, assure the correct distribution of the mineral elements to the plant, at the adequate time and place, without causing dissipation.

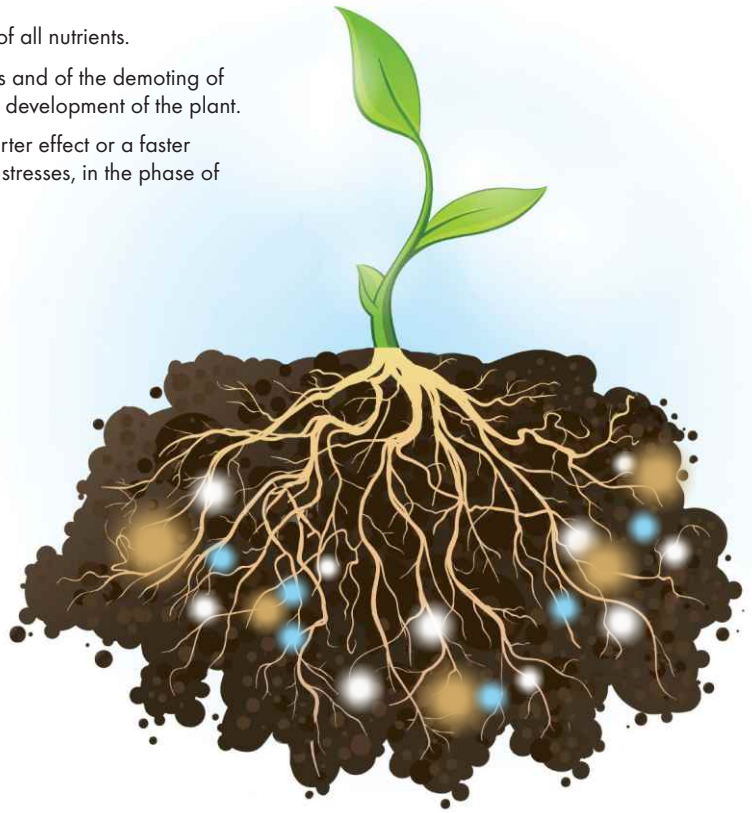
The starter effect that the TURBOSTART fertilizers have on all crops is assured by the very high solubility of all the raw materials used for its development (the mineral elements) and does not show any risk of phytotoxicity.

The TURBOSTART range products are rapidly and efficiently melting, not being covered with wax or dyes.

Advantages of localized application

Localized applied fertilization is important from three reasons:

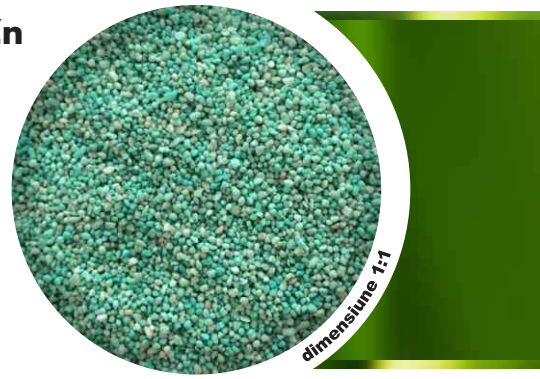
- Allows the increase of the absorption percentage and speed of all nutrients.
- Reduces the immobilisation phenomena of the macro elements and of the demoting of the phosphorus, fundamental element in the first phases of the development of the plant.
- Higher development of the root system encouraged by the starter effect or a faster increase that protects the crops of the possible thermal/water stresses, in the phase of post-emergency post-transplantation.



Recommendations of use

- **Sugar beet** 25-50 kg/ha at seeding
- **Wheat, rape bean** 25-50 kg/ha at seeding
- **Soybean** 25 kg/ha at seeding
- **Vineyard and orchards** 25-50 kg/ha at planting
- **Greenhouse Vegetables** 50-75 kg/ha at transplanting
- **Soil mix** 50-500 g/m2
  mixing before use
- **Sorghum** 25-50 kg/ha at seeding
- **Rice** 25 kg/ha at seeding
- **Tomatoes** 25-75 kg/ha seeding, transplanting
- **Vegetables** 25-75 kg/ha seeding, transplanting
- **Tobacco** 25-50 kg/ha at transplanting
- **Corn, sunflower** 25-50 kg/ha at seeding

SuperStart NP 10:40 (microgranulated) +12% SO_3+1% Zn



SuperStart NP 10:40 is a microgranulated fertilizer that ensures the satisfaction of nutritional needs of the young plants, by the uptake of essential elements. By applying this product, the optimum start from the first phases of vegetation as well as the normal development of the root system, are assured.

Suitable for all crops, **SuperStart NP 10:40** is applied together with seeding and assures a high yield and profitable productions.

Turbostart 8:41 +0,5% Cu+0,8% Zn + 5% humic acid

(microgranulated)

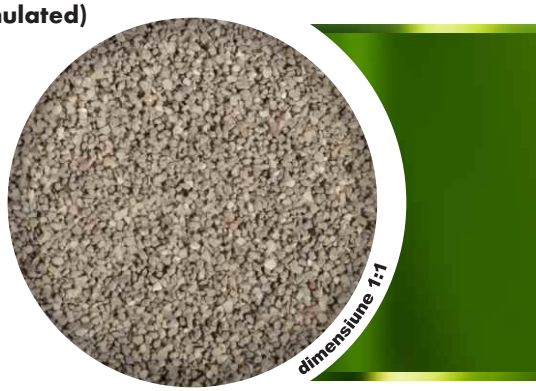
Allows NPK to act optimally, increasing their efficiency with over 30%; meaning that, at the same level of the crop, the quantity of fertilizer is reduced, with beneficial effect on the costs and environment.

At sandy soils, poor in humus, the humic acids unify the sand particles, increasing the capacity of the soil to retain water and nutrients. The nutrients, especially nitrates, are not leached in the soil, but are retained, together with water, being accessible to plants. Due to the high capacity of alkalinisation, the humic acids neutralize the acid soils.

The stress produced to the root system by acids is reduced. The noxious elements to plants, especially aluminium and heavy metals, are connected and immobilized by humic acids; therefore, their toxicity is reduced and the phosphates connected to aluminium are released.

In the soils with high pH values, many essential nutrients and micro elements are not present in accessible form for plants. The humic acids neutralize high pH and transform the nutrient elements and the micro elements in forms that may be extracted by plants from the complex. The phosphates connected to calcium are dissolved and become accessible. The humic acids improve the capacity of the soil to retain water. This water is available to the plants during the dry periods.

Turbostart 8:33:10 BTC (with low content of chlorine) (microgranulated)



BTC + 8:33:10 + 0,2%B + 0,5%Cu + 0,5%Fe + 0,8%Zn + 7%SO_3

The first NPK product from the microgranulated starter range that includes microelements like boron, copper, iron, zinc.

Has a low level of chlorine (maximum 2%) and a high percentage of sulphur (7%). It is recommended with local application for seeding or transplanting horticultural crops, both in the greenhouse and in open field.

Recommended also for the enrichment of sublayers dedicated to crops from transplanting.

Bioactive Micoplas G30 P+ Rhizobium

NP 8:24+7,5%C+0,05%B+0,003%Mo+2%Zn

Excellent formula for Soybean crops by the intake of Rhizobium

It is applied localized, when seeding, for stimulating risogenesis and „fast start" of the root system.
The product contains a high quantity of phosphorus that may be used immediately by the plant in the first stages of the seeds germination. Especially, an immediate effect is noticed on the formation of an abundant root system, due to the presence of zinc that is soluble and fully assimilable.

Bioactive Micoplas G30 is activated by an adequate organic fraction, in which a microorganism complex is present. Among these, nitrogen-fixing symbionts are emphasized, operating in synergy with Rhizobium favours the formation of abundant root knots.

Molybdenum improves the synthesis of nitrogenesis, stimulates the activity of bacteria, significantly increasing the absorption of atmospheric nitrogen by the crop. The plants, merely arisen, are stimulated to form new tissues characterized by a major resistance to thermal and parasitic stress.

Another important advantage of these products is the fact that eliminate the application of treatments on the soybean crops.

Using method - Microgranulated fertilizers

We offer the solution, a computerised kit of distribution for the Micro and Macro granulated fertilizers that are applied at the same time with seeding; it can be used for any type of seeding.

It has 8 openings (16 by adding one optional) controlled by a computer for a perfect control of the quantity and for a better accuracy of the distribution.

Liquid
Products Range

The liquid fertilizers are substances or mixes that are used for the improvement of the soil with useful nutrients for the development of the plants.

When the same crop is planted in the same field for many years successively, the soil tends to consume the reserve of nutrients. The liquid fertilizers re-establish the structural balance of the soil, consolidating the development of the plants and favouring the higher production of leaves, more dashing flowers and bigger fruits.

Agronomic advantages: better accuracy and uniformity of distribution. Removal of dissipation, better efficiency of the fertilizing units distributed by the minimum settlement of the soil.

Logistics advantages: possibility to mix liquid fertilizers, herbicide and anti-parasitic products, reducing the transports, increasing the intervention speed, the easy storage, removal of bags management issues.

Economic advantages: reducing the used workforce, lower number of transports on the field, creating fertilizers adapted to different needs of crops.

Systems of Application

Localized Application

It consists of the distribution in bands of the liquid fertilizers: allows the fertilizer to reach between furrow at the base of seedlings (in case of nitrate solutions) or near the seed (in case of NP solutions). A higher concentration is obtained thus, of the fertilizers where this is useful; it is applied together with herbicides, fungicides and insecticides and increases the resistance of the plant to temperature changes.

Distribution in open field

For the fertilizations made in the pre-seeding phase, specialized equipments are used, such as BIG or hauled barrels that allow a homogeneous distribution even under unfavourable conditions, with a very high working capacity.

Fertigation

This is an innovative technique that is based on the mix and distribution of liquid fertilizers in the irrigation water solution. The liquid fertilizers are ideal for this technology because they may entirely mix in water, are easily dosed and acidified in order to reduce the issues of nozzles and hoses, generated by hard water.

Foliar fertilization

This is a spraying technique of aqueous solutions that contain nutrients, directly on the aerial parts of plants.
It is made in the period of maximum absorption, when the stomata are open (during the day, when humidity reaches highest level).

CICh® ROMÂNIA

Liquid complex

CHEMICAL CHARACTERISTICS	NP 10:34 + ME	NP 8:28 + Zn 1	NPK 10:10:10 BTC	NP 15:28 SLOW
pH 20C	6.0-6.4	1,5-2	6.5-7.5	7.0-8.0
Total Nitrogen (N)	10% of wich:	8% of wich:	10% of wich:	15% of wich:
Nitric Nitrogen (N)		4%		
Ammoniacal Nitrogen (N)	10%	4%		7,50%
Nitrogen (N) of urea formaldehyde				5%
Ureic Nitrogen (N)			10%	2,50%
Phosphoric anhydride (P_2O_5) solution in water	34%	28%	10%	28%
Manganese (Mn) in water solution	0,10%			
Manganese (Mn) chelated by EDTA	0,10%			
Zinc (ZN) in water solution	0,10%	1%		
Zinc (ZN) chelated by EDTA	0,10%			
Potassium oxide (K_2O) in water solution, BTC			10%	

Nitrate Liquid fertilizers

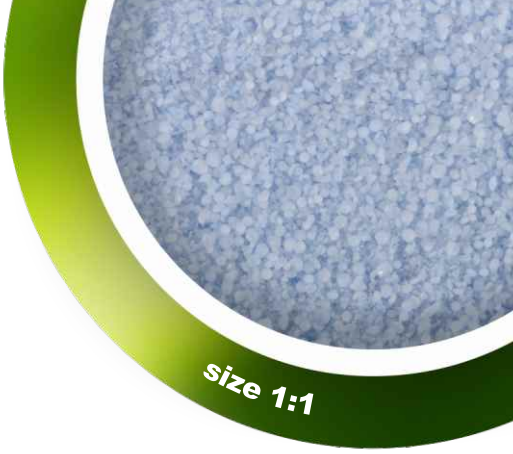
CHEMICAL CHARACTERISTICS	UAN 30	UAN 32	NS 28 + 7%	N21 SLOW
pH 20C	6.0-8.0		6,5-7,5	8,5-9,0
Total Nitrogen (N)	30% of wich:	32%	28% of wich:	21% of wich:
Nitric Nitrogen (N)	7,50%		6,75%	
Ammoniacal Nitrogen (N)	7,50%		7,75%	3,00%
Ureic Nitrogen (N)	15,00%		13,50%	11,00%
Nitrogen (N) of urea formaldehyde				7,00%
Boron (B) in water solution	0,01%			
Copper (Cu) in water solution	0,01%			
Iron (Fe) in water solution	0,50%			
Manganese (Mn) chelated by EDTA	0,10%			
Zinc (ZN) in water solution	0,01%			
Sulphuric anhydride (SO_3) in water solution			6,50%	10,00%

Upon request, all products from the „Nitrate liquid fertilizers" range, are also available in the form with controlled release of the Nitrogen mass.

for a good growth

CICh® ROMÂNIA

Water soluble fertilizers



Fertilization:

Fertilizers distributed through the water source

The nutritional needs of the plants depend on the phenological phases of the vegetation-reproduction cycle, as it was demonstrated by the "curves of absorption". Moreover, depending on the stage of development, differ both necessary elements for the plant as well as their quantities. This is the reason for which we need to provide various nutrients (either macro-, meso-, or micro- elements) at the most suitable moment and in adequate quantities. In order to achieve this objective, which could not be obtained otherwise, we use the irrigation water as a vehicle for the fertilizer.

By using the fertigation, the correct doses of phosphorus, potassium, and other secondary elements are assured at the most suitable moments for each type of plant. It is a very simple practice- the fertilizer is dissolved in water, irrespective of the irrigation technique used: furrows, aspersion, hose, drip, side infiltration, etc.

Considering the above-mentioned, we are able to offer to farmers a complete range of formulas, combined under a single name: K-SOL. The formulas are derived from the purest raw materials, in order to ensure the complete and simple solubility. The specific proportions of different elements allow the satisfaction of all nutritional needs of the plants, whatever these would be and irrespective of their development stages.

Micro elements like Copper, iron, manganese and zinc are contained in a totally chelated form and the boron and molybdenum are inserted into a special, exclusively organic compound, in order to guarantee a fast absorption by the plants.

Products	Percentage composition of the product														Method of use	Doses	Crops	Kg
	Nitric	Amon.	Ureic	P_2O_5	K_2O	CaO	MgO	SO_3	B	Cu EDTA	Fe EDTA	Mn EDTA	Mo	Zn EDTA		Kg/ha		
IDRON Ca	10	-	-	5	23	8	2	-	0,01	0,002	0,02	0,01	0,001	0,003		30-60		25
K-SOL 16-8-24	8,6	7,4	-	8	24	-	-	-	0,01	0,005	0,02	0,01	0,004	0,005		30-60		25
K-SOL 9-50-9	-	9	-	50	9	-	-	-	0,01	0,002	0,02	0,01	0,001	0,003		30-60		25
K-SOL 8-16-32	6,5	1,5	-	16	32	-	2	-	0,01	0,005	0,02	0,01	0,004	0,005		30-60		25
K-SOL 20-20-20	5,6	3,9	10,5	20	20	-	-	-	0,01	0,002	0,02	0,01	0,001	0,003		30-60		25
K-SOL 25-10-5	1	8,5	15,5	10	5	-	2	-	0,01	0,002	0,02	0,01	0,001	0,003		30-60		25
K-SOL 14-7-21	2,8	11,2	-	7	21	-	-	-	0,01	0,002	0,02	0,01	0,001	0,003		30-80		25
K-SOL 10-25-20	1,3	8,7	-	25	20	-	2	-	0,01	0,002	0,02	0,01	0,001	0,003		30-60		25
K-SOL 5-24-32	-	5	-	24	32	-	2	-	0,01	0,002	0,02	0,01	0,001	0,003		30-80		25
K-SOL 12-6-36	6,5	5,5	-	6	36	-	-	-	0,01	0,002	0,02	0,01	0,001	0,003		30-80		25
ZEA 25-5-10	-	8	17	5	10	-	-	18	0,05	-	-	-	0,003	1*		75-150		25

Do not exceed the concentration of 0.3% (3g/liter). The above-mentioned formulas may be used under safety conditions as foliar fertilizers with a dose of approximately 250-350g/hl.
* Non EDTA

ADVANTAGES

- **These products do not contain chlorine**
- **May be used in any form of fertigation without insolubility issues or blockings that are not desired in the irrigation equipment**
- **Leave no residues on the leaves**
- **Have a reduced salinity**
- **Promote intense acidification of the sublayer**
- **Are improved with special additives, in order to encourage the assimilation of the nutritive principles both through leaves and roots.**

CICh® ROMÂNIA
for a good growth

Foliar application fertilizers

Agrobor 11 L liquid foliar fertilizer

Composition:
- 150 gr/l BORON ETHANOLAMINE

Crops:

Recommended dose:
2,5 kg/ha in autumn + 2,5 kg/ ha in spring

Package: 25 kg canister; 1390 kg tank

- Water soluble, dedicated to prevent and **correct Boron deficiencies**;
- It is obtained by fast and complete absorption of Boron and a fast migration inside the tissues of the plant;
- Boron increases the tolerance to freeze by intensifying the resistance of the cellular wall.

Ergonfill organic foliar fluid fertilizer; bio stimulator

Composition:
- Organic Nitrogen (N) 3,4%
- Organic soluble Nitrogen (N 3,1%
- Organic Carbon (C) of biological origin 10%
- Water Soluble Magnesium Oxide (MgO) 2%
- Iron (Fe) chelated with EDTA 0,2%
- Water Soluble Iron (Fe) 0,2%
- Water Soluble Molybdenum (Mo) 0,003%

+ AMINO ACIDS 24%

Recommended dose:
1 kg/ha in autumn + 1,5 kg/ ha in spring

Crops:

Package: 25 kg canister

- Produces various actions at vegetative level, product is based on amino acids obtained from protein hydrolysis of animal origin
- Accentuates the formation of protein substances and of carbon hydrates with high nutritional value;
- Favours the synthesis of indolylacetic acid and of chlorophyll. This action is also the result of the synergetic presence of Magnesium and Iron;
- Increases chelation and the transport of macro and micro elements, contributing to the vegetative growth;
- Supports roots development.

Fill NPK 25.20.15

powder foliar fertilizer with micro elements and low content of chlorine

Composition:
- Total Nitrogen (N) 25%
- Nitric Nitrogen (N) 1,6%
- Ammoniacal Nitrogen (N) 1,5%
- Ureic Nitrogen (N) 21,9%
- Phosphoric anhydride (P_2O_5) soluble in ammonium citrate neutral and in water 20%
- Potassium Oxide (K_2O) water soluble 15%
- Boron (B) water soluble and chelated 0,02%
- Copper (Cu) water soluble and chelated 0,03%
- Iron(Fe) water soluble and chelated 0,1%
- Manganese(Mn) water soluble and chelated with EDTA 0,02%
- Molybdenum(Mo) water soluble 0,01%
- Zinc(Zn)water soluble and chelated with EDTA 0,05%

- Brings an excellent uptake in the process of nutrition of the plants, through the rich content of micro elements;
- The use of the product is recommended in the early phases of the fruit crops until the stage of differentiated fruits;
- The applications before and after flowering are useful both on vegetables and on industrial crops;
- It is applied diluted in water, by foliar irrigation at 7-12 days span between the interventions during the early vegetative phases.

Recommended dose:

Vegetable and flowers: in the early vegetative phases **150-200 g/hl (2-3 kg/ha).**
Vineyards, kiwi: before and after flowering until thickening of acinus and of the fruit **250-300 g/hl (3-3,5 kg/ha).**
Citrus, olive tree: before and after flowering until thickening of the fruit depending on the requirements of the crops **250-300 g/hl (3-3,5 kg/ha).**
Pomaces and drupaceous fruits (apple, pear, apricot, almond, plum, sweet cherry): before flowering until thickening of the fruit depending on the requirements of the crops **250-350 g/hl (2,5-3 kg/ha).**
Industrial crops (sugar beet, tobacco, tomatoes, potatoes, etc.): in early phases **250-350 g/hl (3-4 kg/ha).**
Cereals (corn, wheat, barley, rice, sorghum etc.): in a mix with herbicides that are applied after rising and with anti-parasitic treatments **350-450 g/hl (4-6 kg/ha).**
Fodder crops (alfalfa, clover, lawn, pasture, etc.): at vegetative growth and at each mowing **250-350 g/hl (3-4 kg/ha).**
Shrubs, trees in open field and in nursery: after transplantation or after awakening vegetative of the plant **450-500 g/hl (5-6 kg/ha).**
Protected crops (vegetables, flowers, hotbeds etc.): from early vegetative phases, do not exceed **150-200 g/hl**, avoiding the warmest hours of the day.

To spray on the leafage. It does not leave residues on the lamina of the leave. Physiologically acid reaction.

Package: 25 kg bag

Manitoba

liquid organic foliar fertilizer with Nitrogen; growth bio stimulator

Liquid suspension with micro elements

- **Composition and chemical characteristics:**
  - pH (20°C) 6.8 – 7.5
  - Organic Nitrogen (N) 4,0 %
  - Organic Soluble Nitrogen (N) 4,0 %
  - Soluble Boron (B) 0,03 %
  - Soluble Manganese (Mn) 0,05 %
  - Soluble Zinc (Zn) 0,05 %
  - Soluble Molybdenum (Mo) 0,001%
  - Biological origin Carbon (C) 14,0%
  - Amino acids 20,0%
  - Aspect: brown liquid
- **Recommended dose:** 1 kg/ha in autumn + 1,5 kg/ ha in spring
- **Crops:** applicability to all crops

Package: 25 kg canister

- Results guaranteed in increasing the resistance of autumn crops, rapeseed, wheat, barley, during winter stay;
- Has an essential role in stimulating the productivity character of the treated crops;
- Increases considerably the resistance of plants to drought and stimulates photosynthesis, the chlorophyll synthesis and the protein synthesis.

Kodens Cu

foliar fertilizer; fluid micro elements mix

Gel-based formula

- **Composition:**
  - Water soluble Boron (B) 0,2%
  - Water soluble copper (Cu) 6%
- **Crops:** applicability to all crops
- **Recommended dose:** 2-3 kg/ha

Package:1 kg; 6 kg canister

- **Kodens Cu** is the most efficient foliar treatment even in the most difficult pedoclimatic and agronomic cases; optimum alternative to copper-based common products
- Systematic use of product induces an elicitive action (endogen production of secondary metabolites), responsible of an increase of the natural resistance of the treated crop at fungi, bacteria and viruses development;
- Strong selectivity and **„detoxifying"** properties guarantees a severe reduction of the potential risks of phytotoxicity, by a significantly reduced contribution of copper (Cu++) per hectare.

Topstim 30

organo-mineral foliar fertilizer; powder

NPK 10-10-10 with Boron (B) and Molybdenum (Mo)

- **Composition:**
  - Total Nitrogen (N) 10%
  - Organic Nitrogen (N) 10%
  - Phosphoric Anhydride (P_2O_5) 10%
  - soluble in neutral ammonium citrate and in water
  - Water soluble potassium oxide (K_2O_5) 10%
  - Water soluble Boron (B) 0,05%
  - Water soluble Molybdenum (Mo) 1,1%
  - Biological origin Organic Carbon (C) 28%
- **Recommended dose:** 2-3 kg/ha
- **Crops:** applicability to all crops

Package: 3 kg bag

- The high content of Organic Nitrogen allows the stimulation of the biological functions of the plant and a better preparing of the crop, depending on the existing phenological stage;
- Stimulates homogenous flowering determining a better fruit bearing;
- Allows obtaining a better vegetative growth especially on crops which showed stress/physiological imbalances (also due to the balanced presence of organic origin free amino acids) ;

Topstim 66

EC foliar fertilizer; powder

NPK 6-30-30 with Boron (B), Manganese (Mn), Molybdenum (Mo) and Zinc (Zn)

- **Composition:**
  - Total Nitrogen (N) 6%
  - Nitric Nitrogen (N) 3%
  - Ureic Nitrogen (N) 3%
  - Phosphoric Anhydride (P_2O_5) 30%
  - soluble in neutral ammonium citrate and in water
  - Water soluble potassium oxide (K_2O_5) 30%
  - Water soluble Boron (B) 0,1%
  - Water soluble Manganese (Mn) and EDTA chelation 0,1%
  - Water soluble Molybdenum (Mo) 1,6%
  - Water soluble Zinc (Zn) EDTA chelated 0,1%
- **Recommended dose:** 1-2 kg/ha
- **Crops:** applicability to all crops

Package: 2 kg bag

- Due to the uniqueness of its composition, the product induces certain essential agronomic results for the development of plants in all phenological phases: in ripening phase a better uniformity of the maturation, in the maturation phase the natural colour of fruits and vegetables is improved, providing a higher resistance to transport and an increase of the period of validity;
- It has also a regulating effect, allowing a control over an excessive vegetative development of the plant, especially on irrigated fields.

Fill PK Plus

binary foliar fertilizer; powder

- **Composition:**
  - 40% P_2O_5 + 52% K_2O
  - Water soluble 100%
- **Crops:** applicability to all crops
- **Recommended dose:** 3 kg/ha

Package: 25 kg bag

- It has a very high content of Phosphorus and Potassium;
- It is used to balance the excessive Nitrogen in the plant and to severely reduce the vegetative vigour of crops.

Fertilizers with
Foliar application /by Fertigation

Fosfisan EC Fertilizer

Fertilizer solution PK 30:20

Shows a high mobility inside the plant, it develops a precise action of stimulating all biological processes.
Fosfisan accentuates the cell multiplying, intervenes in the processes related to floral biology, improves the mechanical resistance of cells, intervenes in maturation of fruits, enhancing colour, taste and preservation.
Fosfisan stimulates natural defence mechanism inside the plant by which the crops stand easier the stress due to adverse pedoclimatic conditions or the unfavourable cultivation situation.
Fosfisan is proved to be an optimum "defence inductor" against fungi or bacterial parasites.
Fosfisan is used, with preliminary dilution in water of the recommended dose, both for foliar and for fertigation application.

Composition:
- Water soluble Phosphoric anhydride (P_2O_5) 30%
- Water soluble Potassium oxide (K_2O) 20%

Package: 25 Kg

Method of use	Doses Kg/ha	Crops
	3 - 4	
	3 - 4	
	3,5 - 4,5	
	2,5 - 4	
	2,5 - 4,5	
	3 - 4	
	2,5 - 3,5	

Method of use	Doses Kg/ha	Crops
	4 - 8 Kg/100 l water	
	2 - 3 Kg / 1000 sq m	
	5 g / sq m	
	5 - 8 g / sq m	

Emofill L ORGANIC FARMING Fluid Organic Fertilizer. Bio stimulator

5% Organic N

- It has a strong anti-stress action, being useful in the early phases of the vegetative cycle;
- The present amino acids and proteins stimulate the plant to have an increased metabolic activity.

Package: 25 kg canister

Method of use	Doses Kg/ha	Crops
	4 - 5	

Gold Dust ORGANIC FARMING Organic fertilizer Nitrate

Composition:
- total Nitrogen (N) 15%
- Organic Nitrogen (N) 15%
- Biological origin organic carbon (C) 43%
- C/N Ratio: 2,8

Package: 3, 10 Kg

Gold Dust is a product with high content of organic nitrogen, rich in amino acids and completely assimilable, both foliar and by roots.
- It is useful for all crops, having multiple **advantages:**
- It improves the fertility of the soil of the field optimising the capacity of use of macro elements;
- It facilitates the capacity of chelation of metals;
- It has a stimulant effect over all biological functions;
- It is active towards the microbial flora of the field facilitating germination and the development of slip seedling and nursery transplants;
- Associated with herbicides, has anti-shock effects on crops;
- It is a growth activator and a nutritional balance agent, intensifies the vitality of crops, solving the situation caused by stress;
- In the presence of viroses, facilitates nutrition and in consequence improves the general state of the crop.

Method of use	Doses Kg/ha	Crops
	30 - 40	
an intervention	20 - 30	
fractionate intervention	10 - 20	
	5 - 10	
	1 - 3	

Special Products
Foliar application / by Fertigation

Tiofill L

15%N+45%SO3 0,02%Fe EDTA + 0,03%Mn EDTA+ 0,003%Mo+ 0,05% Zn EDTA

Liquid product, based on secondary nutrients, required by plants in consistent quantities to support harmonious development.
It has a beneficial action to the majority of agriculture crops, especially on rapeseed and wheat.
By the content of sulphur and chelated forms of Iron, Manganese, Zinc, it impedes the occurrence of physiopathies, due to the deficiencies in secondary nutrients that may affect the floral system of the plants, vegetables and fruits.

Method of use	Doses Kg/ha	Crops	Package Kg
	5 - 6		25

RA.AN 13186

nutritional coadjuvant

Solid power product based on algae, containing also natural hormones, factors of growth, enzymes, vitamins.

RA.AN 13186 is a product developed only with natural ingredients, which are quickly and completely assimilated by the plants, both foliar as well as through the root system. The product causes an increase of the production, both quantitatively and qualitatively, while inducing an active resistance against parasitic attacks and environmental adversities.
Regular applications of the product improve hormonal balance and nutritional status of plants.

Method of use	Doses Kg/ha	Crops	Package Kg
	1,5 - 4		15

Other Special Products

K-Ferro

12% Fe+0,6%Mn+5%MgO+34%SO_3

- Fertilizer in granulated form, applicable in conventional agriculture and in biological agriculture.
- Granulated fertiliser rich in macro and micro elements that fight against nutritional imbalances of the plants;
- Oligo elements are essential for the harmonious development of plants, before seeding or when seeding

Method of use	Doses Kg/ha	Crops	Package Kg
before seeding or when seeding	150 - 200		25, 600

NPK 12.12.12 BTC

EC Fertilizer- Fluid Mineral Compound
NPK 12.12.12 BTC fertilizer solution

Low chlorine content

Composition:

- Total Nitrogen (N)	12 % of which:
- Ureic Nitrogen (N)	12 %
- Water-soluble Phosphoric Anhydride (P_2O_5)	12 %
- Water soluble Potassium Oxide (K_2O) with low chlorine	12 %

Method of use	Doses	Crops
	80 - 100 Kg/ha	
	10 - 15 Kg/1000 mp	
	8 - 10 Kg/ha	
	200 - 350 g/hl	

Package: 30 Kg canister

NS 21 OM

Organic fluid fertilizer with Nitrogen

Brown colour liquid suspension, having a considerable uptake of mineral components such as urea, ammonium sulphate, formaldehyde urea.

Composition:

- Total Nitrogen (N)	21,0 % of which:
- Ammoniacal Nitrogen (N)	4,00%
- Organic Nitrogen (N)	1,00%
- Ureic Nitrogen (N)	15,00%
- Nitrogen (N) from formaldehyde urea	1,00%
- Biological origin Carbon (C)	4,00%
- Organic substance	6,80%
- Water soluble Sulphuric anhydride (SO_3)	10,00%

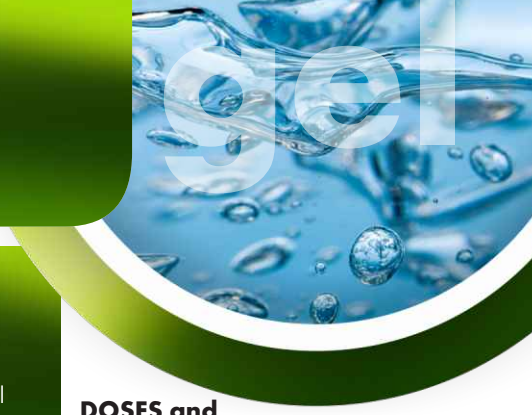
Method of use	Doses	Crops
	25 l/200 l water	
	250 ml/hl	

Package: 30 Kg canister

Flu-Fert Range EC

Gel NPK fertilizer

Applicability in all agriculture works, only by fertigation.



The uniqueness of the fluid suspension (gel) formula shows multiple ADVANTAGES:

- Compared to other similar products on the market they are free of chlorides, sulphates, carbonates and orthophosphoric acid;
- Free of jellifying or thickening agents;
- They are used in small doses, with less water (compared to the liquid products or those conventional ones, soluble and in powder form);
- They guarantee a better persistence in soil and a gradually absorption of the nutrients;
- The leaching risk is significantly reduced on sandy fields and on extremely permeable fields;
- They improve the dynamic of root-soil-nutrients interaction;
- They bring to crops a complete uptake of micro and macro elements, offering purity and high assimilation;
- They allow obtaining in short time from application the desired agronomic results, even if under unfavourable climate conditions (saline soils, high temperatures or very low temperatures, etc.);

DOSES and METHOD OF USE

Fertilization:
For fractionate application
- **25-30 Kg/Ha**
If a single intervention is made
- **50-100 kg/Ha**

NPK 20-5-10 EC

Fertilizer suspension
NPK 20-5-10 with Iron (Fe)
25 Kg

For all crops that need a vegetative impulse to favour flowering and fruit formation.

Guaranteed Titles	%p/p	%p/V
- Total Nitrogen (N)	20%	28%
- Ureic Nitrogen (N)	20%	28%
- Water soluble Phosphoric anhydride (P_2O_5)	5%	7%
- Phosphoric anhydride (P_2O_5) solution in ammonium citrate neutral in water	5%	7%
- Water soluble Potassium oxide (K_2O)	10%	14%
- Water soluble Iron (Fe)	0,06%	0.08%
- DTPA Chelation Iron (Fe)	0,06%	0.08%

Chelation agent: EDTA, pH span that guarantees a good stability of the chelation fraction: 4-7

NPK 15-10-15 EC

Fertilizer suspension
NPK 15-10-15 with Boron (B), Copper (Cu), Manganese (Mn) and Zinc (Zn)
25 Kg

Application on all phenological phases in periods of maximum nutrition requirements of the crops.

Guaranteed Titles	%p/p	%p/V
- Total Nitrogen (N)	15%	21%
- Ureic Nitrogen (N)	15%	21%
- Water soluble Phosphoric anhydride (P_2O_5)	10%	14%
- Phosphoric anhydride (P_2O_5) solution in ammonium citrate neutral in water	10%	14%
- Water soluble Potassium oxide (K_2O)	15%	21%
- Water-soluble Boron (B)	0,05%	0,07%
- Water-soluble Copper (Cu)	0,03%	0,04%
- EDTA Chelation Copper (Cu)	0,03%	0,04%
- Water soluble Manganese (Mn)	0,03%	0,04%
- EDTA Chelation Manganese (Mn)	0,03%	0,04%
- Water soluble Zinc (Zn)	0,03%	0,04%
- EDTA Chelation Zinc (Zn)	0,03%	0,04%

Chelation agent: EDTA, pH span that guarantees a good stability of the chelation fraction :4-7

NPK 10-15-20 EC

Fertilizer suspension
NPK 10-15-20 with Boron (B), Iron (Fe), Manganese (Mn) and Zinc (Zn)
25 Kg

For all crops that are experiencing an effort in quality and quantity of the yield.

Guaranteed Titles	%p/p	%p/V
- Total Nitrogen (N)	10%	15%
- Ureic Nitrogen (N)	10%	15%
- Water soluble Phosphoric anhydride (P_2O_5)	15%	22,5%
- Phosphoric anhydride (P_2O_5) solution in ammonium citrate neutral in water	15%	22,5%
- Water soluble Potassium oxide (K_2O)	20%	30%
- Water soluble Boron (B)	0,05%	0,08%
- Water soluble Iron (Fe)	0,03%	0,05%
- DTPA Chelated Iron (Fe)	0,03%	0,05%
- Water soluble Manganese (Mn)	0,03%	0,05%
- EDTA Chelated Manganese (Mn)	0,03%	0,05%
- Water soluble Zinc (Zn)	0,03%	0,05%
- EDTA Chelated Zinc (Zn)	0,03%	0,05%

Chelation agent: EDTA, pH span that guarantees a good stability of the chelation fraction: 4-7

PK 20-30 EC

Fertilizer suspension
PK 20-30 cu Bor (B), Fier (Fe), Mangan (Mn) și Zinc (Zn)
25 Kg

In order to accelerate the maturation process, to favour formation and accumulation of substances with sugar, for the improvements of organoleptic quality of the fruits.

Guaranteed Titles	%p/p	%p/V
- Water soluble Phosphoric anhydride (P_2O_5)	20%	34%
- Phosphoric anhydride (P_2O_5) solution in ammonium citrate neutral in water	20%	34%
- Water soluble Potassium oxide (K_2O)	30%	51%
- Water soluble Boron (B)	0,05%	0,08%
- Water soluble Iron (Fe)	0,03%	0,05%
- DTPA Chelated Iron (Fe)	0,03%	0,05%
- Water soluble Manganese (Mn)	0,03%	0,05%
- EDTA Chelated Manganese (Mn)	0,03%	0,05%
- Water soluble Zinc (Zn)	0,03%	0,05%
- EDTA Chelated Zinc (Zn)	0,03%	0,05%

Chelation agent: EDTA, pH span that guarantees a good stability of the chelation fraction: 4-7

Various Products

TENSIOFILL

Co-adjuvant, penetrating, antifoam

Composition:
- Glycol 6,5%
- 10% Polydimethylsiloxan Emulsion, in 5% concentration

Recommended dose:
50-100 gr/100 l water
- It is applied with all treatments

The product has triple role:
- It is co-adjuvant, which, due to the presence of particular substances, favours the homogeneous distribution of fertilizers on the treated leaves lamina;
- The high penetrating power produces an increase of the contact surface between the nutrition solutions
- Has a significant antifoaming action.

Package: 25 kg

NITRACID

Composition:
- Nitrogen (N) 9% : nitric Nitrogen (N) 6% + ammoniacal Nitrogen (N) 3%
- Magnesium oxide (MgO) 2%

Recommended dose:
If the pH of the water is alkaline:
100-200 gr/100 l water
- Can be applied with all treatments

Generally, if the water has alkaline pH, is not suitable for the foliar product application. **NITRACID** is the solution in this case, being a product with multiple actions:
- It produces an intense acidifying action;
- It significantly reduces pH values in the nutritive and protection solutions, applied to crops;
- The product is indispensable, increasing with 30% the efficiency of inputs;

In addition, **Nitracid** may be used to make a deep cleaning of the tubes and different equipments (tubs, tanks, containers, etc.), used in the application of fertilizers and of the anti parasites treatments.

Package: 25 kg

NOFROTH Antifoam

Composition:
- Water emulsion based on polydimethylsiloxane

Recommended dose:
15-20 cl in a quantity of 500-600 litres of solution
- It is applied together with all treatments (pesticides, fungicides, insecticides, herbicides) and with based fertilizer and corrective solutions

Nofroth is a product expressly conceived to avoid formation of foam during preparation of the fertilizer based solutions, pesticides and herbicides.

Nofroth acts fast, reducing in a very short time the foaming layer, allowing thus to obtain a more stable solution.
The product does not intervene under chemical aspect with the solution it mixes.

Nofroth is used in combination with solid fertigants (water soluble) or liquid fertigants 0.1% of the fertilizer quantity.
It is recommended to introduce Nofroth in the same time with the pouring of the products that will form the solution.

Package: 1 kg

BIO products range

Products certified and approved in Biological Agriculture

- **natural products for agricultural use only;**
- **ideal for BIO agriculture but in the same time extremely efficient in conventional agriculture;**

ECO CERT – is a biological certification body founded in France in 1991. It focuses more on Europe, but carries out controls in more than 80 countries and is one of the largest biological certification organizations worldwide.

K Sol

BIO Inductor for the solubilisation of Potassium

K Sol solubilises and transforms the chemically blocked Potassium in soil and the Potassium compounds that are not soluble in water in available forms for the plant. Its cells activate in contact with the soil producing a cover of new active cells. From its metabolising result significant quantities of vitamins and stimulants for the growth of plants.

- The absorption of Mn, Fe, Mo, Bo, Zn, Cu is increased, if they are present in the soil under non absorbable form.
- Accelerates the increase of roots and the development of the cells of the plant.
- It reinforces the plant against the attack of parasites and fungi diseases.

CROPS:
Horticultural, orchards, cereals, potatoes, ornamental plants and plants with flowers.

Contains:
Frateuria aurantia
1 x 10^8cel/ml

N Fix

BIO Inductor for the absorption of Nitrogen

N Fix makes more efficient the absorption of atmospheric nitrogen. Its cells activate in contact with the soil, producing a cover of active cells. Besides Nitrogen, these cells favour the absorption of vitamins and other substances that sustain growth. It improves germination of seeds by the development of root system of the plants.

- It reinforces the plant against pathogen agents, such as: Alternariosis, Fuzariosis, Helminthosporium.
- Resistant to high levels of salt, it works very well even on alkaline fields.

CROPS:
Rice, wheat, vegetables, potatoes, citrus, sunflower, soybeans, onion, vineyards, ornamental plants.

Contains:
Azobacter chrococcum
1 x 10^8 cel/ml
Azospirillum lipoferum
1 x 10^8 cel/ml

P Sol

BIO Inductor for the solubilisation of Phosphorus

The multitude of bacteria of which P Sol is composed, plays an essential role in solubilisation and absorption of phosphates present in the soil and those brought by fertilisation. The interaction with the roots favours the production of acids (citric, tartaric, malic, etc.) , which at their turn, attack the insoluble and/or low mobile phosphates to put them at the disposal of plants. The bacterial metabolism revitalizes the soil and creates a proper environment for the development of the plants.

- Reduction of doses of standard phosphate fertilisation.
- Stimulant of the induction mechanism of the resistance of the plants against the attack of fungi diseases.
- Increase of productive crops.

CROPS:
Cereals, vegetables, orchards, rice, wheat, sugar beet.

Contains:
Bacillus megaterium
1 x 10^8cel/ml
Bacillus coagulans
1 x 10^8cel/ml

USE

- **on soil**
  To be distributed 2 L/ha mixed with 100 L water in the same time with the irrigation or in association with the based fertilization (preferably organic based).
- **on seeds**
  To be added 5 - 7 ml per Kg of seeds.
- **At transplantation**
  Prepare a solution from 50-70 ml to 10 litres of water and soak the roots for 10 minutes before transplanting.

WARNINGS:

Not to be distributed together with mineral and chemical herbicides.
Wait at least a week before applying.
pH: 6,5 – 7,5

CICh® ROMÂNIA

for a good growth

Solutions for animal nutrition

QUALITY ANIMAL NUTRITION ▶▶ **CARE FOR HUMAN NUTRITION**

MonoFos

PREMIUM Additive - inorganic food phosphates






Composition

Phosphorus (Total) P	min.22,7%
P soluble in 2% citric acid	min.98%
P_2O_5 soluble in water	min.80%
Calcium min. 15%	

Properties

pH (1% solution)	3-4
Humidity % (H_2O)	max. 2%
Colour:	grey-white
Density:	800-900 g/l

Granulometry: micro-granulated (1,2-1,8 mm, min.90%)

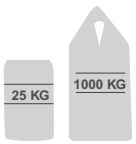
- Source of phosphorus and calcium of highest quality for animal nutrition.
- MonoFos administered with animal fodder, accelerates the increase in weight at animals and birds up to 5-12 %.
- The phosphorus contained by MonoFos is digested much better by the animals, compared with other food phosphates.

MonoFos Generalities:

- Generally, the animal effectives of animals and poultry, receive less Phosphorus than they need
- The Phosphorus included in the food prepared from plants, assures only 30% of the nutritional need
- The Phosphorus from the monocalcium phosphate is better digested by animals, compared to other type of food phosphates.
- MonoFos is much more efficient than the similar additives used in agriculture.
- The use of fodder containing monocalcium phosphate offers a much higher biological, energetic and economical yield.

Available in:

- 25 kg bags
- 1000 kg big bags



MonoFos,
a product that brings only

advantages

- It activates the digestive enzymes and improves digestibility
- Essential for heart, nerves, muscles
- Improves the digestive absorption and regulates the reproduction disorders
- Supports immunity by exceptional nutritional intake
- Using MonoFos, contributes to the achievement of high production and quality livestock products.

CICh ROMÂNIA

for a good growth

Solutions for animal nutrition

QUALITY ANIMAL NUTRITION

CARE FOR HUMAN NUTRITION

Alfalfa

NATURAL NUTRITION SOURCE

- It is a valuable fodder plant, extremely rich in proteins.
- It is the most efficient fodder plant for the nutrition of animals, both for the production achieved but especially for the quality of the fodder.
- Alfalfa has special physiological qualities and offers easiness in handling: pellet, or in ballots

We commercialise alfalfa in various forms, in pellets and ballots:

- Alfalfa pellets: packed in 500 kg bags
- Alfalfa ballots:
  - In 750-800 kg bags
  - 20 kg non- covered ballots

Properties:

- Alfalfa 100% green colour
- Proteins 16-18%
- Humidity max 14%

- The Alfalfa sold by CICh Romania has the highest quality standards, being a PREMIUM product, stabilized in covered spaces, not directly exposed to sunlight.

Alfalfa ,
A product that brings only advantages

advantages

- Yield
- Contributes to the high and quality production of the animal products
- Easy digestibility

CICh®
ROMÂNIA

for a good growth

The market leader of the

SILOBAG™

system in Romania – the most evolved method of storing in horizontal silos –

SILOBAG™ - The intelligent system of storing cereals with an attractive cost and easy maintenance has multiple advantages:

- The necessary investment to use the system is low and needs minimum management expenses;
- The bags are made of several coextruded polyethylene layers and are protected from ultraviolet rays/water/freeze, being made of recyclable material, making its use more cost –saving and easier;
- It is an efficient method, the capacity of precision being very high during the extraction phase;
- Using this system leads to the elimination of expenses with the reception, storage and delivery of the goods to third parties; SILOBAG offers additional space when it is expected a good production and allows the start of harvesting under optimum conditions, without delays and without quality and quantity losses.

Preservation principle

- The system is based on creating a controlled atmosphere inside the bag, that impedes the penetration and the development of insects and of mouldiness;
- The hermetic environment guarantees, without the need of treatments, an ideal preservation for all types of cereals, even for biological agriculture products;
- Thus, the exchange of gases with the atmosphere is prevented and therefore increases the process of aeration of the cereals exposed in the processes of increase of the concentration of carbon dioxide anhydride and decrease of the concentration of oxygen.

Technical Characteristics – SILOBAG™ System

Size: Ø 9' (2,74 m)
- lenght 60 or 75 m,
- density 240/250 microns

Capacity:
- For a bag of 60 m, approximately 200 Tons depending on the weight of the cereals
- For a bag of 75 m approximately 250 Tons depending on the weight of the cereals

CICh® ROMÂNIA

for a good growth

Latest technology machines for the storage of cereals in horizontal silos

SILOBAG™

Sacking device for cereals - COMPACT 9 C.E.

Performance guaranteed using the most advanced sacking technology

- The Sacking device for cereals guarantees a correct filling of the **SILOBAG™** systems
- The machine is power supplied using the direct download of the upper part of any agriculture trailer or truck and sends the cereals inside the bag, by the inclined helical conveyer, driven by the power plug of the tractor;
- Upon request, the increase of the bunker with overhead loader is possible.

Technical Characteristics:
Driving: Power plug
Typology of products: for any type of cereals
Braking system: hydraulic driving
Tractor Minimum: 75 HP
Silobags: Ø 9' (2,74 m)
Capacity: over 200 Tons/h
Weight of the machine: 2600 kg
Warranty: 24 months

E.C. Extractor for cereals

Machine for the extraction of dried cereals from the horizontal silos in plastic material

- The Extractor allows the recovery of the cereals preserved inside the bag, loading the cereals by a lateral support;
- The extractor is driven by the power of a tractor and consists mainly of: a horizontal helical conveyer, a metal tube that rotates the empty bag around and the helical conveyer of for the extraction of cereals;
- The Extractor operates by pushing and may load any type of cereals.

Technical Characteristics:
Hauling: minimum power 55Kw (75 HP); Speed Pdp 540 r.p.m.
Horizontal silo size: Ø 9' (2,74 m) - length 60 or 75 m
Rotation of cylinder: hydraulic, by positioning /regulating a valve
Capacity: over 200 Tons/h
Tyres: N.2,11- 15- 10 ply. High adhesion
Weight: 2000 kg
Displacement: self –propelled trailer system

CICh®
ROMÂNIA

for a good growth

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NAVODARI CHEMICAL FERTILIZERS PLANT