



CATALOGUE



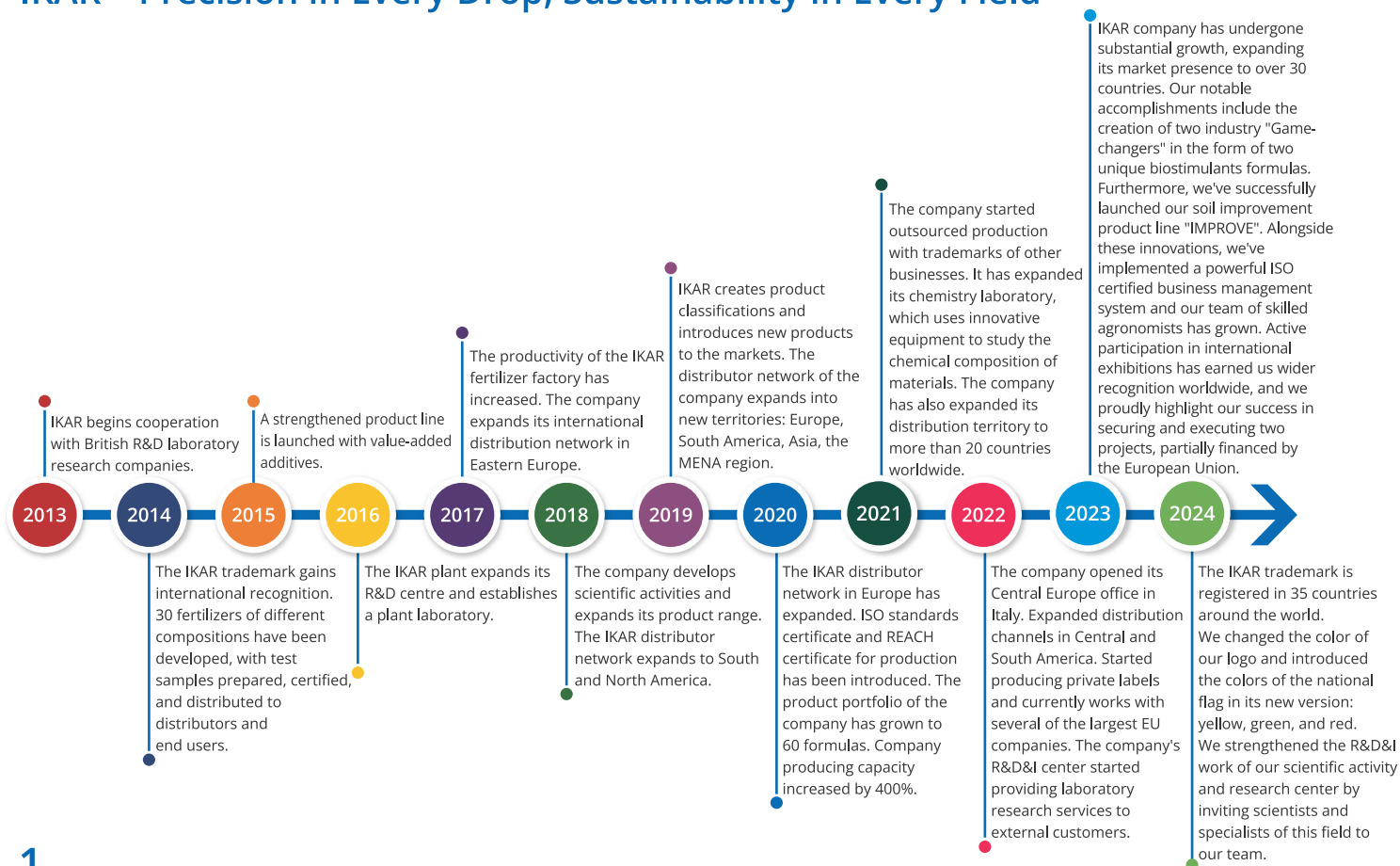
2025

WE ARE IKAR / HISTORY

IKAR is a modern, international class manufacturer of premium liquid fertilizers. IKAR's highly effective and uniquely formulated solutions, are designed to elevate agricultural practices, supported by one of the industry's top agronomist teams, and sustainable technological solutions that redefine farming success, with consideration of the preservation of our planet.

IKAR products and solutions help farmers and partners achieve better yields and profits, save time, and protect the environment. IKAR technologies have been introduced in more than thirty countries around the world, and the geography of our products is constantly expanding.

IKAR – Precision in Every Drop, Sustainability in Every Field



ABOUT US



IKAR fertilizers are unique because their formulas and compositions are developed considering the characteristics of the climate, soil and cultivated crops in the areas where they will be used. Our R&D&I center, plant laboratory, and constant communication with distributors and farmers allow us to respond quickly to market changes and needs.



Only the highest quality raw materials are used for manufacturing, which ensure the high concentration of fertilizers. Due to the usage of high quality raw materials, plants avoid phytotoxicity. Strict quality control and modern manufacturing lines ensure constant product quality.



The international IKAR distributor network is composed of professionals in their field. IKAR carefully selects, trains and collaborates only with reliable



IKAR factory has implemented and put into practice environmentally friendly and energy-saving solutions, which allows to reduce manufacturing costs and minimize damage to nature.



DEVELOPMENT



MANUFACTURING



QUALITY CONTROL



PACKAGING



DISTRIBUTING



SUPPORTING

DISTRIBUTORS

IKAR pays special attention to working with the distributor network. IKAR partners must have some experience in the agricultural sector of their country. The main IKAR requirements for partners are professionalism, the ability to excel and the desire to develop a long-term partnership. The IKAR distributor will be responsible for

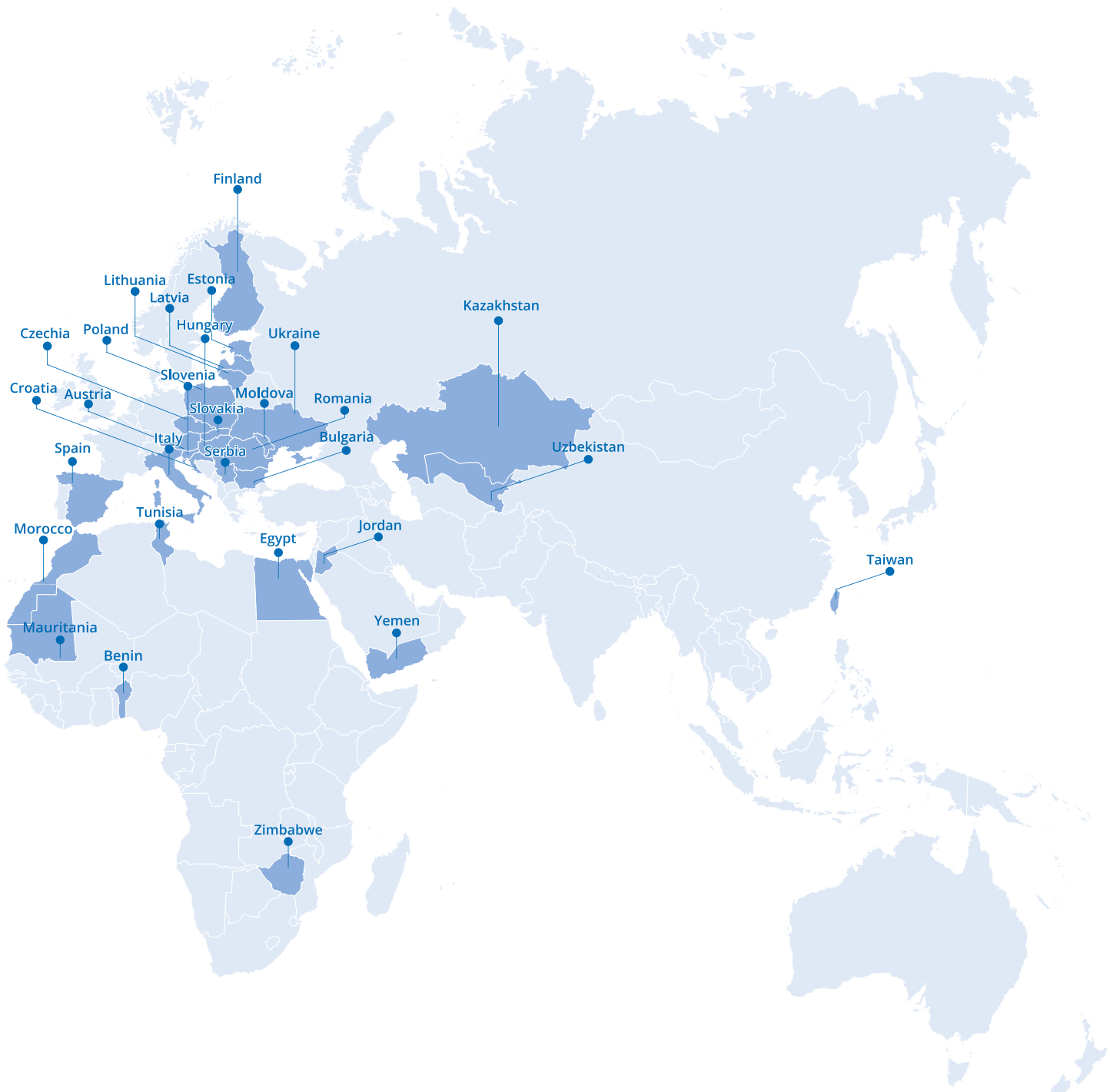
Why is it worth becoming an IKAR distributor?

- IKAR offers quality, efficient and marketable product;
- We guarantee constant consultations of professional agronomists and manufacturing technologists;
- We organize scientific seminars, trainings and product presentations for distributors;
- We provide an opportunity to exchange experiences with distributors from other countries during the annual IKAR distributor meetings;
- We provide managerial, administrative and logistical product support;
- We provide product marketing support: participation in exhibitions, promotional materials, attributes, etc.
- IKAR technologies have been introduced in more than thirty countries around the world.

 Austria	 Mauritania
 Benin	 Moldova
 Bulgaria	 Morocco
 Croatia	 Nicaragua
 Czechia	 Poland
 Egypt	 Romania
 Estonia	 Serbia
 Finland	 Slovakia
 Guatemala	 Slovenia
 Honduras	 Spain
 Hungary	 Taiwan
 Italy	 Tunisia
 Jordan	 Ukraine
 Kazakhstan	 Uzbekistan
 Latvia	 Yemen
 Lithuania	 Zimbabwe



Guatemala
Honduras
Nicaragua



PRODUCTS

IKAR technology has a unique and clear product classification, which allows for the more accurate selection of efficient products from six IKAR product classes:



ADD VALUE - Fertilizers with high add value materials;



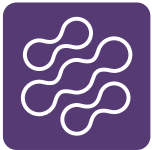
PHYSIO - Fertilizers with physiological effects;



CORRECT - Fertilizers for element correction;



INTENSE - Fertilizers for growth control;



ASSIST - Additives changing physical properties;



IMPROVE - Soil improvers.



ADD VALUE

ADD VALUE - these are effectively absorbed fertilizers with high biological value substances that activate plant metabolic processes.

Fosto



Fosto is a liquid fertilizer suitable for usage during the entire vegetation of the plant. Phosphorus, Magnesium, Zinc and Manganese fertilizer with amino acids has a complex effect on plants and soil. It is a source of energy, a connection between a plant and soil, water retention in a plant and soil.

Phosphorus is responsible for nutrient uptake, photosynthesis and energy metabolism, strengthening the immune system of a plant. Phosphorus pentoxide is effective against diseases caused by Oomycetes fungi (mold, Phythium, Phytophthora). Phosphorus is energy, which is part of the phospholipids of cell membranes. It is especially important that there would not be a deficiency of phosphorus in plants in the early stages of growth.

Magnesium stimulates carbohydrate metabolism, accelerates maturation, and increases the amount of dry matter in the seeds. It decreases the efficiency of nitrogen and phosphorus fertilizers.

Manganese stimulates the development of the root system, formation of new shoots, sugar production in leaves and transportation to roots, improves the assimilation of iron from the soil and reduces the likelihood of chlorosis.

Zinc, like phosphorus and manganese, is essential at the beginning of vegetation. Zinc is an essential component of enzymes in photosynthesis, and is significant for grain formation. There is usually a lack of it in soil with a pH below 6.5 and when a pH is above 7.

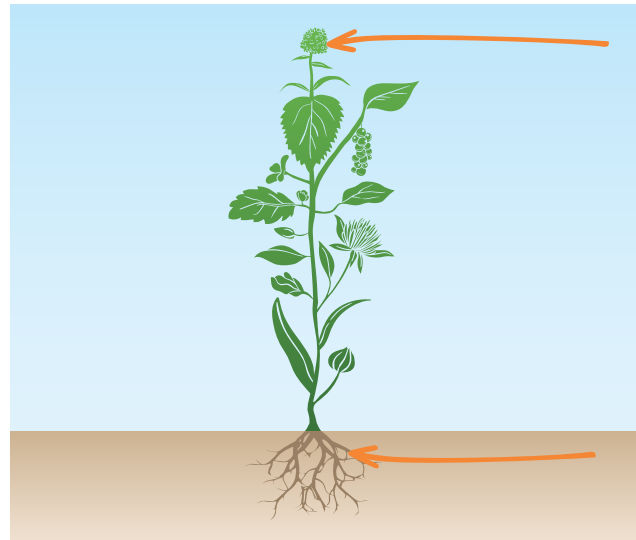
Amino acids are essential for plant growth and development. They act as building blocks for proteins and affect various physiological processes. Formulating amino acids provides plants with an accessible source of these critical compounds. This promotes better nutrient absorption and stress tolerance, improving plant overall health.

ADVANTAGES:

- stimulates root development in the early stages of growth,
- stimulates the formation of root hair,
- affects the formation of productive stems,
- activates the synthesis of proteins, carbohydrates and fats,
- improves grain ripening and their hardness,
- improves the resistance of plants to adverse environmental conditions and diseases,
- stimulates photosynthesis, energy and metabolism,
- has an effective prevention of fungal diseases,
- plants grow healthier and stronger,
- accelerates maturation, and improves yield quality.

COMPOSITION

	Amount %	Amount g/l
Phosphorus (P₂O₅)	25,5	380
Nitrogen (N)	6,5	95
Amide nitrogen (N-NH ₂)	3,5	50
Nitrate nitrogen (N-NO ₃)	1,5	20
Organic (N _{org})	1,5	20
Magnesium (MgO)	2,20	34
Manganese (Mn)	0,9	13
Zinc (Zn)	0,5	7
Amino acids	5,4	80
pH (1:10 H ₂ O)	1,5-2,5	
Density 20°C, g/ml	1,45-1,5	



PACKAGING



Recommendation for fertilizing with Fosto:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar applications: I-BBCH 10-19; II-BBCH 21-95
Oilseeds		Foliar applications: I-BBCH 10-18; II-BBCH 25-71
Legumes		Foliar applications: 1-3-5 leaves; beginning of II-butonization
Beets		Foliar application after forming 50% of the leaves
Corn		Foliar applications: 1-2-4 leaves; 11-4-6 leaves
Potatoes	0,25-0,5 l/100 l of water	Foliar applications: I-leaf and stem growth, II-tuber formation, III flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5%	Foliar application/watering at the beginning of butonization, flowering or in the stages of root formation and growth, 3-5 times, Every 7-10 days
Berry bushes		Foliar application/watering during berry ripening and fruiting, 4-6 times, every 5-7 days
Garden plants		Foliar application/watering 1-2 times during fruit set formation
Ornamental plants and sprouts		Foliar application/watering in autumn that the plants would better winter and during flowering every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Fosto can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Kalisto

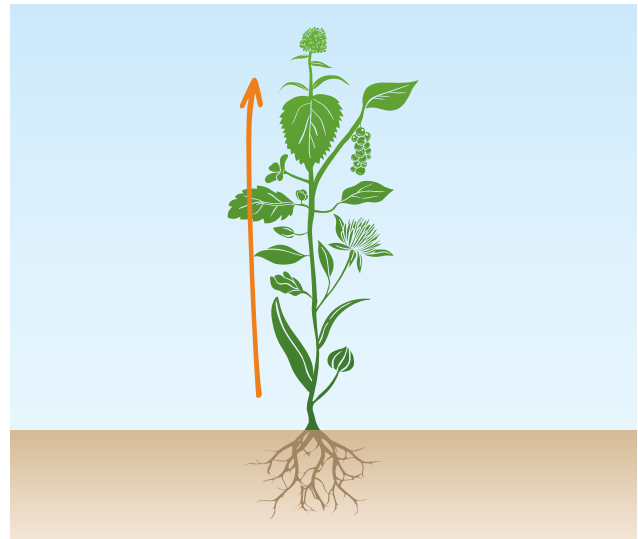


Liquid, concentrated fertilizer enriched with **potassium (K)** for additional fertilization. Potassium is one of the most important nutrients actively involved in many processes that affect plant growth and reproduction. Kalisto maintains cellular osmotic pressure and water balance, and controls the function of stomata in leaves. Potassium in the fertilizer is pure, without any additives (N, S, P) which prevents unwanted nutrient incompatibilities.

L-Proline is an essential amino acid, which is important in more than ten processes of the growth and development of the plant such as regulation of osmotic pressure, regulation of stomata opening, seed swelling, stimulation of pollen germination, stimulation of photosynthesis, and regulation of chlorophyll formation.

ADVANTAGES:

- stimulates effectiveness of root nutrition,
- stimulates formation of new shoots,
- activates the metabolism of nutrients in plant juices,
- plants retain moisture better,
- plants are more resistant to droughts, high and low temperatures,
- inhibits spread of many diseases and harmfulness of pests,
- improves quality parameters, stimulates more abundant fruiting (increases the weight of seeds and fruits) and equal ripening, improves organoleptic properties of the fruit, their commercial appearance,
- affects longer and better product retention during storage.



COMPOSITION

	Amount %	Amount g/l
Potassium (K₂O)	34,0	500
Amino acid L-Proline	0,34	5
pH (1:10 H ₂ O)	11-12	
Density 20°C, g/ml	1,5-1,52	

RECOMMENDATIONS

Fertilizer is suitable for foliar applications or watering when additional potassium (K) is needed or to compensate for sudden potassium (K) deficiency.

PACKAGING



Recommendation for fertilizing with Kalisto:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application suitable to fertilize in the second half of vegetation, from bud formation to mid-maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potato	0,25-0,5 l/100 l water	Foliar application: I-leaf and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5%	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application /watering during berry formation, 4-6 times every 5-7 days
Garden plants		Foliar application /watering during fruit formation, 1-2 times
Ornamentals		Foliar application /watering at beginning of growth, to help plants form roots and overcome a winter, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Kalisto can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, acidic products (pH<8), herbicides, and seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Silicare



It is a liquid **potassium (K)**, **phosphorus (P)** and **silicon (Si)** fertilizer which corrects mineral nutrition and stimulates natural protective functions of the plant. Fertilizer is intended for spraying through leaves. Nutrients contained in the fertilizer and L-proline acid act in a complex way to increase the viability of plants. Due to the effect of silicon, plant tissues have mechanical strength. More active photosynthesis accelerates transportation of organic matter from green tissues to seeds.

Potassium maintains the fluid balance in the plant.

Phosphorus promotes nutrient and energy metabolism.

Silicon performs the main function in the treatment of plants. The purpose of this use is to stimulate resistance to various stresses, diseases, and pathogens.

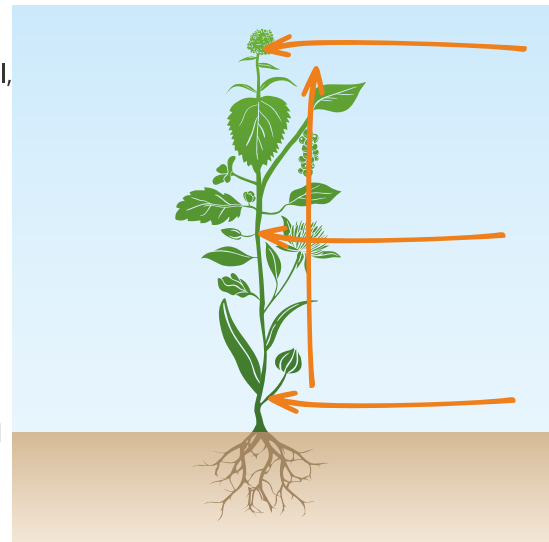
By regulating the plant fluid system, **L-Proline** acid acts as an enhancer of natural immunity against adverse climatic conditions, and it is also responsible for the viability of pollen.

ADVANTAGES:

- activates formation of new roots and their penetration into the soil,
- optimizes performance of root system,
- leaf area increases and photosynthesis process is activated,
- accumulates more dry matter,
- regulates fluid balance in plants,
- plants store higher sugar content,
- stimulates synthesis of proteins and sugars,
- stimulates plant photosynthesis,
- increases plant tolerance to higher salt concentrations,
- improves resistance to droughts and low temperatures,
- increases resistance to diseases and sucking pests,
- inhibits chemical stress, including salinity, nutrient imbalances and metal toxicity,
- activates processes of growth,
- stimulates the processes of fertilization, seed formation and maturation,
- yield increases and its quality improves.

COMPOSITION

	Amount %	Amount g/l
Silicon (SiO₂)	8,0	115
Water soluble silicon (SiO₂)	6,0	85
Potassium (K₂O)	20,0	290
Phosphorus (P₂O₅)	10,0	145
Amino acid L – Proline	0,3	4,3
Algae extract	0,1	1,4
pH (1:10 H ₂ O)	12,0-12,5	
Density 20°C, g/ml	1,42-1,46	



RECOMMENDATIONS

Suitable for fertilizing all plants which require additional amount of potassium during vegetation period.

PACKAGING



Recommendation for fertilizing with Silicare:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar applications suitable for fertilizing in the second half of the vegetation, from the beginning of bud formation to the middle of maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l water	
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5%	Foliar applications/watering at the beginning of butonization, flowering or root formation and growth stages, 3-5 times, every 7-10 days
Berry bushes		Foliar applications/watering during berry formation, 4-6 times every 5-7 days
Garden plants		Foliar application/watering 1-2 times during fruit set formation
Ornamental plants and sprouts		Foliar applications/watering in autumn that the plants would better winter and during flowering every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Silicare can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, acidic products (pH<8), herbicides, and seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.



Manganese (Mn) liquid fertilizer enriched with **zinc (Zn)** and **amino acid L-Proline** for additional fertilization.

Manganese is included in composition of many enzymes and participates in oxidation and reduction reactions, photosynthesis, and processes of carbohydrates and nitrogen exchange. Manganese stimulates development of the root system, the formation of new shoots, sugar production in leaves and transportation to roots, improves assimilation of iron from the soil and reduces likelihood of chlorosis. Manganese results in reduction of nitric nitrogen to ammonia in plants and, in some cases, the oxidation of ammoniacal nitrogen to nitrates.

Zinc is part of composition of many enzymes and is involved in various energy and nutrient metabolic processes. Zinc is very important at the beginning of vegetation period, it contributes to the formation of productive stems, their strength and formation of grain.

L-Proline amino acid is important in more than ten plant growth and development processes, such as regulation of osmotic pressure, regulation of stoma, seed swelling, stimulation of pollen germination, promotion of photosynthesis, regulation of chlorophyll formation.

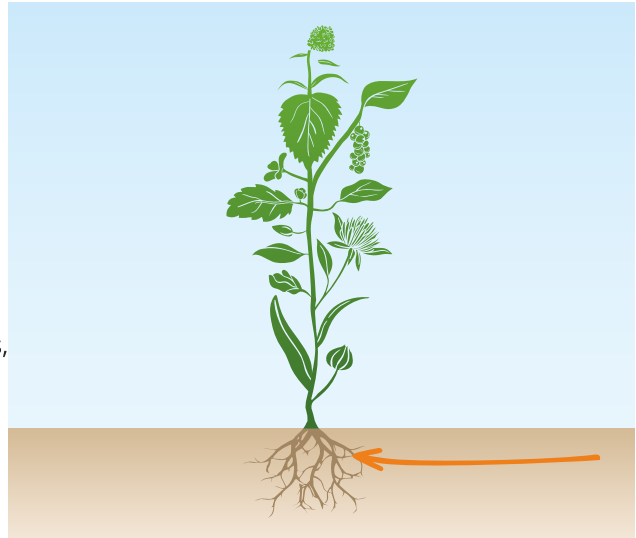
Very often plants need zinc and manganese at the same time. Therefore, foliar fertilizing with ENZO is very convenient and practical.

ADVANTAGES:

- improves plant resistance to pathogens,
- stimulates the development of the root system,
- affects the formation of productive stems, their strength,
- stimulates sugar production in leaves and its transportation to roots,
- improves assimilation of iron from the soil,
- reduces the likelihood of chlorosis,
- improves reduction of nitric nitrogen to ammonia and in some cases the oxidation of ammoniacal nitrogen to nitrates,
- stimulates photosynthesis,
- regulates formation of chlorophyll,
- improves grain formation.

COMPOSITION

	Amount %	Amount g/l
Manganese (Mn)	13,0	200
Zinc (Zn)	0,8	12,5
Nitrogen (N)	7,4	115
Nitrate nitrogen (N-NO ₃)	7,4	115
Amino acid L - Proline	0,33	5
pH (1:10 H ₂ O)	2,0-3,0	
Density 20°C, g/ml	1,56-1,6	



PACKAGING



Recommendation for fertilizing with Enzo:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 10-19; II-BBCH 21-35
Oilseeds		Foliar application: I-BBCH 10-18; II-BBCH 25-51
Legumes		Foliar application: I-3-5 leaves; II-beginning of butonization
Beets		Foliar application when 50% of leafs are formed
Corn		Foliar application: I-2-4 leaves; II-4-6 leaves
Potato	0,25-0,5 l/100 l water	Foliar application: I-leafs and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry formation, 4-6 times, every 5-7 days
Garden plants		Foliar application/watering during fruit formation 1-2 times
Ornamentals		Foliar application /watering at beginning of growth, to help plants form roots and overcome a winter, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Enzo can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment whose label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Enzo Pro



Manganese (Mn) liquid fertilizer enriched with **zinc (Zn)**, **copper (Cu)** and amino acid **L-Proline** is intended for additional fertilization.

Manganese is included in the composition of many enzymes and participates in oxidation and reduction reactions. Manganese results in the reduction of nitric nitrogen to ammonia in plants and, in some cases, the oxidation of ammoniacal nitrogen to nitrates.

Copper participates in metabolism of proteins and carbohydrates, and forms lignin, which is a structural element of cell strength, as a result of which it increases resistance to fungal and bacterial diseases.

Zinc is part of the composition of many enzymes and is involved in various energy and nutrient metabolic processes. Zinc is essential at the beginning of vegetation.

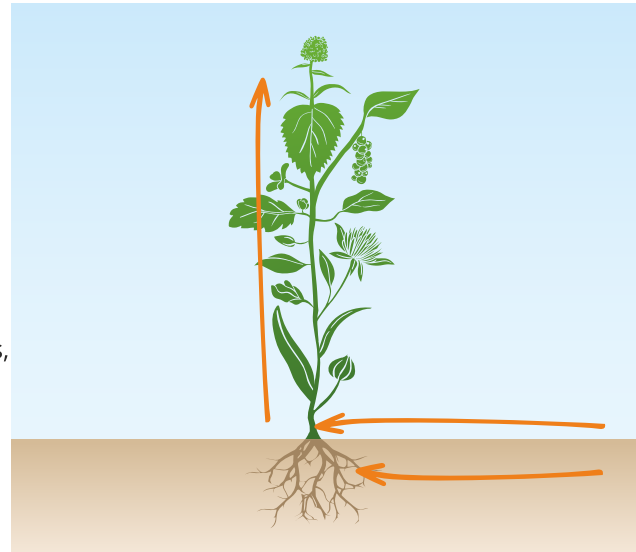
L-Proline amino acid is important in more than ten plant growth and development processes, such as regulation of osmotic pressure, regulation of stoma, seed swelling, stimulation of pollen germination, promotion of photosynthesis, regulation of chlorophyll formation.

ADVANTAGES:

- improves plant resistance to pathogens,
- stimulates development of root system,
- affects formation of productive stems and their strength,
- stimulates sugar production in leaves and transports them to the roots,
- improves assimilation of iron from the soil,
- reduces the likelihood of chlorosis,
- activates synthesis of proteins, carbohydrates and fats,
- improves reduction of nitric nitrogen to ammonia and in some cases the oxidation of ammoniacal nitrogen to nitrates,
- increases plant resistance to adverse environmental conditions and diseases,
- improves grain formation,
- plants grow healthier and stronger.

COMPOSITION

	Amount %	Amount g/l
Manganese (Mn)	9,2	140
Zinc (Zn)	4,6	70
Nitrogen (N)	7,0	110
Nitrate nitrogen (N-NO ₃)	7,0	110
Copper (Cu)	1,35	20
Amino acid L-Proline	0,34	5
pH (1:10 H ₂ O)	1,5-2,5	
Density 20°C, g/ml	1,52-1,55	



PACKAGING



Recommendation for fertilizing with Enzo Pro:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 10-19; II-BBCH 21-35
Oilseeds		Foliar application: I-BBCH 10-18; II-BBCH 25-51
Legumes		Foliar application: I-3-5 leaves; II-beginning of butonization
Beets		Foliar application when 50% of leafs are formed
Corn		Foliar application: I-2-4 leaves; II-4-6 leaves
Potato	0,25-0,5 l/100 l water	Foliar application: I-leafs and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry formation, 4-6 times, every 5-7 days
Garden plants		Foliar application /watering during fruit formation, 1-2 times
Ornamentals		Foliar application /watering at beginning of growth, to help plants form roots and overcome a winter, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Enzo Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Zinto



Zinto is a liquid concentrated **zinc (Zn)** fertilizer for stimulation of physiological processes and phosphorus uptake in early stages of development. Zinc is important in synthesis of chlorophyll, carbohydrates, auxins, starch, it is responsible for the formation of pigments and cuticle covering leaves. Other substances contained in the fertilizer help absorb zinc better or intensify the functions performed by zinc. Zinc as an element moves well in both the plant and the soil. Zinc uptake becomes complicated at high soil pH ($pH > 7.5$). In case of zinc deficiency, plants develop poorly, cereals tillering poorly, the maize grows small, and the legumes fructification is poor as well. Zinc is necessary for all plants, but especially winter wheat, malt barley, peas, beans, maize and leguminous grass are sensitive to zinc deficiency.

Copper (Cu) strengthens the plant's immune system.

Oligochitosan protects the plant's roots from pathogens and prolongs the effect of the treatment.

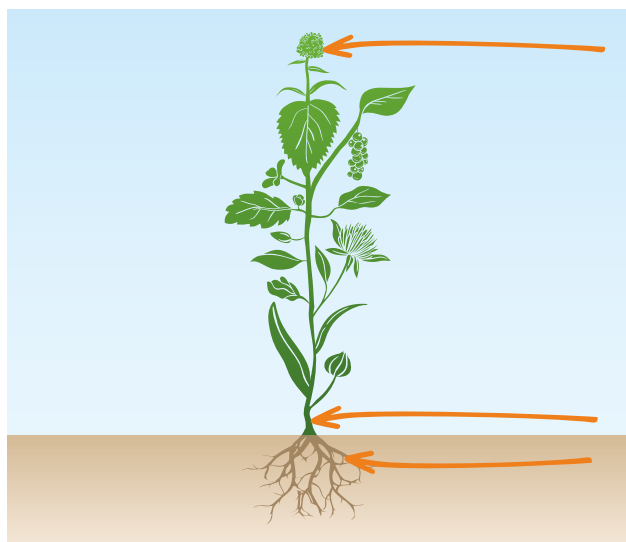
ADVANTAGES:

- improves germination,
- improves phosphorus uptake,
- stimulates development of root system,
- stimulates formation of generative organs,
- stimulates intensity of flowering,
- improves formation,
- stimulates tillering of grain,
- increases productive ripening.

COMPOSITION

	Amount %	Amount g/l
Zinc (Zn)	13,0	200
Manganese (Mn)	1,35	20
Nitrogen (N)	6,6	100
Nitrate nitrogen (N-NO ₃)	6,6	100
Copper (Cu)	0,13	2
Oligochitosan	0,13	2
pH (1:10 H ₂ O)	1,0-2,0	
Density 20°C, g/ml	1,54-1,6	

Plants need zinc throughout the all vegetation, especially in early stages of development, it cannot be replaced by other elements.



RECOMMENDATIONS

Suitable for all types of crops, which require additional zinc quantities.

PACKAGING



Recommendation for fertilizing with Zinto:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 10-19; II-BBCH 21-35
Oilseeds		Foliar application suitable to fertilize all kinds of crops, when zinc deficiency is visible
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l water	Foliar application: I-leaf and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application/watering during butonization, beginning of flowering or when tuber forms. 4-6 times, every 7-10 days
Berry bushes		Foliar application/watering during berry formation and maturation, 4-6 times, every 5-7 days
Garden plants		Foliar application/watering during fruit formation 1-2 times
Ornamentals		Foliar application/watering in autumn to help plants overcome a winter and during flowering every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Zinto can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Elais



Sulphur (S) and nitrogen (N) fertilizer enriched with molybdenum (Mo).

Sulphur stimulates photosynthesis, chlorophyll production, respiratory processes, metabolism of nitrogen and carbon, formation of many vitamins, enzymes and essential oils.

Nitrogen stimulates and regulates many growth and development processes and is included in composition of proteins, nucleic acids and enzymes.

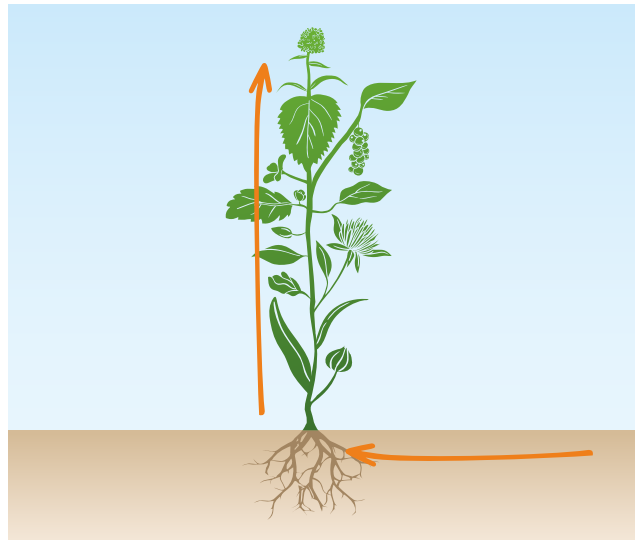
Molybdenum participates in metabolism of nitrogen and phosphorus compounds and ensures efficiency of these processes. During intense growth of plant, sulphur is used to increase nutrient absorption. Due to effective root zone activity plants provided with sulfur utilize nitrogen in the soil more efficiently. Interaction among nitrogen, sulphur and molybdenum results in uninterrupted growth of plant, timely development, yield and its quality, increased nitrogen fertilizer efficiency and the absorption of other nutrients involved in the growth process.

COMPOSITION

	Amount %	Amount g/l
Sulphur (S)	22,0	290
Sulphur (SO₃)	55,0	730
Nitrogen (N)	15,0	200
Ammonia nitrogen (N-NH ₄)	10,0	135
Amide nitrogen (N-NH ₂)	5,0	65
Molybdenum (Mo)	0,4	5
pH (1:10 H ₂ O)	7,0-8,0	
Density 20°C, g/ml	1,315-1,35	

ADVANTAGES

- S – plays a significant role in N metabolism,
- S necessary for synthesis of proteins, amino acids, vitamins and enzymes,
- S is an important element in nitrate reductase process, during which nitrate N is converted into amino acids,
- S is a part of enzyme, which required for N uptake,
- S participates in photosynthesis, energy metabolism and carbohydrate production,
- influence quality, smell and taste of production,
- increases amount of oil in the production,
- increases protein content in the production,
- improves the N:S ratio in forage plants, which improves forage quality,
- increases the amount of starch in tubers,
- improves the baking properties of wheat,
- increases the amount of sugar in the product.



PACKAGING



Recommendation for fertilizing with Elais:

Crops	Fertilization rate	Method and time of application
Cereals	2,0 – 30 l/ha	Foliar application spraying on leaves, during intensive growth. According to growth stage apply 1-4 times
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	1,0-1,5 l/100 l water	Foliar application spraying on leaves, during intensive growth
Vegetables	1,0-1,5 l/100 l water/watering 1,0-1,5% solution	Foliar applications – spraying on leaves, during intensive growth. According to growth stage – apply 1-2 times
Berry bushes		
Garden plants		
Ornamentals		

*Solution 1.0-1.5% (1000-1500 ml / 100 l of water)

COMPATIBILITY

Elais can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), with herbicides and with seed, treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Bora



Liquid concentrated boron-molybdenum-cobalt (**B-Mo-Co**) fertilizer is a full product for legumes. Plants require boron throughout vegetation period. Boron stimulates formation of generative parts of the plant as well as growth of seeds and fruits. Stimulates root system development, increases resistance to fungal diseases and drought. Boron limits the input of harmful nitrogen to the inside of the roots of legumes. Molybdenum increases the process of nitrogen fixation in the roots of legumes. Cobalt is a factor limiting growth and nitrogen fixation of legumes.

COMPOSITION

	Amount %	Amount g/l
Boron (B)	11,0	150
Cobalt (Co)	0,0002 [2ppm]	
Molybdenum (Mo)	0,5	7
Polysaccharides	2,0	28
pH (1:10 H ₂ O)	8,2-8,7	
Density 20°C, g/ml	1,4-1,45	

ADVANTAGES

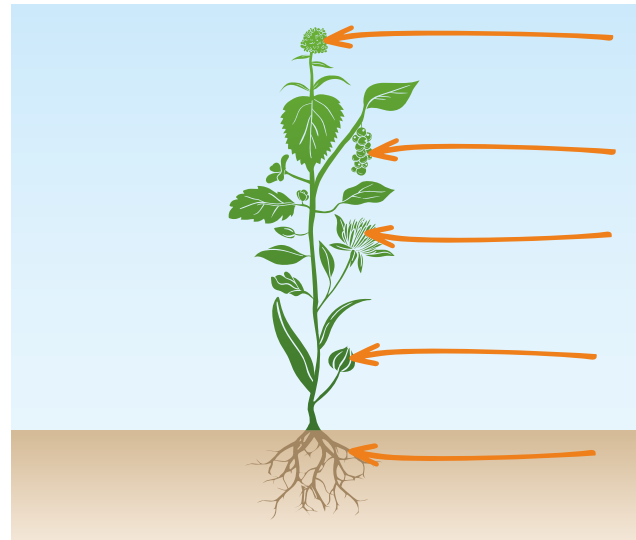
Boron and molybdenum improve:

- flower formation and flowering,
- viability of pollen,
- bud formation,
- seed and fruit formation.

Boron and molybdenum complex - increase resistance to fungal diseases and drought resistance.

Cobalt is important for:

- enzyme activity and protein synthesis,
- synthesis of chlorophyll B,
- stops leaf senescence,
- increases resistance to drought,
- inhibits release of stress hormone – ethylene,
- containing carbohydrates provide energy for plants to increase growth and absorption of nutrients.



PACKAGING



Recommendation for fertilizing with Bora:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 21-30; II-BBCH 30-95
Oilseeds		Foliar application: I-BBCH 10-15; II-BBCH 61-71
Legumes		Foliar application: I-3-5 leaves; II-beginning of butonization
Beets		Foliar application when 50 % of leafs are formed
Corn		Foliar application: I-2-4 leaves; II-4-6 leaves
Potato	0,25-0,5 l/100 l water	Foliar application: I-leaf and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application/watering during butonization, beginning of floweing or tuber formation, 3-5 times, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Bora can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Mendelenium



Liquid trace element fertilizer containing **sulfur (S), boron (B), iron (Fe), manganese (Mn), molybdenum (Mo), zinc (Zn) and amino acid L proline.**

During plant development, there is important interaction between **N** and **S**, which determines growth, yield its quality and nitrogen efficiency to the crop.

Iron (Fe) is one of the most important trace elements, it plays a crucial role in the uptake of numerous nutrients. In the absence of iron, it is more difficult for the plants to absorb necessary nutrients. Iron is actively involved in plant metabolic processes, it is in enzymes, activates respiration, affects the processes of chlorophyll formation, and auxin biosynthesis. In the absence of iron, plants stop growing and youngest leaves show signs of chlorosis.

L-Proline amino acid is important in more than a dozen plant growth and development processes.

Boron (B) promotes formation of plant generative organs.

Manganese (Mn) is included in the composition of many enzymes and participates in oxidation and reduction reactions, photosynthesis, and the processes of carbohydrates and nitrogen exchange.

Molybdenum (Mo), by stimulating chlorophyll synthesis, enhances photosynthesis, accelerates nitrate reduction and protein synthesis, increases protein and starch content.

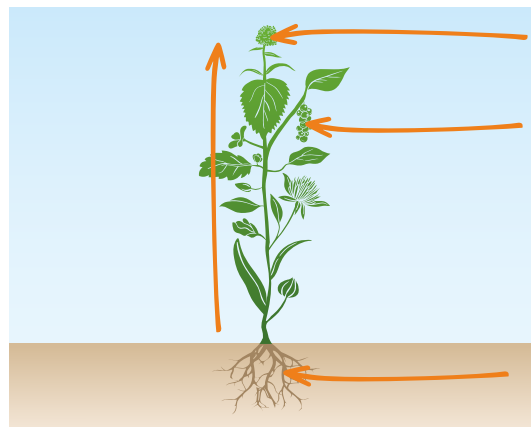
Zinc (Zn) is part of the composition of many enzymes and is involved in various energy and nutrient metabolic processes. It is very important at the beginning of vegetation as it affects the formation of productive stems, their strength and grain formation.

ADVANTAGES:

- strengthens the structure of the cell wall,
- maintains the elasticity, permeability and integrity of the cell membrane,
- participates in cell division and growth processes,
- increases resistance of plants against rot (physiological),
- strengthens resistance to droughts, pathogens and pests,
- participates in transmission of plant vital impulses (second messenger),
- stimulates metabolism of carbohydrates (sugars) in the plant, participates in their transport,
- increases the viability of pollen and stimulates pollen growth,
- improves protein synthesis,
- stimulates plant growth and root development.

COMPOSITION

	Amount %	Amount g/l
Iron (Fe)	4,0	55
Sulphur (SO₃)	10,0	135
Boron (B)	0,7	9,5
Manganese (Mn)	2,0	25
Molybdenum (Mo)	0,35	4,5
Zinc (Zn)	0,7	9,5
Amino acid L-Proline	0,37	5,0
pH (1:10 H ₂ O)	7,0-8,0	
Density 20°C, g/ml	1,38-1,45	



RECOMMENDATIONS

IKAR Mendelenium is suitable for fertilizing all kinds of crops.

PACKAGING



Recommendation for fertilizing with Mendelenium:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 10-19; II-BBCH 21-95
Oilseeds		Foliar application: I-BBCH 10-18; II-BBCH 25-69
Legumes		Foliar application: I-3-5 leaves; II-beginning of butonization
Beets		Foliar application when 50% of leafs are formed
Corn		Foliar application: I-2-4 leaves; II-4-6 leafs
Potato	0,25-0,5 l/100 l water	Foliar application: I-leafs and stem development, II-tuber formation, III-flowering, IV-maturation
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry formation, 4-6 times, every 5-7 days
Garden plants		Foliar application /watering during fruit formation, 1-2 times
Ornamentals		Foliar application /watering at beginning of growth, to help plants form roots and overcome a winter, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Mendelenium can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Koral



Koral – liquid **calcium (Ca)** fertilizer enriched with **amino acids**.

Calcium is responsible for tissue strength and is a component of pectic substances which bind cell walls. Activates enzymes, strengthens metabolism, participates in hormone regulation. Calcium regulates transport of carbohydrates to and from the cell, acid-base balance in cell, and amount of dry matter in cell. Calcium is needed differently for different agricultural plants. Calcium is mainly needed for vegetables and in gardens to improve fruit quality. Calcium stimulates activity of tuber bacteria in leguminous crops which have a higher need for calcium compared to other crops.

Fertilizers contain **amino acids (AA)**, which activate photosynthesis, increase chlorophyll content and affect important vital plant functions.

L-Methionine is a precursor of ethylene, which affects pollination efficiency, pollen fertilization, is involved in synthesis of ethylene, tryptophan and auxins, and is irreplaceable in fertilization process.

Alanine and Valine improve quality of fruit.

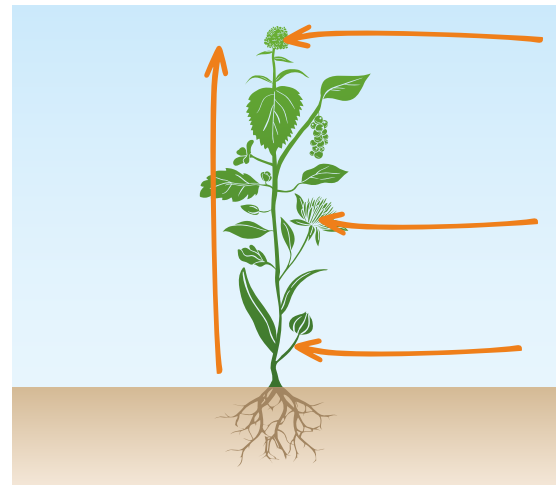
Polysaccharides - plants can use them during cellular respiration to get extra energy and accumulate more sugar, which is needed to improve quality and for faster recovery after stress.

ADVANTAGES:

- strengthens structure of the cell wall,
- maintains elasticity, permeability and integrity of cell membrane,
- participates in cell division and growth processes,
- increases resistance of plants to rot (physiological),
- strengthens resistance to droughts, pathogens and pests,
- participates in the transmission of plant vital impulses (second messenger),
- stimulates the metabolism of carbohydrates (sugars) in the plant, participates in their transport,
- increases the viability of pollen and stimulates pollen growth,
- improves protein synthesis,
- stimulates plant growth and root development.

COMPOSITION

	Amount %	Amount g/l
Calcium (CaO)	14,0	215
Nitrate nitrogen (N-NO ₃)	8,0	120
Potassium (K ₂ O)	5,0	77
Boron (B)	0,2	3,0
Polysaccharides	4,5	70
Amino acid L-Alanine	0,05	0,75
Amino acid L-Methionine	0,05	0,75
Amino acid L-Valine	0,05	0,75
pH (1:10 H ₂ O)	7,2-7,8	
Density 20°C, g/ml	1,52-1,56	



RECOMMENDATIONS

Suitable for fertilizing all types of crops which require higher amounts of calcium.

PACKAGING



Recommendation for fertilizing with Koral:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Foliar application can be applied in the second half of vegetation, from productive part formation to mid-maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potato	0,25-0,5 l/100 l water	
Vegetables	0,25-0,5 l/100 l water/watering 0,2-0,5% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry formation, 4-6 times, every 5-7 days
Garden plants		Foliar application /watering during fruit formation, 1-2 times
Ornamentals		Foliar application /watering at beginning of growth, to help plants form roots and overcome a winter, every 7-10 days

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Koral can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Immunofit



This liquid fertilizer is intended for additional foliar fertilizing of all plants during the period of intensive growth or when the growth of the plant is disturbed due to a lack of phosphorus and potassium. This fertilizer is quickly absorbed by the roots, leaves, and even the bark of the trees. It is a source of energy, a connection between the plant and soil, and a water retention in the plant and soil.

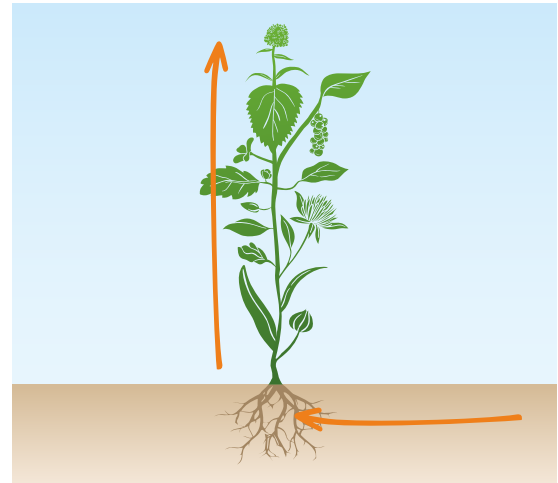
Phosphorus (P) is essential for plant development and survival. The amount of phosphorus influences the intensity of biochemical processes, root development, and the plant's natural immune system. It helps the plant in respiration and photosynthesis, and is a key element in the development of the root system of the plant. The plants are stimulated to use water more efficiently, making them more resistant to drought. Phosphorus stimulates the initiation, formation and ripening processes of fruit sets, and the accumulation of dry matter in seeds.

Potassium (K) maintains osmotic pressure and water balance in cells, controls stomatal function in leaves, the plants retain moisture better, and they are more resistant to droughts and low temperatures. Potassium accelerates the transport of photosynthesis products from leaves to seeds, increases the weight of seeds and improves their quality.

L-proline is an essential amino acid, which is important in more than ten processes of the growth and development of the plant such as: regulation of osmotic pressure, regulation of stomata opening, seed swelling, stimulation of pollen germination, stimulation of photosynthesis, and regulation of chlorophyll formation.

ADVANTAGES:

- increases the pressure in the roots, improves their penetration into the soil,
- stimulates the absorption of all nutrients existing in the soil,
- stimulates the formation of root hair,
- activates the synthesis of proteins, carbohydrates, and fats,
- increases the resistance of plants to adverse environmental conditions and diseases,
- stimulates photosynthesis, energy and metabolism,
- the plants grow healthier and stronger.



COMPOSITION

	Amount %	Amount g/l
Phosphorus (P ₂ O ₅)	30,6	420
Potassium (K ₂ O)	20,3	280
Amino acid L-Proline	0,37	5
pH (1:10)	4,0-5,0	
Density 20°C, g/ml	1,3-1,4	

PACKAGING



Recommendation for fertilizing with Immunofit:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Spraying: I - at the beginning of vegetation, II - the beginning of stem elongation, III - stem growth
Oilseeds		Spraying: I - at the beginning of budding, II - at the beginning of flowering
Legumes		Spraying: I – 3-5 leaves, II – at the beginning of budding
Beets		Spray after forming 50% of the leaves
Corn		Spraying: I - 2-4 leaves; II - 4-6 leaves
Potatoes	0,5-1,0 l L/ha	Spraying: I - growth of the leaves and stems, II - tuber formation, III - flowering, IV - maturation
Vegetables	0,5-1,0 l/ha 0,2-0,3% solution*	It should be sprayed/watered at the beginning of budding, flowering or root formation and growth stages, 3-5 times, every 7-10 days
Berry bushes	0,5-1,0 l/ha 0,2-0,3% solution*	It is sprayed/watered during berry ripening and fruiting, 4-6 times, every 5-7 days
Garden plants		It is sprayed/watered 1-2 times during fruit set formation
Ornamentals		Water in the autumn to allow the plants to overwinter better. Spray/water during flowering every 7-10 days

*Solution 0.2-0.3% (200-300 ml/100 L of water)

COMPATIBILITY

Immunofit can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, and with alkaline products (pH>8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment formed, it is recommended to spray in a small area in order to check whether there is no phytotoxic effect on plants.

Immunofit Pro



Phosphorus (P) in the form that moves quickly through the water vessels of the plant is a very important element that regulates the growth of the plant. Phosphorus (P) is essential for plant development and survival. The amount of phosphorus influences the intensity of biochemical processes, root development, and the plant's natural immune system. The plants are stimulated to use water more sparingly, thus, the plants become more resistant to drought. Phosphorus stimulates the initiation, formation and ripening processes of fruit sets, and the accumulation of dry matter in seeds. regulation of chlorophyll formation.

Potassium (K) maintains osmotic pressure and water balance in cells, controls stomatal function in leaves, the plants retain moisture better, and they are more resistant to droughts and low temperatures. Potassium accelerates the transport of photosynthesis products from leaves to seeds, increases the weight of seeds and improves their quality.

Copper Cu participates in the metabolism of proteins and carbohydrates, and forms lignin, which is a structural element of cell strength, as a result of which it increases resistance to fungal and bacterial diseases. Copper is a catalyst for photosynthesis and respiratory processes. It is especially necessary in peat soils.

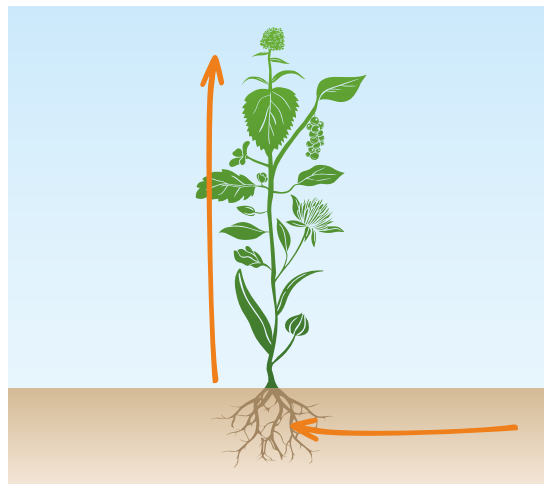
Biostimulants - In recent years there has been an increased interest in research on lactic acid, as they can directly help control plant diseases and plant growth by modulating the uptake of important nutrients such as phosphorus and potassium, nitrogen fixation and the production of plant hormones.

ADVANTAGES:

- forms firmer fruits with higher nutritional value and longer shelf life,
- the plants are invulnerable to pests or pathogens,
- the plants are more resistant to high/low temperatures,
- stimulates the absorption of all nutrients existing in the soil,
- stimulates the formation of root hair,
- activates the synthesis of proteins, carbohydrates, and fats,
- stimulates photosynthesis, energy and metabolism,
- the plants grow healthier and stronger.

COMPOSITION

	Amount %	Amount g/l
Phosphorus (P ₂ O ₅)	18,0	230
Potassium (K ₂ O)	16,0	205
Biostimulants	3,1	36,2
Copper (Cu)	0,5	6
pH (1:10)	5,5-6,0	
Density 20°C, g/ml	1,25-1,3	



PACKAGING



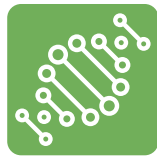
Recommendation for fertilizing with Immunofit Pro:

Crops	Fertilization rate	Method and time of application
Cereals	0,5-1,0 l/ha	Spraying: I - at the beginning of vegetation, II - the beginning of stem elongation, III - stem growth
Oilseeds		Spraying: I - at the beginning of budding, II - at the beginning of flowering
Legumes		Spraying: I – 3-5 leaves, II – at the beginning of budding
Beets		Spray after forming 50% of the leaves
Corn		Spraying: I - 2-4 leaves; II - 4-6 leaves
Potatoes	0,5-1,0 l L/ha	Spraying: I - growth of the leaves and stems, II - tuber formation, III - flowering, IV - maturation
Vegetables	0,5-1,0 l/ha 0,2-0,3% solution*	It should be sprayed/watered at the beginning of budding, flowering or root formation and growth stages, 3-5 times, every 7-10 days
Berry bushes	0,5-1,0 l/ha 0,2-0,3% solution*	It is sprayed/watered during berry ripening and fruiting, 4-6 times, every 5-7 days
Garden plants		It is sprayed/watered 1-2 times during fruit set formation
Ornamentals		Water in the autumn to allow the plants to overwinter better. Spray/water during flowering every 7-10 days

*Solution 0.2-0.3% (200-300 ml/100 L of water)

COMPATIBILITY

Immunofit Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, and with alkaline products (pH>8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment formed, it is recommended to spray in a small area in order to check whether there is no phytotoxic effect on plants.



PHYSIO

PHYSIO - fertilizers with physiological substances that change the morphology of the plant, the rate of developmental stages, the biochemical composition of the plant.

Bigo Roots



A specialized fertilizer designed to stimulate germination and promote plant growth during the early stages of vegetation. Bigo Roots is a great choice to use as seed and/or tuber treatment. Fertilizer contains **phytohormone cytokinin**, which has an influence on faster equal seed germination, more active formation of lateral shoots, stronger, more active and larger root zone.

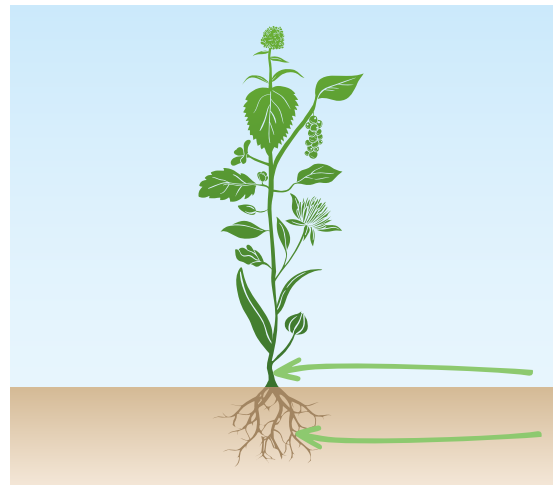
Amino acids are free energy that help reduce stress and strengthens the immunity of plants. The micro and macro elements in their composition increase the intensity of photosynthesis, and plants begin to absorb nutrients from the soil more intensively.

ADVANTAGES:

- stimulates earlier seed germination (3-5 days),
- stimulates root formation,
- increases plant tillering rate and number of productive stems,
- acts as an antistressant,
- strengthens the immune system of a plant, a resistant to diseases, and reduces the risk of root rot,
- winter crops overwinter better and begin to vegetate earlier.

COMPOSITION

	Amount %	Amount g/l
Polysaccharides	9,0	105
Biostimulants	0,015	0,17
Amino acids	5,0	60
Nitrogen (N)	5,0	60
Amide nitrogen (N-NH ₂)	3,0	36
Ammonia nitrogen (N-NH ₄)	0,5	6
Organic (N-org)	1,5	15
Phosphorus (P ₂ O ₅)	7,0	85
Potassium (K ₂ O)	3,0	35
Boron (B)	0,1	1,2
Iron (Fe EDTA)	0,065	0,75
Manganese (Mn EDTA)	0,05	0,6
Molybdenum (Mo)	0,05	0,6
Zinc (Zn EDTA)	0,1	1,2
Organic matter	27,0	
pH (1:10 H ₂ O)	5,5-6,5	
Density 20°C, g/ml	1,18-1,25	



RECOMMENDATIONS

Suitable for all types of crops.

PACKAGING



Recommendation of fertilization with Bigo Roots:

Crops	Fertilization rate	Method and time of fertilization
For seed treatment	0,5-1,0 l/1t of seeds	Foliar application / watering – apply 1-2 times at the beginning of vegetation (BBCH 0-30) to improve root development
Cereals	0,5-1,0 l/ha	
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l water	
Vegetables		
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Bigo Roots can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8), with herbicides and with seed treatment where the label states "do not mix with fertilizers". Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Bigo S



A special fertilizer formulated for seed treatment, designed to enhance germination and promote early-stage plant growth, particularly suited for spring crops. Liquid fertilizer with **carbohydrates and seaweed extract**. Fertilizer contains all three main elements nitrogen (N), phosphorus (P), potassium (K), which ensure balanced growth. **The substances in seaweed extract affect** the adaptation of plants to unfavorable growing conditions.

Plants sprayed with seaweed extract have higher resistance to pests and pathogens, and they use soil nutrients more efficiently.

Carbohydrates are used by plants as a primary source of energy necessary for normal functions such as growth and metabolism. Decomposing carbohydrates emits carbon atoms, which are the main biochemical feedstock because carbon can bind with other chemicals.

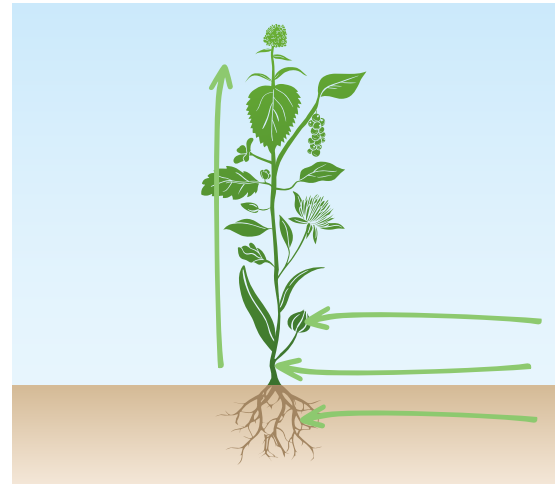
Fertilizers with high additional value are suitable for all outdoor plants. The biostimulators in the product promote the growth of the plant's aboveground mass and increase the foliage area during periods of intensive growth.

ADVANTAGES:

- accelerates regeneration processes, especially in early stages of development, during which plant productivity is intensively developed,
- strengthens natural immune system,
- normalizes physiological functions,
- plants increase growth of green areas of leaves, intensify photosynthesis,
- forms new shoots more efficiently,
- stimulates growth of lateral buds,
- faster adaptation of plants to unsuitable growing conditions, such as heat, cold, drought, soil salinity, excessive moisture,
- improves resistance to pests and pathogens,
- more efficient uptake of nutrients from the soil.

COMPOSITION

	Amount %	Amount g/l
Polysaccharides	10,0	120
Biostimulants	0,01	0,12
Seaweed extract	7,0	84
Nitrogen (N)	4,5	54
Amide nitrogen (N-NH ₂)	3,5	41
Nitrate nitrogen (N-NO ₃)	0,5	6
Organic nitrogen (N-org)	0,5	6
Phosphorus (P ₂ O ₅)	2,0	24
Potassium (K ₂ O)	4,5	54
Boron (B)	0,5	6
Iron (Fe)	0,05	0,6
Manganese (Mn)	0,06	0,7
Molybdenum (Mo)	0,01	0,12
Zinc (Zn)	0,5	6
Copper (Cu)	0,02	0,24
Organic matter	32,0	
pH (1:10 H ₂ O)	8,5-9,0	
Density 20°C, g/ml	1,18-1,25	



RECOMMENDATIONS

Fertilizers are suitable for foliar application or watering of all types of crops when plant growth stimulation is needed in adverse weather and soil conditions.

PACKAGING



Recommendation of fertilization with Bigo S:

Crops	Fertilization rate	Method and time of fertilization
For seed treatment	0,5-1,0 l/t of seeds	Foliar application/watering – apply 1-2 times at the beginning of vegetation (BBCH 0-32) to improve root development
For seeds and seedlings	0,5-1,0 l/ha	
Cereals		
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes		
Vegetables		
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Bigo S can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Bigo W



Bigo W ensures the development of a strong root system. Fertilizer strengthens the plant's immune system, provides additional energy for early growth and development.

Biostimulants activate the most important vital processes in plants, strengthen their protective functions, and provide urgent and 'shock' assistance to plants. It was determined that they stimulate the growth of plant roots, resulting in improved uptake of nutrients.

Analyses have shown that a **complex of amino acids and carbohydrates** strongly affect the intensity of photosynthesis in plants. We can say that amino acid products with carbohydrates are more useful in stressful situations, and the effect of amino acids changes the phosphorus circulation.

Seaweed extract increases the moisture capacity of the soil, thereby stimulating the activity of soil microorganisms even during drought.

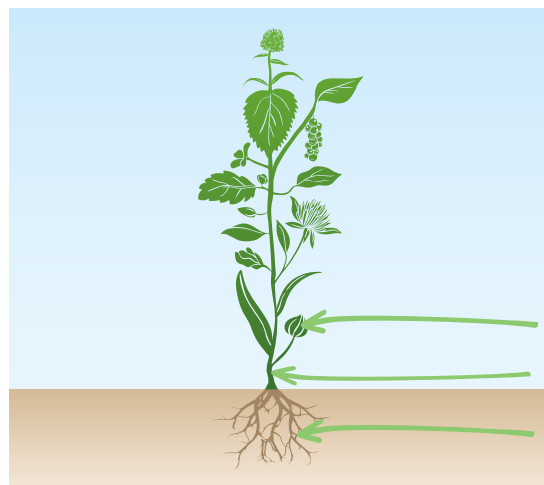
Bigo W - is recommended to use for rapid and productive plant development, especially when increasing plant resistance to adverse conditions is needed.

ADVANTAGES:

- increases seedling germination energy and germination,
- stimulates development of root system, accelerates root formation,
- revives root system, weakened by unfavorable growth conditions,
- improves tillering,
- helps transplanted plants to recover and grow faster,
- increases resistance to adverse environmental factors (frost, overheating, excess or deficiency of light and moisture),
- strengthens immunity of a plant and resistance to diseases,
- ensures the evenness of vegetative development,
- supplements plant nutrition with microelements,
- improves yield quality and fertility.

COMPOSITION

	Amount %	Amount g/l
Polysaccharides	5,0	60
Biostimulants	0,45	5,4
Seaweed extract	2,0	24
Amino acids	5,0	60
Nitrogen (N)	5,0	60
Amide nitrogen (N-NH ₂)	3,7	44
Organic Nitrogen (N-org)	1,3	16
Phosphorus (P ₂ O ₅)	5,0	60
Potassium (K ₂ O)	5,0	60
Boron (B)	0,1	1,2
Iron (Fe EDTA)	0,2	2,4
Manganese (Mn)	0,1	1,2
Molybdenum (Mo)	0,01	0,12
Zinc (Zn)	0,1	1,2
Copper (Cu)	0,08	0,1
Organic matter	40,0	
pH (1:10 H ₂ O)	4,5-5,5	
Density 20°C, g/ml	1,2-1,25	



RECOMMENDATIONS

The product is used to strengthen and fertilize all crops at the beginning of vegetative growth.

PACKAGING



Recommendation of fertilization with Bigo W:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application: I-BBCH 21-30; II-BBCH 25-32
Oilseeds		Foliar application: I-BBCH 10-15; II- BBCH 25-32
Legumes		Foliar application: I-3-5 leaf stage
Beets		Foliar application: 2-3 leaf stage
Corn		Foliar application: 2-4 leaf stage
Potatoes	0,25-0,5 l/100 l water	Foliar application 1-2 times during stem and leaf development
Vegetables	0,25-0,5 l/100 l water/ watering 0,2-0,5%	Foliar application / watering – at beginning of vegetation 1-2 applications, every 7-10 days
Berry bushes		Foliar application / watering – at beginning of vegetation 1-2 applications
Garden plants		
Ornamental plants and seedlings		

Application outside	250-500 ml/100 l water
Application in a greenhouse	200 – 500 ml/100 l water
Watering	0,2 – 0,5 % solution
Through irrigation system	2,0 – 4,0 l/ha
Seed treatment	0,5 – 1,0 l/t seed
Seedling soaking	0,3 – 0,5 % solution for 20 min
Seedlings for planting	0,3 – 0,5 % solution for 0,5 – 1,0 h
Seedlings	1% solution up to 8 h
Fruit trees, fruit bushes	0,3-0,5 % solution*
Ornamentals	2,0-4,0 l/ha

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Bigo W can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Revolt

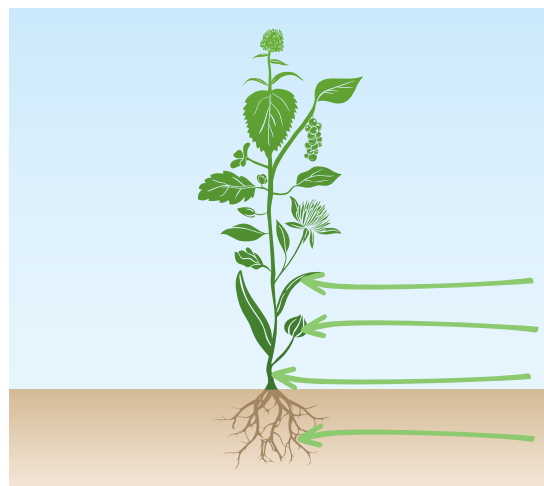


The product contains **biostimulants** and **free amino acids** derived from plants. Acts as an inhibitor that stops the plant from elongation, shortens the internodes, provokes and stimulates tillering, branching, flowering, formation, and increases yield. Using at the end of vegetation improves the quality of the yield.

Biostimulants, contained in this product, stimulate natural plant development processes and help overcome stress. They influence the physiological development of plants during critical growth stages. Increases the yield of crops and significantly improves the quality of the production.

ADVANTAGES:

- as a plant growth regulator, it inhibits apical dominance and stimulates tillering and additional stem development,
- increases the amount of vitamins and sugars, stimulates accumulation of protein in cereals and accelerates the accumulation of more fat in oilseeds,
- improves the formation of roots, the product has a powerful stimulating effect on root growth,
- accelerates photosynthesis,
- increases the efficiency of macro fertilizers, stimulates nutrient absorption,
- accelerates plant flowering and ripening.



COMPOSITION

	Amount %	Amount g/l
Biostimulants	0,7	8,6
Amino acids	4,0	50
Nitrogen (N)	1,0	12,4
Organic nitrogen (N-org)	1,0	12,4
Phosphorus (P ₂ O ₅)	9,0	112,4
Potassium (K ₂ O)	10,0	124
Boron (B)	0,4	5
Molybdenum (Mo)	0,2	2,4
Organic matter	13,0	
pH (1:10 H ₂ O)	6,0-7,0	
Density 20°C, g/ml	1,22-1,3	

PACKAGING



Recommendation for fertilizing with Revolt:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application: BBCH 29-31 – to intensify tillering, BBCH 32-37- to stop plant elongation and to strengthen the stem, BBCH 37-49 to increase yield quality
Oilseeds		Foliar application: 1-2 times from 3-5 leaf stage to green bud stage and growth stage
Legumes		Foliar application: I – 15 cm height, II - at the beginning of flowering
Peas		Foliar application 1 time application when plants reach 10 cm height
Corn		Spraying 1 time when 2-4 leaf are formed
Beets		Foliar applications: 30 days before harvesting to improve quality parameters
Potato/vegetables		0,3-0,5 l/100 l water
Vegetables	0,3-0,5 l/100 l water/ watering 0,2-0,5%	Apply 2-3 weeks after planting the seedlings and before flowering (150 ml / 100 l of water)
Berry bushes		Apply 1-2 times on leaves before flowering and right after flowering (75-150 ml/100 l water). Do not apply on stone fruits
Garden plants		Apply 1-2 times on leaves 2-3 weeks after sowing and before flowering (100-250 ml/100 l water)

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

Important: When using the product, it is necessary to maintain periods of 10-15 days between applications.

To increase the rates of main fertilizing in order to stimulate higher yields.

COMPATIBILITY

Revolt can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Cannot be mixed with products containing nitrogen (N) and amino acids. Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Ocean



A liquid fertilizer suitable for foliar application or watering, with a high concentration of **seaweed extract** and **supplemented with amino acids**.

Seaweed extract strengthens the immune system of plants, provides additional energy for early growth and development. The complex of active nutrients in the fertilizer accelerates protein formation, stimulates sugar accumulation, maintains water balance in membranes, normal cell division and wall formation, increases soil moisture capacity stimulating the activity of soil microorganisms even during drought.

Potassium (K) maintains osmotic pressure and water balance in cells, controls stomatal function in leaves, the plants retain moisture better, and they are more resistant to droughts and low temperatures. Potassium accelerates the transport of photosynthesis products from leaves to seeds, increases the weight of seeds and improves their quality.

L- Proline is an essential amino acid, which is important in more than ten processes of the growth and development of the plant such as: regulation of osmotic pressure, regulation of stomata opening, seed swelling, stimulation of pollen germination, stimulation of photosynthesis, and regulation of chlorophyll formation.

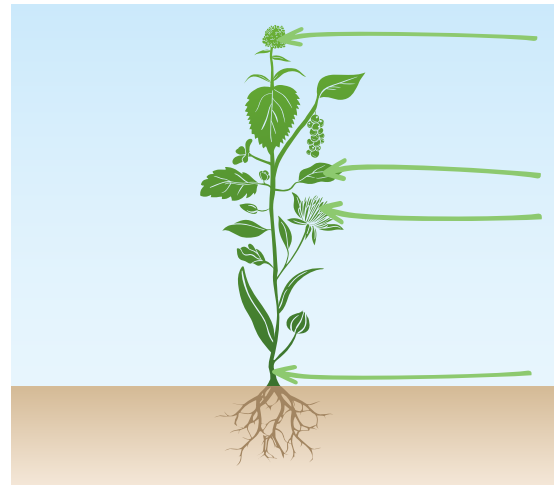
Salicylic acid - the plant hormone salicylic acid (SA) plays an essential role in the regulation of various biological processes throughout the life of the plant. SA is an endogenous signal that can trigger a plant defense response both at the site of infection and in the systemic tissue of the plant.

ADVANTAGES:

- strengthens immune system of plants,
- provides additional energy for growth and development,
- increases resistance of plants to stresses related to temperature fluctuations,
- activates root hair activity and nutrient uptake,
- improves protective layer of the leaf, thus increasing resistance for plant from pathogens,
- accelerates wound healing,
- slows down aging processes of plants.

COMPOSITION

	Amount %	Amount g/l
Seaweed extract	22,0	250
Potassium (K ₂ O)	5,0	55
Amino acid L-Proline	0,45	5
Salicylic acid	0,005	0,057
Organic matter pH (1:10 H ₂ O)	14,0	
pH (1:10 H ₂ O)	9,0-10,0	
Density 20°C, g/ml	1,12-1,2	



PACKAGING



Recommendation for fertilizing with Ocean:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application at the beginning of vegetation (BBCH 0-32). The most effectiveness is reached applying before/after frosts 1-3 times during the intensive growth throughout all vegetation. Suitable to apply on all types of crops
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l of water	
Vegetables		
Berry bushes	0,25-0,5 l/100 l water/ watering 0,2-0,5% solution	
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Ocean can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils. Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Infra



Special composition liquid fertilizer enriched with a high content of **L-amino acids**, suitable for all types of crops. These substances support plant growth and development, particularly under adverse conditions. Fertilizers have an anti-stress effect, plants recover faster after mechanical, chemical and biological damage. IKAR Infra provides the plant with additional energy and thus improves metabolic processes, and optimizes nutrient uptake. All this directly affects the productivity of the plant.

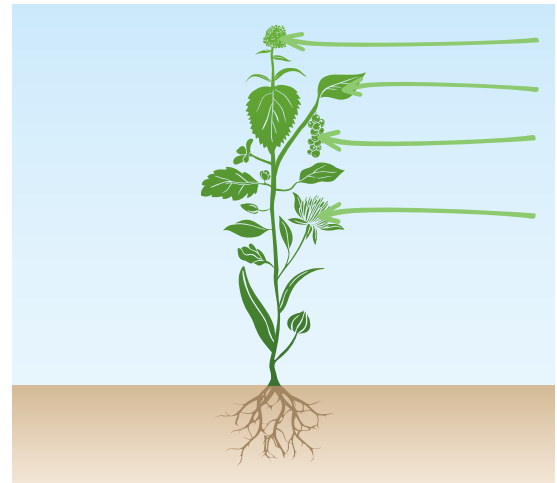
The biostimulants in this product stimulate natural plant development processes and help plants overcome stress. They affect the physiological developmental processes of plants at critical growth stages. Increases the yield of crops and significantly improves the quality of the production.

ADVANTAGES:

- helps the plant to recover from stress,
- the plant becomes healthier and more resistant to pathogens,
- nutrients are better absorbed,
- accelerates the entry of nutrients into the plant, their transport in the plant and their usage,
- chelates micronutrients and helps them to enter the plant,
- increases the efficiency of macrofertilizers,
- increases the osmotic pressure in a plant,
- intensifies flowering and plant maturation processes,
- produces better and higher quality yields,
- improves the nutritional value of the product.

COMPOSITION

	Amount %	Amount g/l
Amino acids	20,0	250
Biostimulators	5ppm	
Nitrogen (N)	6,8	80
Organic nitrogen (N-org)	5,3	62
Nitrate nitrogen (N-NO ₃)	1,5	18
Potassium (K ₂ O)	1,5	18
Manganese (Mn)	1,2	15
Zinc (Zn)	1,2	15
Organic matter	50,0	
pH (1:10 H ₂ O)	3,5-4,5	
Density 20°C, g/ml	1,2-1,25	



PACKAGING



Recommendation for fertilizing with Infra:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application 1-5 times during the intensive growth throughout all vegetation at +10°C or higher temperatures. Suitable to apply on all types of crops. Do not mix with herbicides
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l of water	Foliar application or watering 1-3 times during the intensive growth throughout all vegetation. Do not use on stone fruits
Vegetables		
Berry bushes	0,25-0,5 l/100 l of water/ watering 0,2-0,5% solution	
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Infra can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Cannot be mixed with herbicides. Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Infra Pro



Infra Pro is a liquid organic fertilizer containing **glycine betaines** and plant-derived **L-amino acids**.

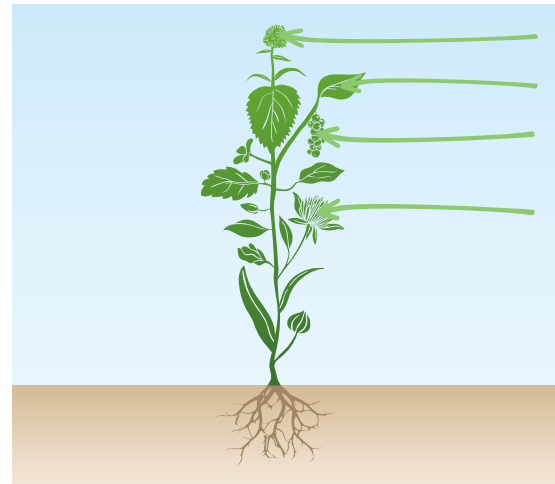
Amino acids are the main building blocks in a cell. The essential purpose of using amino acids is to alleviate plant stress and stimulate their growth and development. By using amino acid products, the plant receives a strong stimulus for further intensive growth.

Glycine betaine increases osmotic pressure in plant cells to prevent water leakage from cells. By controlling this osmotic pressure, it allows water and trace elements to be retained or diffused. In the same way, it reduces the crystallization point of water in plant cells, which makes it possible to protect against the cold, thus preventing cells from "exploding".

Biostimulants, contained in this product, stimulate natural plant development processes and help plants overcome stress. They impact the physiological development of plants during critical growth stages, increasing crop yields and significantly improving production quality.

ADVANTAGES:

- helps the plant to recover from stress,
- the plant becomes healthier and more resistant to pathogens,
- nutrients are better absorbed,
- accelerates the entry of nutrients into the plant, their transport in the plant and their usage,
- chelates micronutrients and helps them to enter the plant,
- increases the efficiency of macrofertilizers,
- increases the osmotic pressure in a plant,
- intensifies flowering and plant maturation processes,
- produces better and higher quality yields,
- improves the nutritional value of the product.



COMPOSITION

	Amount %	Amount g/l
Amino acids	28,0	340
Biostimulants	5 ppm	
Nitrogen (N)	6,5	75
Organic nitrogen (N-org)	6,5	75
Potassium (K ₂ O)	1,5	18
Organic matter	56,0	
pH (1:10 H ₂ O)	5,0-5,5	
Density 20°C, g/ml	1,2-1,25	

RECOMMENDATIONS

The fertilizer is suitable for all types of crops when it is necessary to strengthen the plants.

PACKAGING



Recommendation for fertilizing with Infra Pro:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application 1-3 times during the intensive growth throughout all vegetation at +10 °C or higher temperatures. Suitable to apply on all types of crops. Do not mix with herbicides
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l/100 l of water	Foliar application or watering 1-3 times during the intensive growth throughout all vegetation. Do not use on stone fruits
Vegetables		
Berry bushes	0,25-0,5 l/100 l of water/ watering 0,2-0,5% solution	
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Infra Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Cannot be mixed with herbicides. Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.



CORRECT

CORRECT is a group of modern fertilizers-correctors, for precise correction of nutrient deficiencies during intensive growth.

B 170



B 170 (N 7 g/l; B 170 g/l) is a concentrated liquid **boron (B)** fertilizer suitable for additional fertilization that has a higher need for boron. Boron is involved in all physiological processes of the plant.

Boron is immobile in plants, so the condition of plants is determined by the fact whether they constantly get this trace element.

Boron deficiency appears due to an imbalance of boron and calcium as well as the low content of organic substances in the soil. Drought, insufficient moisture, low temperatures, and high rainfall in a short time are factors causing boron deficiency.

BORON AFFECTS:

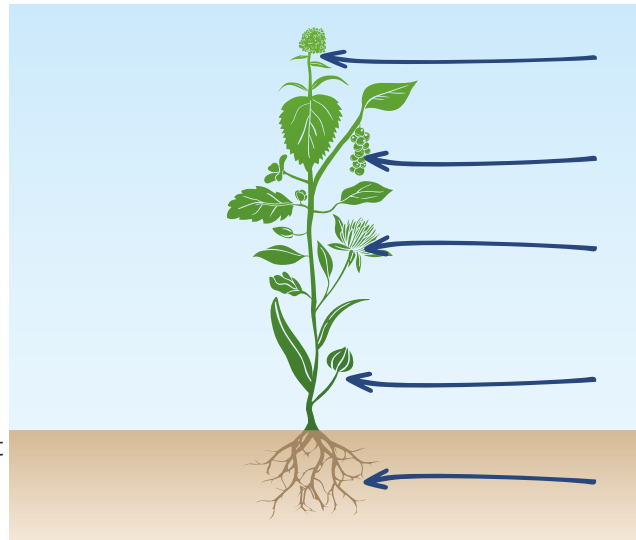
- root growth and development,
- enzyme activity,
- protein and carbohydrate synthesis,
- transportation of nutrients from leaves to roots,
- plant resistance to diseases.

ADVANTAGES:

- stimulates synthesis and flow of carbohydrates from leaves to seeds and roots,
- improves pollen formation,
- it is necessary for germination, seed viability, seed and fruit maturation, their weight and quality,
- it is necessary for the absorption of phosphorus and calcium, which are responsible for the strength of cell walls and resistance to diseases,
- maintains cellular osmotic pressure and transpiration,
- it is necessary for the growth and development of roots and rhizobia bacteria in legumes.

COMPOSITION

	Amount %	Amount g/l
Boron (B)	12,0	170
pH (1:10 H ₂ O)	8,3-8,7	
Density 20°C, g/ml	1,42	



RECOMMENDATIONS

Fertilizer is suitable for all kinds of crops for foliar application or watering when additional boron (B) quantities are needed to compensate for a sudden deficiency of this element.

PACKAGING



Recommendation for fertilizing with B170:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application BBCH 37-61
Oilseeds		Foliar application: I-(BBCH 13-15) 3-4 leaf, II-(BBCH 14-16) 5-6 leaf; III-(33-50) butonization; IV- (BBCH 50-60) before flowering
Legumes		Foliar application: I-(BBCH 11-13) 3-5 leaf; II-(BBCH 39-50) beginning of butonization
Beets		Foliar application: I-(BBCH 14-16) 2-4 lapai; II-(BBCH 18-20) 6-8 leaf; III-(BBCH 31-39) covering of inter-row
Corn		Foliar application - 2-4 leaf stage
Potatoes	0,25-0,5 l/100 l of water	Foliar application: I-(BBCH 21-30) leaf development and stem growth, II-(BBCH 40-50) tuber formation; III-(BBCH 40-60) before flowering
Vegetables	0,25-0,5 l/100 l of water/watering 0,2-0,5% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry fomation
Garden plants		Foliar application /watering during fruit formation
Ornamental plants and seedlings		Foliar application/watering at beginning of growth, to help plants form roots

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

Foliar application for leguminous, rapeseed, beets: single dose 0.5-1.0 l / ha (1-3 times during the whole vegetation) at ambient temperature higher than + 10°C.

Leguminous grasslands: after renewal of vegetation before butonization 0.5-1.5l / ha;

COMPATIBILITY

B 170 can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

B 170 + Mo



Boron (B) is necessary for plants during all vegetation periods. **Boron is immobile in plants, so the condition of plants is determined by the fact that they constantly get this trace element.**

Molybdenum (Mo) has a positive effect on the growth of cereals and row crops. For normal growth leguminous plants require more molybdenum than other plants. In leguminous roots, nitrogen-fixing bacteria use molybdenum for the process of nitrogen fixation from the air.

Boron and molybdenum complex as a nutrient improves the immune system of plants. Plants need boron and molybdenum throughout all vegetation, they cannot be replaced by other elements. Drought, insufficient moisture, low temperatures, and high rainfall in a short time are the factors causing boron deficiency. Boron deficiency appears due to an imbalance of boron and calcium as well as the low content of organic substances in the soil. Calcium inhibits the absorption of boron in alkaline soils.

BORON AND MOLYBDENUM STIMULATE:

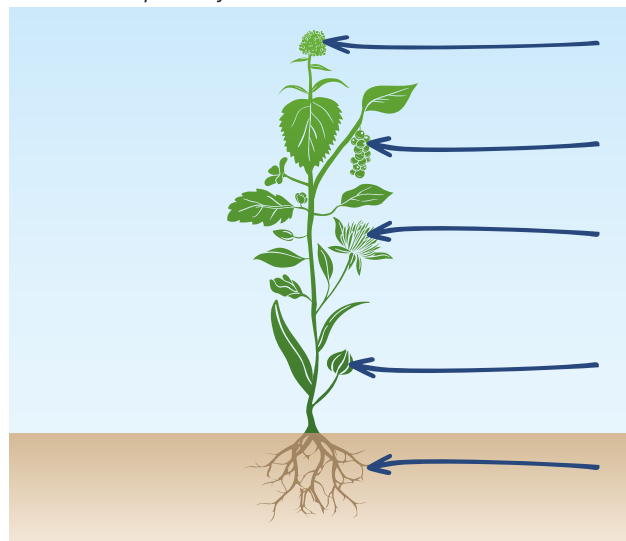
- flower formation and flowering,
- determines the viability of pollen,
- bud formation,
- seed and fruit growth,
- increases resistance to fungal diseases,
- increases drought resistance.

ADVANTAGES:

- stimulates formation of generative organs of a plant,
- improves seed and fruit growth,
- accelerate transportation of sugar,
- improves development of root system,
- increases resistance to fungal diseases,
- improves drought resilience,
- stimulates the synthesis of chlorophyll,
- enhances photosynthesis,
- increases starch content,
- accelerates nitrate reduction and protein synthesis,
- increases protein content,
- increases process of nitrogen fixation in the roots of leguminous,
- helps to absorb potassium and maintains its balance in plant,
- helps to absorb calcium more efficiently.

COMPOSITION

	Amount %	Amount g/l
Boron (B)	12,0	170
Molybdenum (Mo)	0,5	7
pH (1:10 H ₂ O)	8,3-8,5	
Density 20°C, g/ml	1,42	



RECOMMENDATIONS

Fertilizer is suitable for all kinds of crops for foliar application or watering when additional boron (B) and molybdenum (Mo) quantities are needed to compensate sudden deficiency of these elements.

PACKAGING



Recommendation for fertilizing with B 170 + Mo:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,3-0,5 l/ha	Foliar application BBCH 37-61
Oilseeds	0,5-1,0 l/ha	Foliar application: I-(BBCH 13-15) 3-4 leaf, II-(BBCH 14-16) 5-6 leaf; III- (33-50) butonization; IV- (BBCH 50-60) before flowering
Legumes		Foliar application: I-(BBCH 11-13) 3-5 leaf; II-(BBCH 39-50) beginning of butonization
Beets	1,0-1,2 l/ha	Foliar application: I- (BBCH 14-16) 2-4 leaf; II- (BBCH 18-20) 6-8 leaf; III- (BBCH 31-39)
Corn	0,5-1,0 l/ha	Foliar application - 2-4 leaf stage
Potatoes	0,25-0,5 l/100 l of water	Foliar application: I-(BBCH 21-30) leaf development and stem growth, II-(BBCH 40-50) tuber formation; III-(BBCH 40-60) before flowering
Vegetables	0,25-0,5 l/100 l of water/watering 0,2-0,5% solution	Foliar application / watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry fomation
Garden plants		Foliar application /watering during fruit formation
Ornamental plants and seedlings		Foliar application /watering at beginning of growth, to help plants form roots

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

B 170 + Mo can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Mo 300



Molybdenum (Mo) is a particularly important trace element in nitrogen fixation process. Molybdenum has a positive effect on growth of cereals and legume crops. For normal growth the leguminous plants require more molybdenum than other plants. In leguminous roots, nitrogen-fixing bacteria use molybdenum for process of nitrogen fixation from the air. Lack of this element is found in acidic and light soils. Low temperatures and high levels of usage of nitrogen fertilizers can affect the deficit of molybdenum.

Mo 300 liquid organic molybdenum micronutrient fertilizer is an innovative, advanced, and highly effective molybdenum complex.

ADVANTAGES:

- high concentration in liquid form, easy to use,
- very rapidly absorbed,
- stimulates activity of microorganisms in the soil,
- by stimulating synthesis of chlorophyll, enhances photosynthesis and increases starch content,
- increases protein content by accelerating nitrate reduction and protein synthesis,
- increases process of nitrogen fixation in the roots of leguminous.

COMPOSITION

Molybdenum (Mo)

pH (1:10 H₂O)

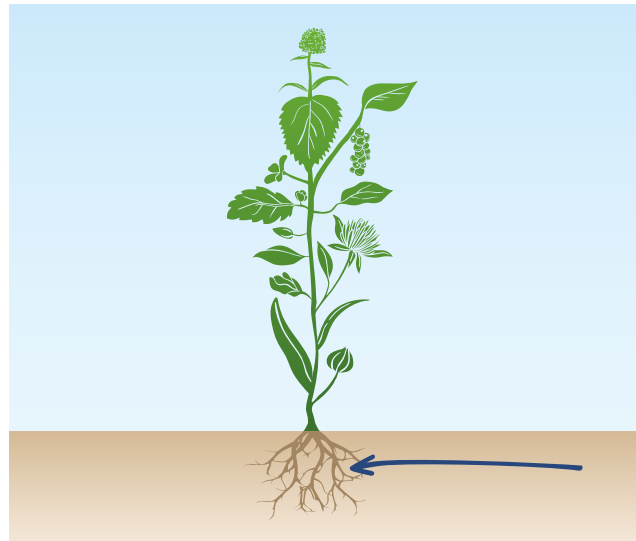
Density 20°C, g/ml

Amount % Amount g/l

18,8 300

4,2-4,7

1,55-1,6



RECOMMENDATIONS

Suitable for fertilization of all kinds of crops according to the rate required for particular plant type.

PACKAGING



Recommendation for fertilizing with Mo 300:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,05-0,1 l/ha	Foliar application BBCH 37-61
Oilseeds		Foliar application: I-(BBCH 13-15) 3-4 leaf, II-(BBCH 14-16) 5-6 leaf; III- (33-50) butonization; IV- (BBCH 50-60) before flowering
Legumes		Foliar application: I-(BBCH 11-13) 3-5 leaf; II-(BBCH 39-50) beginning of butonization
Beets		Foliar application: I- (BBCH 14-16) 2-4 leaf; II- (BBCH 18-20) 6-8 leaf; III- (BBCH 31-39) when crop start to cover rows
Corn		Foliar application - 2-4 leaf stage
Potatoes	0,02-0,05 l/100 l of water	Foliar application: I-(BBCH 21-30) leaf and stem development, II-(BBCH 40-50) tuber formation, III-(BBCH 40-60) until flowering
Vegetables	0,02-0,05 l/100 l of water/watering 0,02-0,05% solution	Foliar application /watering during butonization, beginning of flowering or tuber formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering during berry fomation
Garden plants		Foliar application /watering during fruit formation
Ornamental plants and seedlings		Foliar application/watering for plants to help develop root system

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

Foliar application for leguminous, rapeseed, beets: single dose 0.05-0.1 l / ha (1-3 times during the whole vegetation) at ambient temperature higher than + 10°C.

Leguminous grasslands: after renewal of vegetation before butonization 0.05-0.1 l / ha;

COMPATIBILITY

Mo 300 can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Fe 75 DTPA



Iron (Fe) - it is a chloroplast building material. Iron is important for development of new plant parts and roots. Lack of iron can cause the veins of young leaves to lighten or turn yellow. High pH, poor root growth, and low soil temperatures can severely impair iron absorption.

Iron (Fe) - one of the most important trace elements, on which the uptake of many other nutrients directly depends. In absence of iron, plants find it difficult to absorb other necessary nutrients, although their content in the soil is relatively sufficient. Iron is actively involved in plant metabolic processes, they are in enzymes, activates respiration, affects the formation of chlorophyll, and auxin biosynthesis.

CONDITIONS FOR THE OCCURRENCE OF IRON

DEFICIENCY:

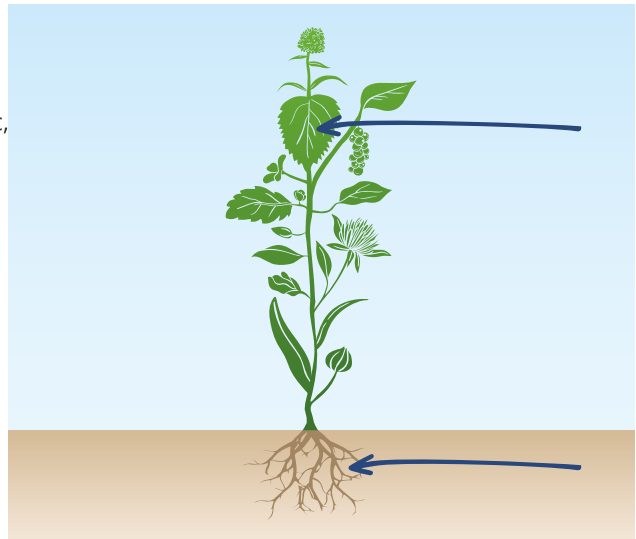
- alkaline soil,
 - soil contains copper, phosphorus, calcium, manganese and zinc,
 - potassium deficiency in soil,
 - soils tend to get wet,
 - high or low soil temperature,
 - excess organic matter,
 - iron deficiency can also be caused by high levels of manganese.
- Signs of iron deficiency - the plants stop growing, the youngest leaves show signs of chlorosis, signs of phosphorus and manganese deficiency.

ADVANTAGES:

- promotes the absorption of other nutrients,
- improves the uptake of potassium and phosphorus in the plant,
- increases synthesis of chlorophyll,
- increases photosynthesis,
- protection against stress in adverse growth conditions,
- treats against chlorosis,
- improves manganese uptake.

COMPOSITION

	Amount %	Amount g/l
Iron (Fe), chelated with DTPA	6,0	75
Ammonia nitrogen (N-NH ₄)	5,0	65
pH (1:10 H ₂ O)	7,5-8,0	
Density 20°C,4/ml	1,3-1,35	



RECOMMENDATIONS

Fe75 DTPA - when growing plants sensitive to chlorosis: flowers, strawberries, berry bushes, fruit trees, ornamentals.

PACKAGING



Recommendation for fertilizing with IKAR Fe 75 DTPA:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,1-0,5 l/ha	<p>Apply on all plants, which require more iron to protect from its deficiency.</p> <p>Apply as foliar application on leaves 1-2 times before bud formation.</p> <p>If iron deficiency is visible, apply product times 2-3 every 1-2 weeks depending on the deficiency level. Watering - 3-5 times every 10-15 days</p>
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,1-0,2 l/100 l water	
Vegetables		
Berry bushes	0,1-0,2 l/100 l water/watering 0,15-0,2% solution	
Garden plants		
Ornamental plants and seedlings		

*Solution 0.15-0.2% (150-200 ml / 100 l of water)

COMPATIBILITY

Fe 75 DTPA can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Ca 200 + B



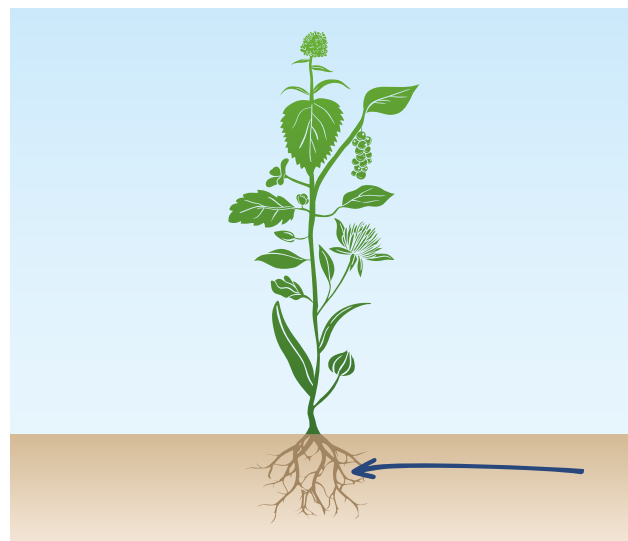
Calcium (Ca) is responsible for tissue strength, it is a component of pectic substances that bind cell walls, necessary for protein synthesis, cell division, stimulates plant growth and root development. Activates enzymes, strengthens metabolism, participates in hormone regulation. Calcium regulates transport of carbohydrates to and from the cell, the acid-base balance in the cell, and the amount of dry matter in the cell. Strengthens resistance to droughts, pathogens and pests. Agricultural crops consume more Ca than P, Mg, and S, but less than N and K.

Boron (B) promotes formation of plant generative organs, seed and fruit growth. Boron is required for absorption of potassium in the plant, accelerates the transport of sugar, promotes the development of the root system, increases resistance to fungal diseases and drought.

L-proline amino acid is important in more than ten plant growth and development processes, such as regulation of osmotic pressure, regulation of petiole opening, seed swelling, promotion of pollen germination, promotion of photosynthesis, regulation of chlorophyll formation.

PROPERTIES:

- strengthens the cell wall structure,
- maintains the elasticity, permeability, and integrity of the cell membrane,
- involved in cell division and growth processes,
- increases plant resistance to rot (physiological origin),
- involved in the transmission of plant vital impulses (second messenger),
- promotes the metabolism of carbohydrates (sugars) in the plant, participates in their transport,
- increases pollen viability and stimulates pollen growth.



COMPOSITION

	Amount %	Amount g/l
Calcium (CaO)	15,0	200
Calcium (Ca)	10,8	145
Boron (B)	1,5	20
Amino acid L-proline	0,39	5
pH (1:10 H ₂ O)	7,5-8,5	
Density 20°C, g/ml	1,32-1,36	

PACKAGING



Recommendation for fertilizing with IKAR Ca 200 + B:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,1-0,5 l/ha	Foliar application: starting in the early stages of vegetation until the onset of generative organ formation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,1-0,2 l/100 l of water	Throughout the vegetation, flowers and vegetables – 3-4 applications, garden plants – 4-8 applications
Vegetables	0,1-0,2 l/100 l water/watering 0,15-0,2% solution	
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

**Solution 0.15-0.2% (150-200 ml / 100 l of water)*

COMPATIBILITY

Ca 200 + B can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing copper, sulphates, mineral oils and alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture to check whether there is no sediment forming, it is also recommended to spray in a small area in order to check if there are no phytotoxic effect on plants.

Mg 100 Pro



Lignosulphonate-based liquid **magnesium (Mg)** fertilizer for additional applications. Liquid magnesium fertilizer for additional applications. Mg 100 Pro is suitable to use in all periods of vegetation.

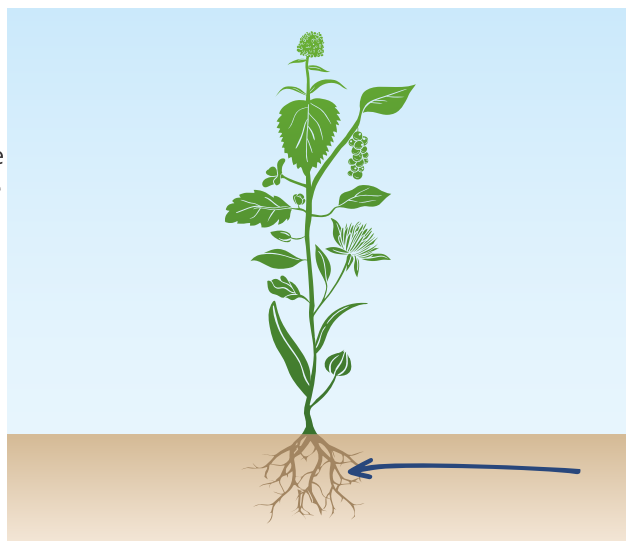
Magnesium - is a major component of chlorophyll and cannot be replaced by any other element during photosynthesis. It activates the action of more than a hundred enzymes, increases the activity of phytohormones, participates in oxidation-reduction processes, promotes carbohydrate metabolism, accelerates maturation, increases the amount of dry matter in the seeds. Magnesium deficiency can be caused by excess potassium, to a lesser extent by excess calcium. This results in a decrease in chloroplasts, chlorosis in older leaves, and the veins remaining dark green. In the case of magnesium deficiency, the efficiency of nitrogen and phosphorus fertilizers decreases.

PROPERTIES:

- supplies magnesium complexed by ammonium lignosulphonate (LSA), which enables the carriage of micronutrients through the leaf cuticle,
- improves nutrient uptake,
- activates photosynthesis and energy metabolism processes,
- strengthens the immune system of plants.

COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	5,0	70
Magnesium (Mg)	4,5	60
Magnesium (MgO)	7,5	100
pH (1:10 H ₂ O)	4,0-4,5	
Density 20 °C, g/ml	1,35-1,4	



PACKAGING



Recommendation for fertilizing with IKAR Mg 100 Pro:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-1,0 l/ha	Foliar application suitable to fertilize all plants, when deficiency is visible
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,25-0,5 l water	Foliar application/watering suitable to fertilize all plants, when deficiency is visible
Vegetables	0,25-0,5 l/100 l water/ watering 0,2-0,5% solution	
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

Mg 100 Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

Cu 200



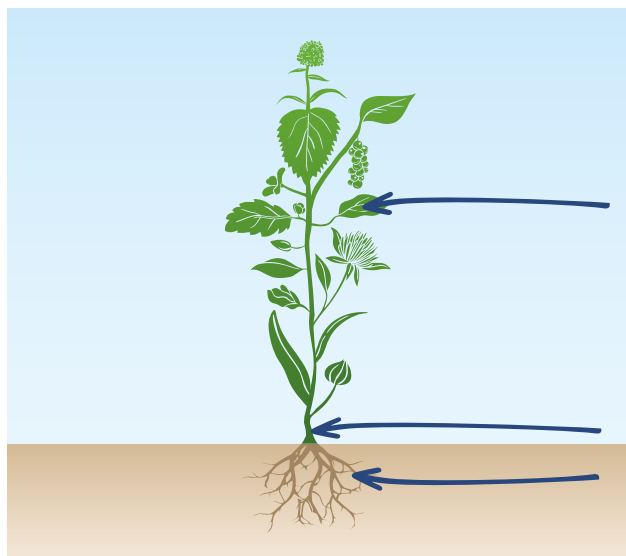
Copper (Cu) is essential for normal growth and development, pollen formation, and the fertilization process in self-pollinating plants. This element is involved in the synthesis of vitamin A, which is essential for protein synthesis. Copper deficiency manifests itself in leaf curling, causing grain rejection in wheat heads. In legumes, copper is important for the tuberos bacteria that form tubers. The complex action of the fertilizer components promotes more intensive root development in the early stages, faster plant regeneration after winter, the formation and strength of lateral shoots, and increased resistance to early disease spread

COMPOSITION

	Amount %	Amount g/l
Copper (Cu)	14,0	200
Nitrogen (N)	6,0	85
Nitrate Nitrogen (N-NO ₃)	6,0	85
pH (1:10 H ₂ O)	2,5-3,0	
Density 20°C, g/ml	1,45-1,5	

ADVANTAGES:

- increases the pressure in the roots, improves their penetration into the soil,
- promotes the formation of root hairs,
- stimulates the synthesis of proteins, carbohydrates, and fats,
- increases plant resistance to adverse environmental conditions and diseases,
- stimulates photosynthesis, nutrients and energy metabolism,
- plants grow healthier and stronger.



PACKAGING



Recommendation for fertilizing with IKAR Cu 200:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,2-0,5 l/ha	Foliar application suitable for fertilizing at the beginning of the growth (temperature +10°C, spraying before frost -1°C is not recommended)
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,1-0,5 l/100 l water	
Vegetables	0,1-0,5 l/100 l water/ watering 0,3-0,5% solution	Foliar application/watering at the beginning of vegetation
Berry bushes		Foliar application/watering at the beginning of vegetation and after harvest
Garden plants		Foliar application/watering at the beginning and end of vegetation
Ornamental plants and seedlings		Foliar application/watering to intensify plant growth

**Solution 0.3 – 0.5 % (300 – 500 ml/ 100 l of water). If Cu 200 is used as a fungicide, it is calculated according to the active matter.*

COMPATIBILITY

Cu 200 can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use with** products containing sulphates, mineral oils and alkaline products (pH> 8). Before mixing it is recommended to make a small amount of the mixture to check whether there is no sediment forming, it is also recommended to spray in a small area in order to check if there are no phytotoxic effect on plants.

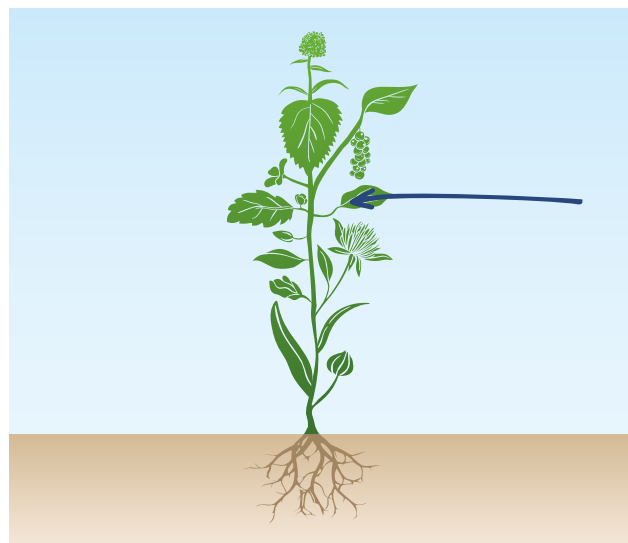
Cu 380



Copper (Cu) is essential for normal growth and development, pollen formation, and the fertilization process in self-pollinating plants. This element is involved in the synthesis of vitamin A, which is essential for protein synthesis. Copper deficiency manifests itself in leaf curling, causing grain rejection in wheat heads. In legumes, copper is important for the tuberos bacteria that form tubers. The complex action of the fertilizer components promotes more intensive root development in the early stages, faster plant regeneration after winter, the formation and strength of lateral shoots, and increased resistance to early disease spread.

ADVANTAGES:

- increases the pressure in the roots, improves their penetration into the soil,
- promotes the formation of root hairs,
- stimulates the synthesis of proteins, carbohydrates, and fats,
- increases plant resistance to adverse environmental conditions and diseases,
- stimulates photosynthesis, nutrients, and energy metabolism, plants grow healthier and stronger.



COMPOSITION

	Amount %	Amount g/l
Copper (CU)	26,0	380
pH (1:10 H ₂ O)	1,0-2,0	
Density 20°C, g/ml	1,42-1,47	

PACKAGING



Recommendation for fertilizing with IKAR Cu 380:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,2-0,5 l/ha	Foliar application suitable for fertilizing at the beginning of the growth (temperature +10°C, spraying before frost -1°C is not recommended)
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,1-0,5 l/100 l water	
Vegetables	0,1-0,5 l/100 l water/ watering 0,3-0,5% solution	Foliar application/watering at the beginning of vegetation
Berry bushes		Foliar application/watering at the beginning of vegetation and after harvest
Garden plants		Foliar application/watering at the beginning and end of vegetation
Ornamental plants and seedlings		Foliar application/watering to intensify plant growth

**Solution 0.3-0.5% (300-500 ml / 100 l of water). If Cu 380 is used as a fungicide, it is calculated according to the active matter.*

COMPATIBILITY

Cu 380 can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use it with** products containing sulfates, mineral oils, or alkaline products (pH > 8). Before mixing, it is recommended to make a small amount of the mixture to check whether sediment is forming. It is also recommended to spray in a small area to check if there is no phytotoxic effect on plants.

Ca 225 Pro



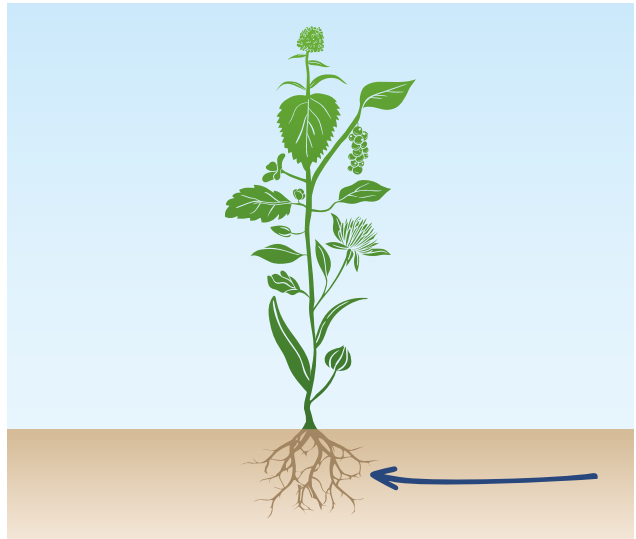
Ca 225 Pro allows to supply the plants with calcium. It has high solubility and rapid assimilation and translocation within the plant. It prevents physiological disorders caused by calcium deficiency. It improves tissue consistency and extends fruit shelf life.

Calcium (Ca) is a structural component of the middle layer of the plant cell wall, where it performs a cementing function as calcium pectate. Calcium is responsible for tissue strength. It is a necessary component for protein synthesis and cell division, and it stimulates plant growth and root development. It activates enzymes, strengthens metabolism, participates in hormone regulation. Calcium regulates the transport of carbohydrates into and out of the cell, the acid-alkaline balance in the cell, and the amount of dry matter in the cell. It strengthens resistance to droughts, pathogens, and pests.

Calcium (Ca) is an essential plant nutrient important for various structural functions of the cell walls and membranes. In addition, it coordinates responses to various development and environmental challenges.

ADVANTAGES:

- soil improving agent,
- improves water availability,
- improves nutrient absorption,
- enhances photosynthesis, accelerates nitrate reduction and protein synthesis,
- positively affects the balance of plant hormones,
- increases nitrogen uptake,
- improves the development of beneficial soil microorganisms,
- strengthens the structure of the cell wall,
- maintains the elasticity, permeability, and integrity of the cell membrane,
- participates in the processes of cell division and growth,
- increases plant resistance to rot (physiological origin),
- stimulates the metabolism of carbohydrates (sugars) in the plant, participates in their transportation,
- increases the viability of pollen and stimulates pollen growth,
- stimulates the development of the root system and the formation of new sprouts.



COMPOSITION

	Amount %	Amount g/l
Calcium (CaO)	15,0	225
pH (1:10 H ₂ O)	3,0-4,0	
Density 20°C, g/ml	1,45-1,5	

PACKAGING



Recommendation for fertilizing with IKAR Ca 225 Pro:

Crops	Fertilization rate	Method and time of fertilization
Vegetables	2,0-4,0	from fruit set stage to fruits growth stage, 2-4 times every 7-10 days
Greenhouse plants	0,5-1 L/1000 m ²	
Tomatoes, pumpkins, melons, peppers	4,0-5,0 For necrosis - 10	Every 2 weeks during fruit growth
Leafy vegetables (Lettuce, onions, cabbage, celery, spinach)	5,0 / or 150-250 ml/ 100 L of water	Every 2-4 times every 10-15 days
Fruit trees, vineyards	2,0-6,0	Before flowering 1-2 sprays, from the time when the fruit is about 3 cm in diameter, every 2 weeks 2-4 times every 10-15 days
Industrial plants	2,0-4,0	2-4 times every 7-10 days
Cotton	4,0-6,0	After flowering twice, every 2 weeks

The dose of calcium corrector for irrigation is 20-60 L/ha, through irrigation systems 25-75 cc/m³ of water.

COMPATIBILITY

Ca 225 Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** together with products containing copper, sulfates, mineral oils, or alkaline products (pH > 8), products rich in phosphates, emulsions, and Bordeaux mixtures. Avoid usage in extreme temperatures. It is recommended to perform a mixing test and spray on a small area before usage to check for phytotoxic effects on the plants or sediment formation.



INTENSE

INTENSE - a new generation of liquid-complex fertilizers for intensive plant growth. They contain macroelements enriched with microelements. The composition depends on the fertilized culture or growth stage.

IN1 /NPK 0-21-28+TE



Liquid fertilizer containing **amino acid proline (L-Proline)**, macro and micro elements.

Phosphorus (P) is very important for plant vegetation, it is a nutrient element that regulates vital processes and growth. It is especially important in the early development stages.

Potassium (K) increases resistance to low temperatures, controls the function of the stoma in leaves thus reduces the loss of water in the plant.

The complex of macro and micro elements in the fertilizer stimulate vegetative and generative development of a plant. The nutrient complex is particularly suitable for use in cereals.

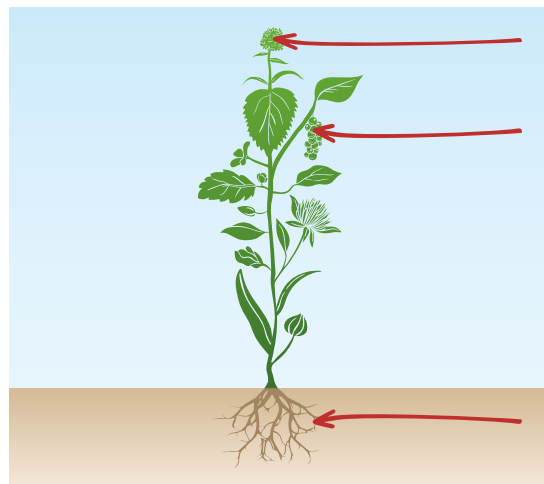
L-Proline amino acid is important in more than ten plant growth and development processes, such as regulation of osmotic pressure, regulation of gas exchange in leaves, seed swelling, stimulation of pollen germination, promotion of photosynthesis, and regulation of chlorophyll formation.

ADVANTAGES:

- ensures nutrient balance in plants,
- improves uptake of other fertilizers,
- strengthens the natural immunity of plants,
- increases resistance to fungal diseases and droughts,
- enhances photosynthesis, accelerates nitrate reduction and protein synthesis,
- increases protein and starch content,
- stimulates sugar production in leaves and transportation to roots,
- improves seed germination and drought resistance,
- stimulates the development of the root system and the formation of new shoots,
- improves the assimilation of iron from soil and reduces likelihood of chlorosis,
- improves the quality of the yield

COMPOSITION

	Amount %	Amount g/l
Phosphorus (P₂O₅)	15,0	210
Potassium (K₂O)	20,0	280
Boron (B)	0,2	2,5
Iron (Fe EDTA)	0,05	0,7
Manganese (Mn EDTA)	0,5	7
Molybdenum (Mo)	0,2	2,5
Zinc (Zn EDTA)	0,5	7
Amino acid L-Proline	0,14	2
pH (1:10 H ₂ O)	8,0-8,7	
Density 20°C g/ml	1,42-1,5	



RECOMMENDATIONS

Fertilizer is suitable for all kinds of crops for foliar application which are needed to compensate sudden deficiency of these elements.

PACKAGING



Recommendation for fertilizing with IN1 /NPK 0-21-28+TE:

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-3,0 l/ha	Foliar application suitable to fertilize throughout all vegetation period, from early development to mid-maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,5-1,5 l/100 l water	
Vegetables	0,5-1,5 l/100 l water/watering 0,3-0,5% solution	Foliar application/watering during butonization, beginning of flowering and fruit formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering throughout all vegetation period
Garden plants		
Ornamental plants and seedlings		

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN1 /NPK 0-21-28+TE Pro can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

IN2 /NPK 13-13-13+TE



NPK 13-13-13+TE is a liquid trace element fertilizer also containing **nitrogen (N), phosphorus (P), and potassium (K)** intended for foliar spraying of plants.

Nitrogen is imperative for plants to ensure their good development and growth. It stimulates and regulates many vital and growth-related processes of the plant. It is very important for protein formation too. Nitrogen majorly contributes in the formation of protein molecules in plants and is an important component of chlorophyll, without nitrogen photosynthesis is impossible. The rich green color of the leaves and fast-growing shoots indicates sufficient nitrogen. When there is a lack of nitrogen, leaves turn yellow and plants grow more slowly.

Phosphorus is essential for plant vegetation; it is an element that regulates vital processes and growth. It strengthens the plants' natural immunity and affects the formation and accumulation of sugar. There mustn't be a phosphorus deficiency in the plants in the early stages of growth. The roots of young plants are particularly sensitive to the deficiency of phosphorus. Poorly developed roots do not absorb other nutrients (e.g. nitrogen) well enough. In the absence of these substances, the aerial parts of the plant also grow poorly.

Potassium increases resistance to low temperatures, controls the function of the stomata in the leaves, and thus reduces the loss of water in the plant. The optimal amount of potassium forms a strong root system, which ensures good absorption of other nutrients and improves tillering.

ADVANTAGES:

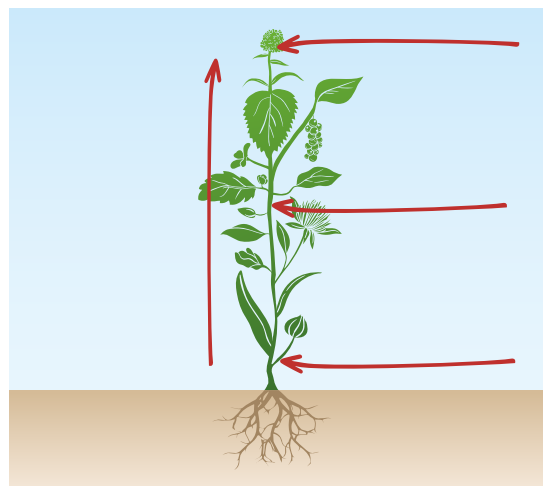
- increases the uptake of nitrogen fertilizers,
- ensures the nutrient balance in a plant,
- improves germination and tillering of a plant,
- improves the formation of roots and inflorescences,
- improves the quality of the yield,
- improves resistance to drought, frost, and diseases.

COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	10	130
Amide nitrogen (N-NH₂)	10	130
Phosphorus (P₂O₅)	10	130
Potassium (K₂O)	10	130
Copper (Cu)	0,1	1,2
Manganese (Mn)	0,2	2,5
Zinc (Zn)	0,2	2,5
Amino acid L-Proline	0,17	2
pH (1:10 H ₂ O)	6,5-7,0	
Density 20°C, g/ml	1,25-1,30	

RECOMENDATIONS:

IN2 /NPK 13-13-13+TE is suitable for fertilizing all crops.



PACKAGING



Recommendation for fertilizing with IN2 /NPK 13-13-13+TE:

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-3,0 L/ha	Spraying is suitable for fertilization during the whole vegetation period, from the beginning of germination to the middle of maturation.
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,5-1,5 L/100 L of water	
Vegetables	0,5-1,5 l/100 l of water/ watering 0,3-0,5%	It should be sprayed/watered at the beginning of budding, flowering, or root formation and growth stages, 3-5 times, every 7-10 days
Berry bushes		Sprayed/watered during vegetation
Garden plants		Sprayed/watered during all vegetation
Ornamental plants and seedlings		Spray/water so that the plants would grow better and more intensively

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN2 /NPK 13-13-13+TE can be used in mixtures with many fertilizers and plant protection products. **Do not use with** products containing high amounts of copper (Cu), sulfur (S), mineral oils, and with alkaline products (pH>8). Before usage, it is recommended to make a small amount of the mixture to check if the sediment does not form, then spray in a small area and observe whether it does not have phytotoxic effects on plants.

IN3 /NPK 12-11-30+TE



Liquid fertilizer, containing **nitrogen (N), phosphorus (P), potassium (K), iron (Fe)**.

Phosphorus is essential for plant vegetation, it is an element that regulates vital processes and growth. Strengthens the natural immunity of plants, affects formation and accumulation of sugar. Plants mustn't experience phosphorus deficiency in the early stages of growth.

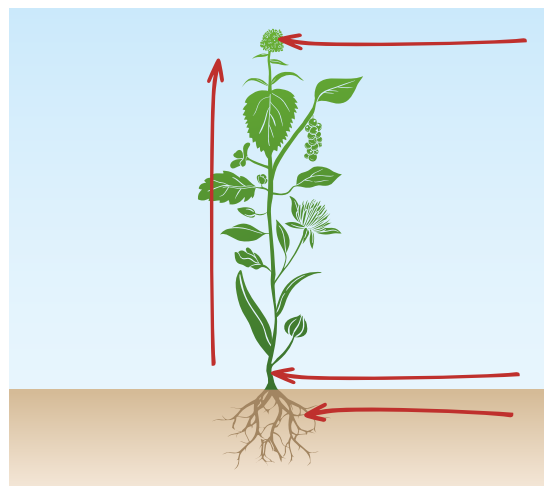
Potassium increases resistance to low temperatures, controls the function of stoma in leaves and thus reduces loss of water in plants.

ADVANTAGES:

- increases the uptake of nitrogen fertilizers,
- ensures nutrient balance in plants,
- germination of seeds,
- improves plant additional stem development, branching,
- improves the quality of the yield,
- improves drought resilience.

COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	8,9	125
Amide nitrogen (N-NH₂)	8,9	125
Phosphorus (P₂O₅)	8,0	110
Potassium (K₂O)	21,5	300
Iron (Fe EDTA)	0,06	0,85
Manganese (Mn EDTA)	0,04	0,5
Molybdenum (Mo)	0,05	0,7
Zinc (Zn EDTA)	0,03	0,4
Amino acid L-Proline	0,15	2
pH (1:10 H ₂ O)	11,0-12,0	
Density 20°C, g/ml	1,40-1,45	



RECOMMENDATIONS

Fertilizer is suitable for all kinds of crops for foliar application, when it is needed to compensate for sudden deficiency of these elements.

PACKAGING



Recommendation for fertilizing with IN3 /NPK 12-11-30+TE

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-3,0 l/ha	Foliar application suitable to fertilize throughout all vegetation period, from early development to mid-maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,5-1,5 l/100 l water	
Vegetables	0,5-1,5 l/100 l water/watering 0,3-0,5% solution	Foliar application/watering during butonization, beginning of flowering and fruit formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering throughout all vegetation period
Garden plants		
Ornamental plants and seedlings		

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN3 /NPK 12-11-30+TE can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils. Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

IN4 /NPK 0-45-9+TE



Liquid fertilizers containing nutrients that are necessary and very important for growing fruit trees and fruit bushes.

Phosphorus (P) is very important for plant vegetation, it is an element that regulates vital processes and growth. There mustn't be a deficiency of phosphorus in plants in the early stages of growth.

Potassium (K) increases resistance to low temperatures, controls the function of the stomata in the leaves and thus reduces the loss of water in plants.

Copper (Cu) is involved in the metabolism of proteins and carbohydrates and contributes to the formation of lignin, a structural element that enhances cell strength and increases resistance. Copper is a catalyst for photosynthesis and respiratory processes. Especially needed in peat soils.

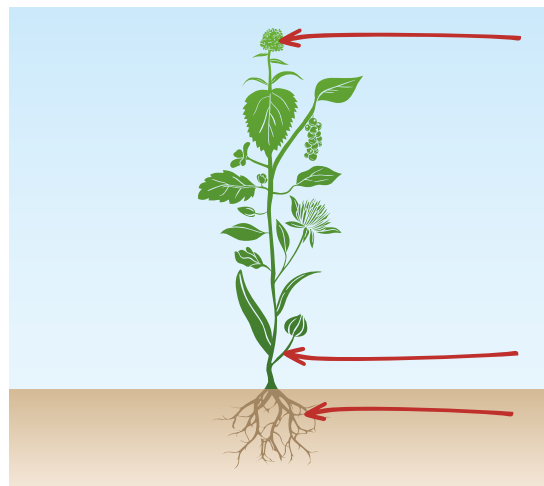
Trace elements are one of the factors that determine crop yield. Plants need small amounts of trace elements, but their importance is high. Each trace element is responsible for certain physiological processes of the plant and cannot be replaced by another. They not only activate the physiological processes of plants, but also help in the assimilation of other nutritional elements. However, it is important to recognize that both a deficiency and an excess of trace elements can be harmful to plants. In both cases, normal growth is disrupted. Only those trace elements that are in the sorbing complex and soil solutions are available to plants.

ADVANTAGES:

- ensures nutrient balance in plants,
- improves uptake of other fertilizers,
- improves the quality of the yield,
- strengthens natural immunity of plants, their resistance to fungal and bacterial diseases,
- stimulates sugar production in leaves and transportation to roots,
- stimulates development of root system,
- improves formation of new shoots,
- improves germination of seeds,
- strengthens drought resistance,
- improves assimilation of iron from the soil and reduces likelihood of chlorosis.

COMPOSITION

	Amount %	Amount g/l
Phosphorus (P₂O₅)	31,0	450
Potassium (K₂O)	6,5	94
Copper (Cu)	1,2	17
Iron (Fe)	0,3	4,3
Manganese (Mn)	1,5	19
Zinc (Zn)	1,0	14,5
Amino acid L-Proline	0,15	2
pH (1:10 H ₂ O)	1,0-1,5	
Density 20°C, g/ml	1,4-1,5	



RECOMMENDATIONS

Fertilizer is suitable for all kinds of crops for foliar application which is needed to compensate for sudden deficiency of these elements.

PACKAGING



Recommendation for fertilizing with IN4 /NPK 0-45-9+TE:

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-3,0 l/ha	Foliar application suitable to fertilize throughout all vegetation period, from early development to mid-maturation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,5-1,5 l/100 l water	
Vegetables	0,5-1,5 l/100 l water/watering 0,3-0,5%	Foliar application/watering during butonization, beginning of flowering and fruit formation, 3-5 times, every 7-10 days
Berry bushes		Foliar application/watering throughout all vegetation period
Garden plants		
Ornamental plants and seedlings		

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN4 /NPK 0-42-9+TE can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulphur (S), mineral oils and with alkaline products (pH > 8). Before mixing it is recommended to make a small amount of the mixture in order to check whether there is no sediment. It is recommended to spray in a small area in order to check whether there are no phytotoxic effects on plants.

IN5 /NPK 3-30-0+Zn



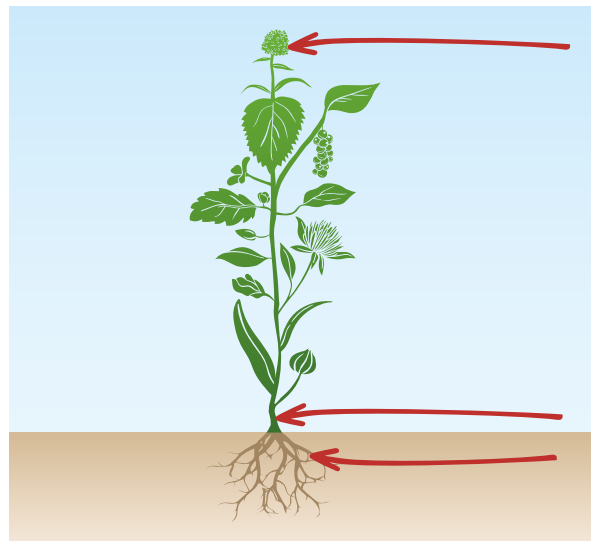
Liquid micronutrient fertilizer containing **phosphorus (P)** and microelement **zinc (Zn)**.

Phosphorus (P) is very important for plant vegetation, it is an element that regulates vital processes and growth. Strengthens the natural immunity of plants, affects the formation and accumulation of sugar. There mustn't be a deficiency of phosphorus in plants in the early stages of growth.

Zinc fertilizers for stimulation of physiological processes and phosphorus uptake in the early stages of development. Zinc is essential in the synthesis of chlorophyll, carbohydrates, auxins, and starch, it is responsible for the formation of pigments and cuticles covering the leaves.

ADVANTAGES:

- improves germination,
- improves phosphorus uptake,
- stimulates the development of the root system,
- stimulates the formation of generative organs,
- stimulates intensity of flowering,
- improves formation,
- stimulates tillering and growth of cereals,
- improves photosynthesis,
- accelerates the entry of nutrients into the plant, their transport in the plant and their usage,
- increases the efficiency of macro fertilizers,
- stimulates nutrient absorption.



COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	2,25	30
Amide nitrogen (N-NH ₂)	2,25	30
Phosphorus (P ₂ O ₅)	22,5	300
Zinc (Zn)	7,4	100
Amino acid L-Proline	0,17	2
pH (1:10 H ₂ O)	2,0-2,5	
Density 20°C g/ml	1,35-1,4	

PACKAGING



Recommendation for fertilizing with IN5 /NPK 3-30-0+Zn:

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-3,0 l/ha	Sprays - it is suitable for fertilizing at the beginning and the end of the vegetation
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	0,5-1,5 l/100 l water	
Vegetables	0,5-1,5 l/100 l of water/watering 0,3-0,5%	Sprayed/watered at the beginning and the end of vegetation
Berry bushes		Sprayed/watered at the beginning of vegetation and after harvesting
Garden plants		Sprayed/watered at the beginning and the end of vegetation
Ornamental plants and seedlings		Spray/water so that the plants would grow better and more intensively

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN5 /NPK 0-30-0+Zn can be used in mixtures with many fertilizers and plant protection products. **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, and with alkaline products (pH > 8). Before usage it is recommended to make a small amount of the mixture to check if the sediment does not form, then spray in a small area and observe whether it does not have phytotoxic effects on plants.

IN6 /N26 ProLong+TE



Nitrogen (N) fertilizer enriched with trace elements for additional foliar application. One of the advantages of liquid fertilizers is the possibility to spread them not only in higher doses during the first fertilization, but also in small doses for subsequent additional fertilization. Fertilizer contains methylene urea nitrogen which has slower uptake and causes no osmotic stress and therefore no damage to the plant. In a normal urea solution, a large amount of phytotoxic mineral salts remain on the surface of the plant. The crystallized urea remaining on the plant will hydrolyze into ammonia and carbon dioxide where it is lost to the atmosphere. This causes tissue damage at the point of contact, and renders the plant incapable of absorbing the remaining nutrient salt. Due to special formula, portion of it which is in its simplest nitrogen state (urea) is used by the plant first, while majority of nitrogen is absorbed in the more complex soluble polymethylene-urea molecules until the plant can break them down into more usable units of nutrition. This ensures long-term effects and helps plants to absorb and use nitrogen more effectively for a longer period.

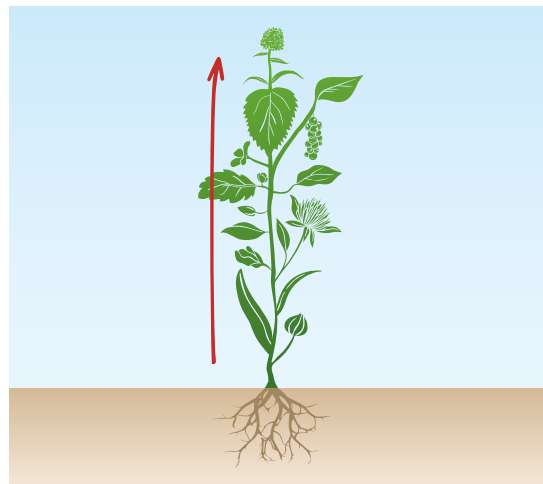
Trace elements are one of the factors that determine crop yield. Plants need small amounts of trace elements, but their importance is high. Each trace element is responsible for certain physiological processes of the plant and cannot be replaced by another. They not only activate the physiological processes of plants, but also help in the assimilation of other nutritional elements. However, it is important to recognize that both a deficiency and an excess of trace elements can be harmful to plants. In both cases, normal growth is disrupted. Only those trace elements that are in the sorbing complex and soil solutions are available to plants.

ADVANTAGES:

- fertilizer contains nitrogen that is rapidly absorbed by the plant,
- methylene urea nitrogen ensures longer absorption of nitrogen,
- promotes the activity of microorganisms in the soil,
- stimulates the growth of root system,
- increases plant resistance to stress,
- affects the quality of the yield.

COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	26,0	315
Methylene amide nitrogen (N)	15,3	185
Amide nitrogen (N-NH₂)	10,7	130
Boron (B)	0,1	1,2
Iron (Fe EDTA)	0,1	1,2
Manganese (Mn EDTA)	0,07	0,8
Zinc (Zn EDTA)	0,07	0,8
pH (1:10 H ₂ O)	9,0-11,0	
Density 20°C, g/ml	1,2-1,25	



PACKAGING



Recommendation for fertilizing with IN6 /N26 ProLong+TE:

Crops	Fertilization rate	Method and time of fertilization
Cereals	0,5-10,0 l/ha	FI – (BBCH 20-30) tillering, II – (BBCH 32-37) stem elongation, beginning of booting III – (BBCH 47-59) flag leaf, IV – (BBCH 60-69) flowering, anthesis
Oilseeds	0,5-20,0 l/ha	I – (BBCH 14-30) leaf development, II – (BBCH 35-45) stem elongation, III – (BBCH 50-60) butonization
Legumes	0,5-10,0 l/ha	Beginning of vegetation
Beets	0,5-10,0 l/ha	I – (BBCH 14-18) 4-8 leaf stage, II – (BBCH 20-24) 10-12 leaf stage, III – (BBCH 31-39) before fruit formation
Corn	0,5-20,0 l/ha	From 2-3 leaf stage to head formation, every 7-10
Potatoes	0,5-10,0 l/100 l water	I – (BBCH 15-30) stem and leaf development, II – (BBCH 40-50) when rows are almost covered, III – (BBCH 75-80) during productive part formation
Vegetables	0,25-2,0 l/100 l of water/watering 0,2-0,5%	During intensive growth with an interval of 10-14 days
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

*Solution 0.2-0.5% (200-500 ml / 100 l of water)

COMPATIBILITY

IN6 /N26 ProLong+TE can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing copper, sulphates, mineral oils. Before mixing it is recommended to make a small amount of the mixture to check whether there is no sediment forming, it is also recommended to spray in a small area in order to check if there are no phytotoxic effect on plants.

IN7 /N39 + TE



Nitrogen fertilizer with **magnesium (Mg)**, **iron (Fe)**, and **molybdenum (Mo)** is intended for additional fertilization.

Magnesium is the main component of chlorophyll. It activates the effect of more than a hundred enzymes, increases the activity of phytohormones, participates in oxidation-reduction processes, stimulates carbohydrate metabolism, accelerates ripening, and increases the amount of dry matter in seeds.

Iron is one of the most essential trace elements, which directly depends on the uptake of many other nutrients. Without iron, the plants absorb other necessary nutrients with difficulty. Iron is actively involved in the plant's metabolic processes; it activates respiration and affects the processes of the formation of chlorophyll and auxin biosynthesis.

Molybdenum (Mo) enhances photosynthesis, accelerates nitrate reduction and protein synthesis, and increases the amount of proteins and starch content by stimulating chlorophyll synthesis.

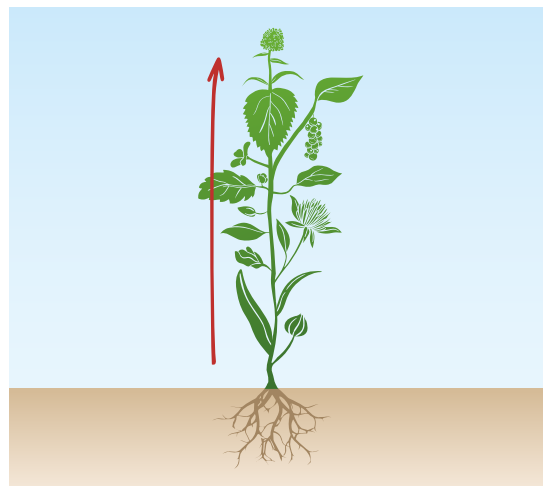
The tips for the safe usage of liquid nitrogen fertilizer IN7 /N39 + TE - it is not safe to use it at high air temperatures above 25°C and in the event of intense sun exposure. Therefore, it is recommended to use it in the morning or evening, when the sky is covered with clouds, but rain is not expected. Do not use in low temperatures.

ADVANTAGES:

- the fertilizer contains forms of nitrogen which are quickly absorbed by the plant,
- stimulates the activity of microorganisms in the soil,
- stimulates the growth of the root system,
- increases the plant's resistance to stress,
- improves the quality of the yield,
- easily mixes with other liquid or soluble fertilizers and trace elements,
- **molybdenum** increases protein content by accelerating nitrate reduction and protein synthesis.

COMPOSITION

	Amount %	Amount g/l
Nitrogen (N)	30,0	390
Nitric nitrogen (N-NO ₃)	7,5	97,5
Ammonia nitrogen (N-NH ₄)	7,5	97,5
Amide nitrogen (N-NH ₂)	15,0	195
Magnesium (MgO)	0,4	5
Iron (Fe) EDTA	0,02	0,25
Molybdenum (Mo)	0,01	0,13
pH (1:10 H ₂ O)	5,5-6,0	
Density 20°C, g/ml	1,3-1,35	



PACKAGING



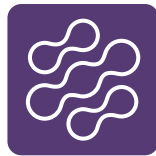
Recommendation for fertilizing with IN7 /N39 + TE

Crops	Fertilization rate	Method and time of fertilization
Cereals	1,0-10,0 l/ha	I – (BBCH 20-30) tillering stage, II – (BBCH 32-37) the beginning of stem elongation, III – (BBCH 47-59) flag leaf, IV – (BBCH 60-69) ear formation stage.
Oilseeds	1,0-30,0 l/ha	I – (BBCH 14-30) rosette formation stage, II – (BBCH 35-45) stem formation stage, III – (BBCH 50-60) budding stage
Legumes	1,0-10,0 l/ha	At the beginning of vegetation
Beets	1,0-10,0 l/ha	I – (BBCH 14-18) 4-8 leaf stage, II – (BBCH 20-24) 10-12 leaf stage, III – (BBCH 31-39) before the covering of furrows.
Corn	1,0-20,0 l/ha	Starting with 2-3 leaf stage until ear formation with an interval of 7-10 days.
Potatoes	1,0-10,0 l/100 l of water	I – (BBCH 15-30) stem and leaf formation stage, II – (BBCH 40-50) before covering the interrows, III – (BBCH 75-80) green berries formation stage.
Vegetables	0,5-2,0 l/100 l of water/watering 0,3-0,5%	During intensive growth with an interval of 10-14 days.
Berry bushes		
Garden plants		
Ornamental plants and seedlings		

*Solution 0.3-0.5% (300-500 ml / 100 l of water)

COMPATIBILITY

IN7 /N39 + TE can be used in mixtures with many fertilizers and plant protection products. **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils, and with alkaline products (pH>8). Before usage, it is recommended to make a small amount of the mixture to check if the sediment does not form, then spray in a small area and observe whether it does not have phytotoxic effects on plants. **When storing the solution** at -10 °C and below, it is possible to activate the crystallization process; do not use metal containers for storage and transportation, due to the possible effects of corrosion.



ASSIST

ASSIST - substances that change the physical properties of fertilizers such as dispersion, adhesion, and penetration, as well as evaporation and pH of the solution.

PerfectStick



IKAR PerfectStick is a **penetrating**, non-toxic, and environmentally friendly substance that enhances the absorption and effectiveness of foliar applications by improving the uptake of applied products. **Silicon**-based product, designed to improve absorption of solutions (pesticides and foliar fertilizers). The product improves penetration and wide spreading of the solution through the leaf surface – cuticle.

COMPOSITION

Polyether modified siloxane
pH (1:10 H₂O)
Density 20°C, g/ml

Amount %	Amount g/l
80,0	800
5,0-7,0	
1,01-1,03	

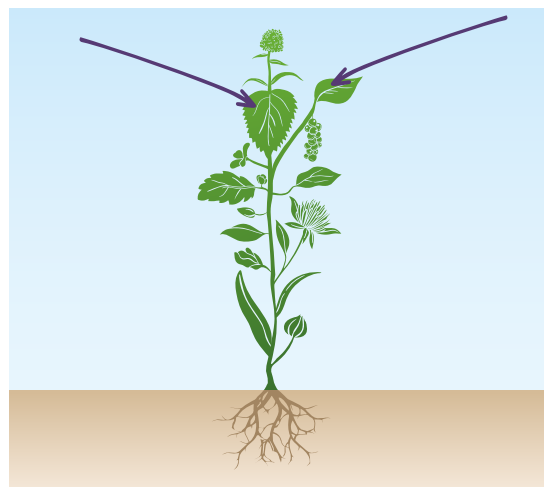
RECOMMENDATIONS

Use in solutions with pesticides, liquid fertilizers, in accordance with the following standard rates:

PerfectStick	
Crops	Dosage
Growth regulations	3-6 ml/100 l water
Herbicides, fungicides	6-20 ml/100 l water
Foliar	10-20 ml/100 l water

COMPATIBILITY

PerfectStick can be mixed with the majority of fertilizers and pesticides, except with copper, sulfur and oil products. Mixing may increase the exposure to agrochemicals and cause phytotoxicity. Before mixing, we recommend making mixture in a small amount of water, as some products react to the pH of the water and the amount of magnesium in the water.



PACKAGING



Perfect pH



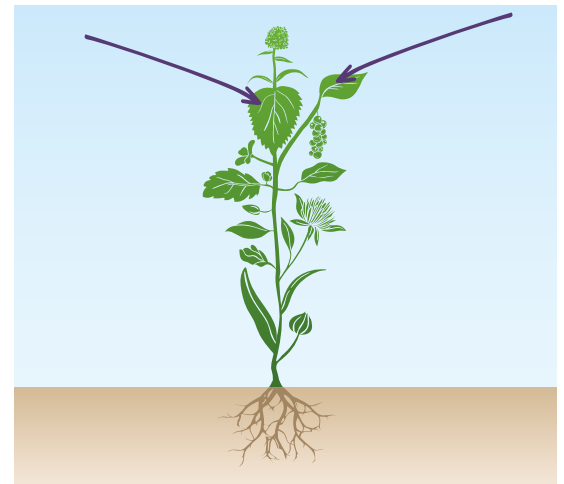
The product is intended to adjust the pH of the water used for solutions. Most of the pesticides and sometimes fertilizers used for spraying have $\text{pH} > 7$, causing deposits to form in the solutions and active substances to be poorly absorbed. The acid used in the preparation strongly acidifies the solution. The use rate is low, so it is more cost-effective to use in high rates of solutions through irrigation systems.

ADVANTAGES:

- effective solution pH regulation,
- improves coverage of the sprayed plant,
- improves the absorption of nutrients,
- reduces pesticide losses.

COMPOSITION

	Amount %	Amount g/l
Sulphur (SO_3)	40,0	600
Sulphur (S)	16,0	240
Nitrogen (N)	14,0	210
pH (1:10 H_2O)	0-0,02	
Density 20°C, g/ml	1,45-1,55	



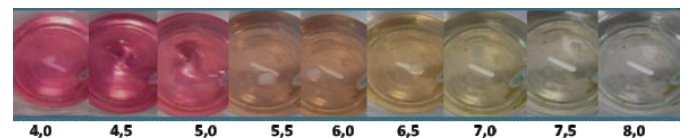
APPLICATION

Depending on the initial pH of the water used for spraying, different doses should be used, on average: 15 - 50 ml/100 liters of water.

COMPATIBILITY

PerfectpH is used to acidify water before preparing solutions with pesticides and fertilizers. First pour *PerfectpH*, measure the pH of the solution, and then add additional products.

COLOR PALETTE



PACKAGING



Korekt



The preparation is for adjustment of water pH used in solutions. Most of the pesticides and sometimes fertilizers used for foliar application have $pH > 7$, causing deposits to form in the solutions and active substances to be poorly absorbed. The acid used in the preparation strongly acidifies the solution. It is used low rate, so it is economically efficient to use for high solution rates through irrigation systems.

ADVANTAGES:

- effective solution pH regulation,
- improves coverage of the sprayed plant,
- improves the absorption of nutrients,
- reduces pesticide losses.

COMPOSITION

Tricarboxylic acid

pH (1:10 H₂O)

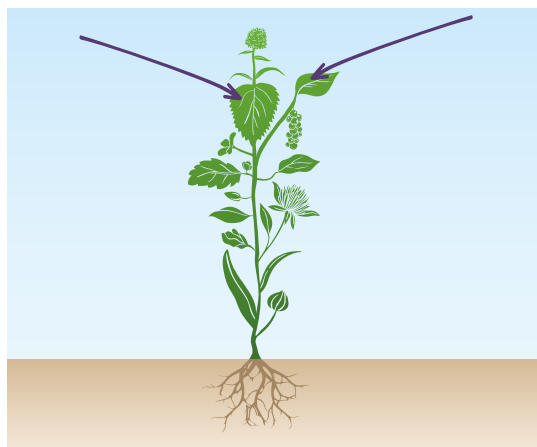
Density 20°C, g/ml

Amount % Amount g/l

50,0 600

0,5-1,0

1,2

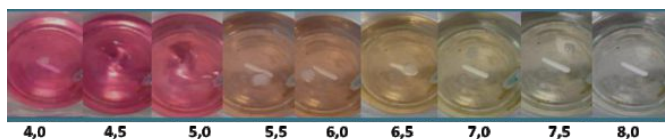


RECOMMENDATIONS

It's necessary to pour Korekt into the tank in the first row.

Depending on the initial pH of the water used for spraying, different doses should be used, on average: 25-75ml/100 liters of water. The substance contained in Korekt - the indicator changes the color of the water depending on its pH (see the color palette).

COLOR PALETTE



COMPATIBILITY

Korekt is used to acidify water before preparing solutions with pesticides and fertilizers. First pour Korekt, measure the pH of the solution, and then add additional products.

PACKAGING



PerfectFoam



Perfect Foam is a highly effective defoamer widely used in agricultural sprayer tanks for the preparation of solutions. It easily disperses the resulting foam in the sprayer tank solutions. It is convenient to use and has a fast anti-foaming effect. It works in a wide range of pH and temperature and quickly removes foam.

When filling the sprayer tank with pesticides and other surfactants, the foam is formed during filling and mixing. The abundant foaming in the nozzle is caused by the interaction of strong water jets, surfactants, and air. The foam in the sprayer causes discomfort because it takes up the capacity of the tank, reduces the filling performance of the sprayer, and thus wastes time.

Using IKAR Perfect Foam at the beginning of filling the tank will reduce the formation of the foam. Perfect Foam is an innovative, advanced and eco-friendly product.

ADVANTAGES:

- easily distributed in water,
- quickly disperses the resulting foam in the sprayers,
- reduces the risk of overfilling the sprayer.

COMPOSITION

Active content (non-ionic siloxane)

pH (1:10 H₂O)

Density 20°C, g/ml

Amount % Amount g/l

30,0

300

6,0-8,0

1,01



APPLICATION

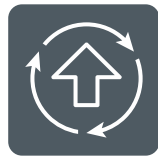
Usage rates: 2 - 4 ml/ 200 litres of water. The dose can be adjusted depending on the foaming level of the products used.

COMPATIBILITY

Perfect Foam can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides).

PACKAGING





IMPROVE

IMPROVE – sustainable green technology products enhance soil properties, boost water and mineral retention, and optimize nutrient absorption for more efficient plant growth.

Black Pearl L



Liquid fertilizer is intended for using in plant fertilization as an addition to the main fertilization. The organic fertilizer in liquid form is made from **vegetable raw material** and is intended to improve the physical, chemical and biological properties of the soil. After fertilizing with IKAR Black Pearl L, seeds germinate better, plant roots get stronger, they are better supplied with air and water, and plant vegetation starts earlier.

Due to their physical, chemical, and biological properties, humic and fulvic acids activate and enhance the vitality and activity of soil microflora and microfauna. They positively affect seed germination, strengthen root system growth (especially deep roots), boost plant immunity, increase resistance to diseases, and aid in the absorption of trace elements. Moreover, fulvic acids used in combination with pesticides can increase their effectiveness.

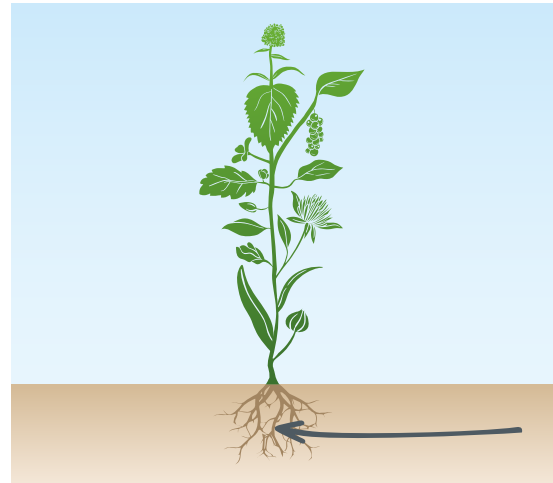
Humic fulvic acids in the soil improve plant growth by absorbing, transporting and mobilizing plant growth-promoting substances in the soil, thus facilitating the absorption of those substances through the roots.

Humic fulvic acids can significantly reduce water evaporation and increase the amount of water used by plants in soils or drought conditions.

In the presence of higher pH, soil colloids bind many nutrients, especially trace elements such as Fe and Cu. It is stated that humic fulvic acids help transfer iron to plant leaves by the method of chelation and prevent chlorosis in this way.

ADVANTAGES:

- restores the structure of the soil, maintains its integrity, stability, porosity, and permeability,
- Helps form complexes of soil clay-humus particles, which enhance the availability and assimilation of nutrients
- increases the vitality of the soil and the population of microorganisms, promote their activity in the processes of soil and humus formation.



COMPOSITION

	Amount %	Amount g/l
Total humic extract substances	15,0	165
Humic acids	12,0	132
Fulvic acids	3,0	33
Organic matter	10,41	
pH (1:10 H ₂ O)	11,0-12,0	
Density 20°C, g/ml	1,1	

PACKAGING



Recommendation for fertilizing with Black Pearl L:

Crops	Fertilization rate	Method and time of fertilization
Cereals	5,0-10,0 l/ha	Spraying/watering - it is suitable for fertilization at the beginning of the vegetation period
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	2,5-10,0 l/100 l of water	
Vegetables	2,5-10,0 l/100 l of water/watering 0,5-1%	Sprayed/watered at the beginning of vegetation
Berry bushes		Sprayed/watered at the beginning of vegetation and after harvesting
Garden plants		Sprayed/watered at the beginning and the end of vegetation
Ornamental plants and seedlings		Spray/water so that the plants would grow better and more intensively

*Solution 0.5-1.0% (500-1000 ml / 100 l of water)

COMPATIBILITY

Black Pearl L can be used in mixtures with many fertilizers and plant protection products. **Do not use with** products containing high amounts of copper (Cu), sulfur (S), mineral oils. Before usage it is recommended to make a small amount of the mixture to check if the sediment does not form, then spray in a small area and observe whether it does not have phytotoxic effects on plants.

Black Pearl L Fulvo

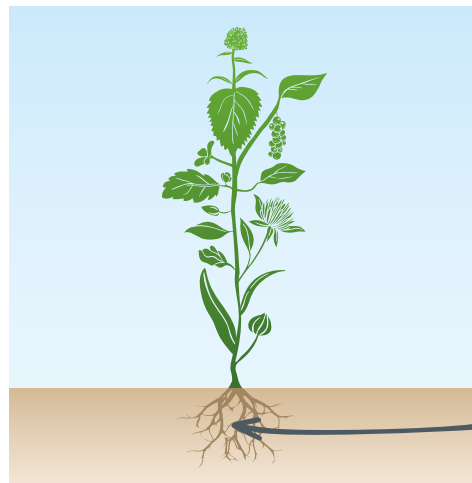


*Black Pearl L Fulvo is a fertilizer designed for **plant nutrition** as an addition to the main fertilization. The liquid organic fertilizer is made from plant materials and is intended to improve the physical, chemical, and biological properties of the soil. Fertilizing with IKAR Black Pearl L Fulvo improves seed germination, promotes the development of green mass and a more active root system, and enhances the plant's access to air and water, leading to earlier and more vigorous growth.*

Due to their physical, chemical, and biological properties, fulvic acids activate and improve the vitality and activity of soil microflora and microfauna. They positively affect seed germination, strengthen root system growth (especially in depth), enhance plant immunity, increase their resistance to diseases, and help absorb micronutrients from the soil. Additionally, when used with pesticides, fulvic acids can enhance the effectiveness of pesticides.

ADVANTAGES:

- stimulates additional stem development and branching, develops root system,
- improves resistance to drought,
- increases resistance to fungal diseases,
- ensures nutrient balance in plants,
- improves the quality of the yield and fruit.



COMPOSITION

	Amount %	Amount g/l
Total humic extract substances	45,0	570
Fulvic acids	45,0	570
Nitrogen (N)	3,0	38
Organic nitrogen (N-org)	3,0	38
Potassium (K ₂ O)	4,0	51
Organic matter	50,0	
pH (1:10 H ₂ O)	6,0-6,5	
Density 20°C, g/ml	1,25-1,3	

PACKAGING



Recommendation for fertilizing with Black Pearl L Fulvo:

Crops	Fertilization rate	Method and time of fertilization
Cereals	5,0-10,0 l/ha	Spraying/watering - it is suitable for fertilization at the beginning of the vegetation period
Oilseeds		
Legumes		
Beets		
Corn		
Potatoes	2,5-10,0 l/100 l of water	
Vegetables	2,5-10,0 l/100 l of water/watering 0,5-1%	Sprayed/watered at the beginning of vegetation
Berry bushes		Sprayed/watered at the beginning of vegetation and after harvesting
Garden plants		Sprayed/watered at the beginning and the end of vegetation
Ornamental plants and seedlings		Spray/water so that the plants would grow better and more intensively

*Solution 0.5-1.0% (500-1000 ml / 100 l of water)

COMPATIBILITY

Black Pearl L Fulvo can be used in mixtures with many fertilizers and pesticides (insecticides, fungicides). **Do not use** with products containing high amounts of copper (Cu), sulfur (S), mineral oils. Before mixing it is recommended to make a small amount of the mixture to check whether there is no sediment. It is recommended to spray in a small area to check whether there are no phytotoxic effects on plants.

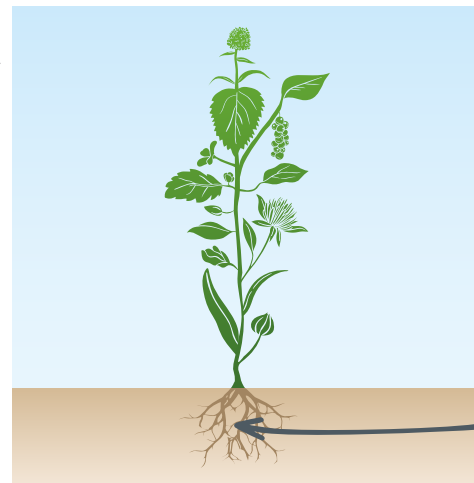
Salinity



*This product reduces soil salinity and excess salts and improves water availability for plants. Salinity is a key factor in ion exchange efficiency, facilitating the replacement of **sodium ions (Na)** with **calcium ions (Ca)**. It helps improve soil structure and promotes the elimination of sodium.*

The usage of Salinity makes it possible to supply plants with calcium and, at the same time, reduces soil salinity and excess salts while improving water availability. This soil-improving agent can help stop or retrieve unsustainable loss of nutrients.

Salinity stress is one of the most damaging abiotic stress factors limiting crop growth, development, and yield. Excessive sodium accumulation (Na⁺) causes ion toxicity and imbalance, limiting the competitive absorption of some mineral nutrients such as potassium (K⁺). Salinity affects virtually all aspects of morphology, physiology, and biochemistry of the plants, thus, resulting in large losses of agricultural production. Higher salt content in the soil limits the ability of plant roots to absorb water and important nutrients. A higher concentration of ions (Na⁺) in the root causes osmotic stress, reduces water potential, and disturbs the nutritional balance. Agricultural plants use more calcium than P, Mg, and S but less than N and K. Calcium is needed differently for different agricultural plants.



ADVANTAGES:

- reduces soil salinity and excess salts,
- soil improving agent,
- improves water availability,
- improves nutrient absorption,
- improves soil structure and stimulates sodium elimination,
- improves the development of beneficial soil microorganisms.

COMPOSITION

	Amount %	Amount g/l
Water soluble Calcium oxide (CaO)	7,0	80
pH (1:10 H ₂ O)	4,0-5,0	
Density 20°C, g/ml	1,1-1,2	

PACKAGING



Recommendation for fertilizing with Salinity:

The doses depend on exchangeable sodium content (ESP), electrical conductivity, plant physiological needs, and crop type. The dose of saline soil corrector by localized irrigation is 40-60 L/ha and 60-90 L/ha, and during flood irrigation, depending on salinity, it can be increased to 150 L/ha.

The dose of saline soil correction is 25-75 cc/m³ of water.

To improve the structure of sandy soils - 10-15 L/ha,

To improve the structure of loam soils - 15-20 L/ha,

To improve the structure of clay soils - 20-25 L/ha.

The dose of calcium corrector is 20-60 L/ha for localized irrigation and 40-100 L/ha for flood irrigation. The doses will depend on the amount of assimilable calcium in the soil and the plant's needs.

Use only if the mineral is deficient. Do not exceed the indicated doses. The product is intended for professional use only. Shake well before use. It is not recommended for usage in temperatures above 25°C or below 10°C.

COMPATIBILITY

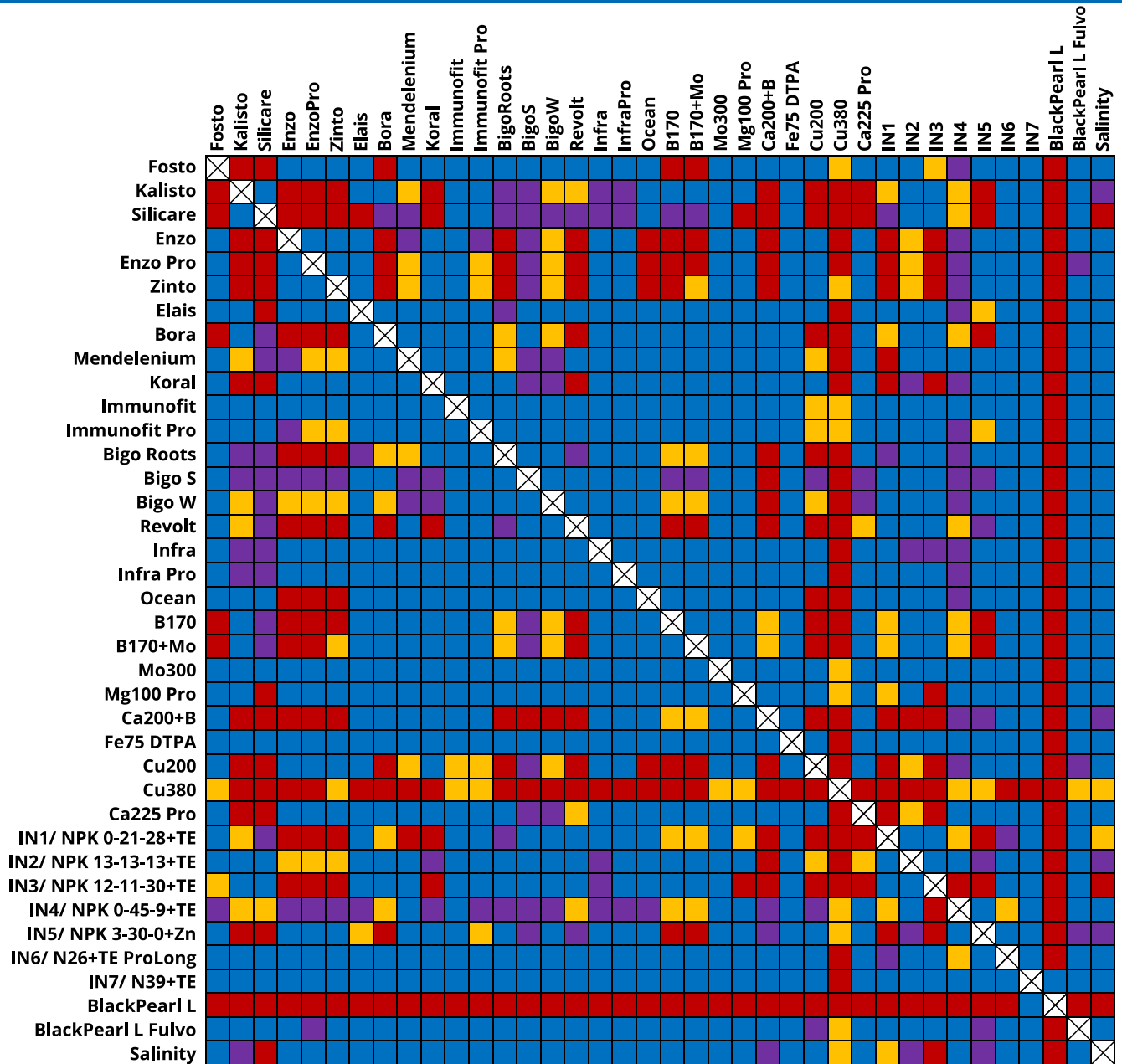
Salinity - **do not use** together with products containing copper, sulfates, mineral oils, or alkaline products (pH > 8); do not mix with phosphates.

It is recommended to perform a mixing test and spray on a small area before usage to check for phytotoxic effects on the plants or sediment formation.

PACKAGING SPECIFICATIONS

Packages	Volume per box, l	Volume per pallet, l
1L	12	384
5L	20	480
10L	-	600
1000L	-	1000

IKAR product compatibility



Solution dosage: 1l/ha

- Mixes well.
- Moderate mixability. No sediments. The solution is not transparent, but with slight acidification, the solution becomes transparent.
- Mixing is poor. Sediments are present. Solutions can only be mixed if acidifying the mixture.
- Does not mix.

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B 170+Mo.....	53
Mo 300.....	55
Fe75 DTPA.....	57
Ca 200+B.....	59
Mg 100 Pro.....	61
Cu 200.....	63
Cu 380.....	65
Ca 225 Pro.....	67

INTENSE	70
IN1 /NPK 0-21-28+TE	71
IN2 /NPK 13-13-13+TE	73
IN3 /NPK 12-11-30+TE	75
IN4 /NPK 0-45-9+TE	77
IN5 /NPK 3-30-0+Zn	79
IN6 /N26 ProLong+TE	81
IN7 /N39+TE	83
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ADD VALUE



PHYSIO



INTENSE



CORRECT



ASSIST



IMPROVE





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