

agrami

EFFICIENCY THROUGH KNOWLEDGE

www.agrami.pl





table of contents

| | |
|-------------------------------------|-------|
| About us..... | 4-5 |
| Water conditioners..... | 6-11 |
| Single-nutrient fertilisers..... | 12-19 |
| Multi-nutrient fertilisers..... | 20-27 |
| Fertilisers with nanoparticles..... | 28-33 |

certificates



QUALITY

The quality of all Agrami brand fertilizers has been confirmed by certificates issued by the Polish Center for Testing and Certification. All Agrami products have been granted the following certificates:

GUARANTEED QUALITY - the quality of the selection is confirmed by the assessment and supervised by an independent certification body.

It confirms the running of the product manufacturing process with repeatability and the uniqueness of the raw materials and nutrients used.

„Q” QUALITY MARK - guarantees above-standard quality, performance values, health values and compliance with safety and environmental requirements.

TESTS

All Agrami products are manufactured in Poland.

Their unique formulas and compositions were developed by the qualified experts.

Effectiveness and performance have been tested by, inter alia, the Institute of Plant Protection - National Research Institute in Poznań.



Our company develops and supplies modern elements of crop production technology in the area of single and multi-nutrient foliar fertilizers. We boast of the base of outstanding specialists, chemists and a wide array of certificates. These solid foundations confirm the unique composition, high concentration and performance of our products. The advanced properties and composition of our products make a difference between us and other manufacturers making this range of products. We make every effort to ensure that our innovative ideas contribute to the development of agriculture and inspire farmers to implement modern farming methods.

What Agrami people have in common is a passion for agriculture, which we grew up with and which we cultivate. Consequently, we thoroughly understand your needs, we know the answers to your questions, doubts, and also provide you advice. Our long-term experience in the agricultural sector, is a source of inspiration for us.

We also understand the value of the land. We know that it is priceless, a value not only for us, but also for future generations. As a result of the synergy of knowledge, care and experience, we are able to implement solutions to enhance its efficiency and productivity, while reducing degradation.

water conditioners





MI6

New, improved formula

LIQUID COMPOUND MINERAL FERTILISER

MI6 is a liquid multi-nutrient fertilizer recommended for application for all agricultural and horticultural crops. MI6 added to water, changes its colour, which allows you to visually assess the solution's pH value using the colorimetric scale on the label. The colour of the water should become light raspberry, which corresponds to a pH value of approximately 5.

Advanced additional properties of MI6 fertilizer are as follows:

- delivers nutrients to the plants faster and more efficiently, creating an optimal buffer for most tank mixtures: contains magnesium, which is extremely valuable for the plants,
- it has an indicator (colorimetric indicator) of the solution pH value - in a straightforward and instant manner, without the use of complex apparatus, allows you to determine the achievement of solution optimal properties, giving it a characteristic light raspberry colour (pH 4.5-5.5),
- adjuvant properties - supports the effectiveness of the introduced active substance,
- facilitates miscibility, reduces the risk of chemical decomposition of pesticides,
- an activator of liquid penetration deep into the plants,
- enhances plant resistance to drought stress and low temperatures.





reduces pH

Benefits of using a water conditioning fertiliser solution:

- a source of readily available nitrogen, phosphorus, magnesium and sulphur for plants,
- improvement of water quality for plant protection treatments,
- reduction of pH value of spray liquid,
- facilitating the penetration of nutrients and active substances into the plants,
- reduction of adverse changes and reactions in tank mixtures.





MI6.1.

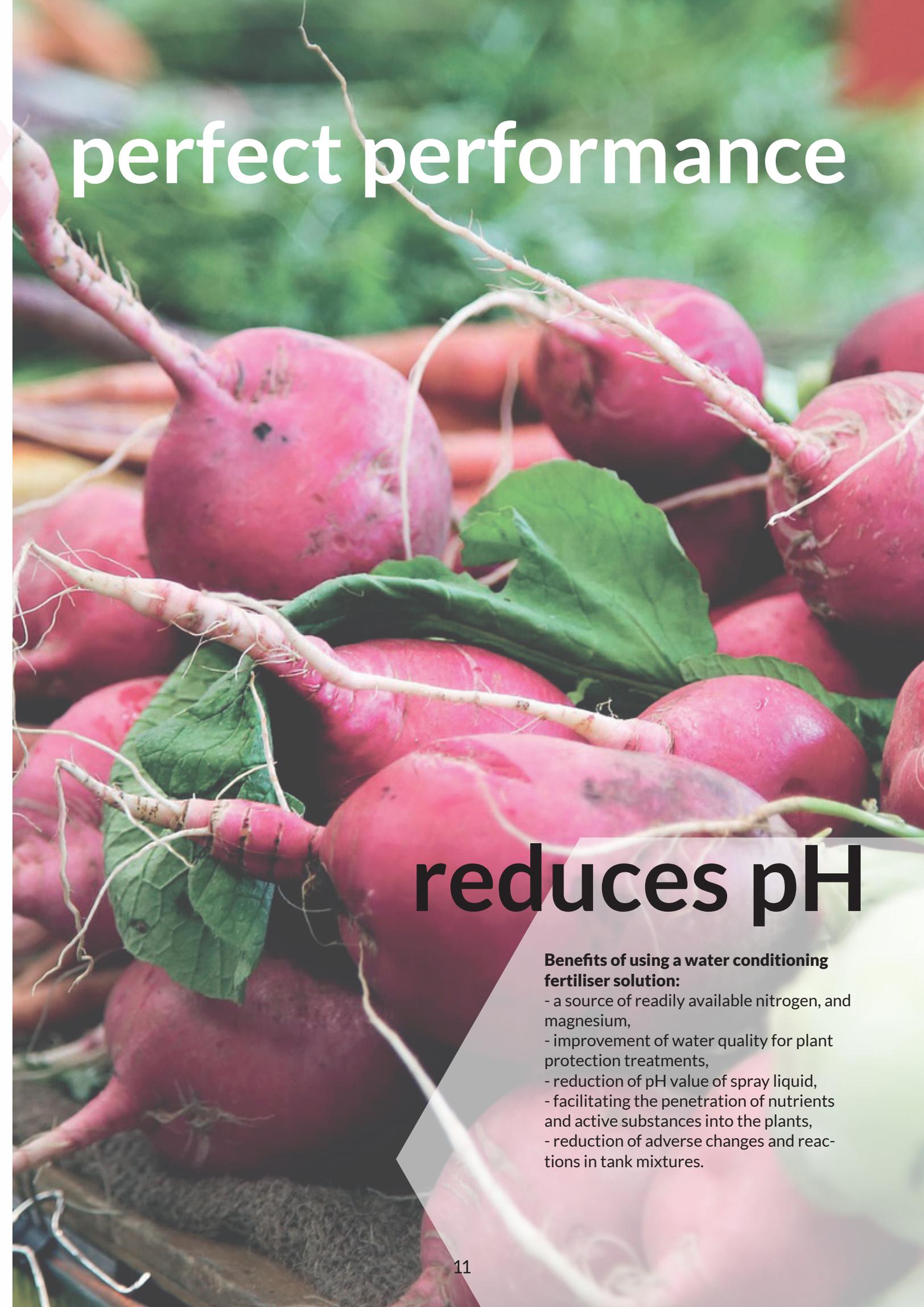
Latest formula, perfect performance LIQUID COMPOUND MINERAL FERTILIZER

MI6.1. is a liquid foliar fertilizer containing nitrogen and phosphorus, recommended for application to agricultural and horticultural crops. MI6.1. added to water, improves its properties, lowers the pH, which is manifested by a change in colour. This can be visually assessed using the colorimetric scale on the label. The colour of the water (solution) should become light raspberry, corresponding to the pH value of approx. 5.

The advanced additional properties of MI6.1 fertiliser:

- a new formula with excellent properties and performance,
- it improves the properties of water used for agrochemical treatments,
- pH indicator of the solution [colorimetric indicator],
- strong buffering properties within pH 5,
- improvement of the application liquid properties,
- activates the penetration of the liquid into the plants
- a rich source of nitrogen and phosphorus,
- enhances plant resistance to stress.





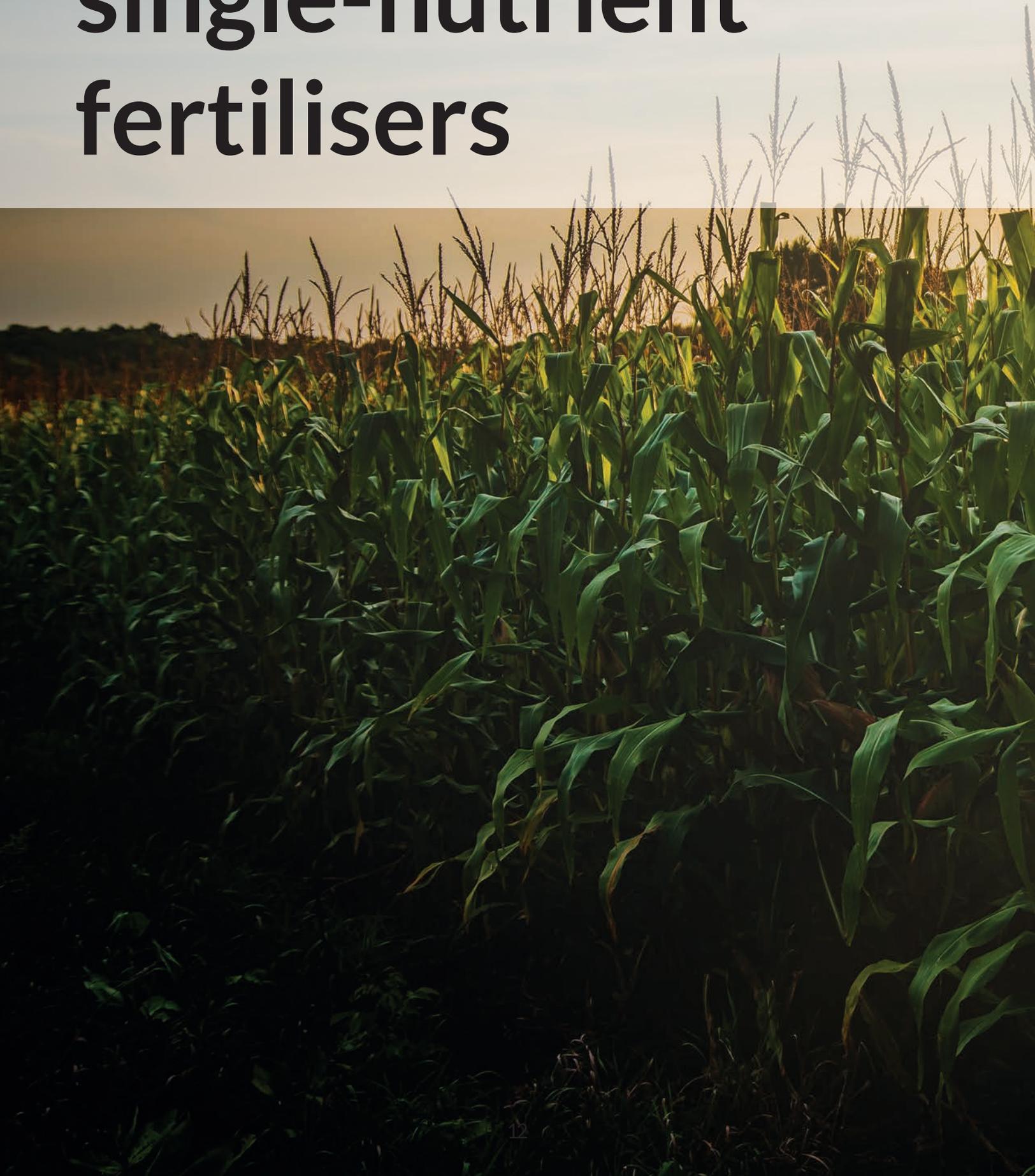
perfect performance

reduces pH

Benefits of using a water conditioning fertiliser solution:

- a source of readily available nitrogen, and magnesium,
- improvement of water quality for plant protection treatments,
- reduction of pH value of spray liquid,
- facilitating the penetration of nutrients and active substances into the plants,
- reduction of adverse changes and reactions in tank mixtures.

single-nutrient fertilisers







borMI

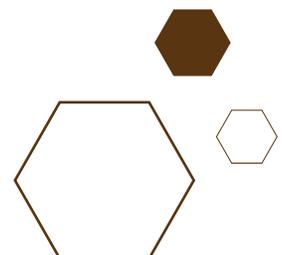
LIQUID MINERAL FERTILISER

borMI is a mineral fertilizer designed to feed plants, especially those with a high demand for boron, such as winter rape, sugar beet, legumes, broccoli, cauliflower, cabbage, fruit trees, but also maize, potato, as well as for the rapid removal of symptoms of deficiency of this micronutrient in various plants, affects the growth and size of cells, is a regulator of some plant hormones, participates in the metabolism of carbohydrates and proteins, affects the process of blooming and fructification, has a beneficial effect on the plant health, their yield and yield quality.

Advanced additional properties of borMI fertilizer are as follows:

- high boron concentration, low fertiliser doses,
- very good solubility of the fertilizer and micronutrient assimilation,
- easy preparation of the application liquid.

MICRO-nutrient



| Treatment frequency / Development phase | Dose [l/ha] |
|-----------------------------------------------------------------------|-------------|
| Maize | |
| 4-6 leaf phase | 0,5 - 1,0 |
| 8-12 leaf phase | 0,5 - 1,0 |
| Sugar beet, mangolds, red beet | |
| 4-8 leaf phase | 1,0 - 1,5 |
| phase of leaves meeting along the rows (row closure) | 1,0 - 2,0 |
| Potato | |
| shoot intensive growth phase | 0,5 - 1,0 |
| before blooming | 0,5 - 1,0 |
| Legumes | |
| shoot intensive growth phase | 1,0 - 1,5 |
| before blooming | 1,0 - 1,5 |
| Spring colza, mustard | |
| leaf rosette phase | 1,0 - 2,0 |
| phase of green compact bud | 1,0 - 2,0 |
| before blooming, yellow closed bud phase | 1,0 - 2,0 |
| Winter rape | |
| autumn - 4-8 leaf phase | 1,0 - 2,0 |
| Spring - after vegetation resumption, beginning of shoot elongation | 1,0 - 2,0 |
| phase of green compact bud | 1,0 - 2,0 |
| before blooming, yellow closed bud phase | 1,0 - 2,0 |
| Brassica vegetables | |
| Developed rosette of leaves after plants have taken root in the field | 1,0 - 1,5 |
| 10-14 days following the first treatment | 1,0 - 2,0 |
| Fruit trees and bushes | |
| flower bud phase | 0,5 - 2,0 |
| start of blooming | 0,5 - 2,0 |
| end of blooming | 1,0 - 2,0 |
| after fruit harvesting | 1,0 - 2,0 |

improved blooming

Benefits of using a fertilizer containing boron:

- better development of the plant root system,
- enhancement of frost resistance and winter hardiness,
- improved blooming and fruit setting.
- enhanced assimilation of sugars and fat,
- reduction of the incidence of many diseases,
- higher crop yields and improved crop quality.



cynkMI

LIQUID MINERAL FERTILIZER

cynkMI, is a fertilizer designed for foliar feeding of plants, especially those sensitive to zinc deficiency. These include: maize, potato, beet, legumes, fruit trees, grapevines, it should be used to prevent or eliminate the effects of zinc deficiency in plants. Also at crop plantations dressed heavily mainly with nitrogen and phosphorus, and in freshly limed soils. Zinc is essential for correct enzyme reactions, synthesis of plant hormones and vitamins, cell division and growth. It regulates nitrogen metabolism, protein biosynthesis and the photosynthesis process, and is responsible for plant health. It has a positive effect on the size of yielding organs, e.g. maize and fruits kernels. It boosts yields and improves their quality.

Advanced additional properties of cynkMI fertilizer are as follows:

- high concentration of zinc, small doses of fertilizer,
- contains zinc chelated by EDTA,
- fertilizer's very good solubility,
- High bioavailability of the micronutrient,
- easy preparation of the application liquid.



| Treatment frequency / Development phase | Dose [l/ha] |
|---------------------------------------------------------------------------------------------------|-------------|
| Maize | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 0,25 - 1,0 |
| Sugar beet, mangolds, root vegetables | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive root growth phase | 0,25 - 1,0 |
| Potato | |
| 1-2 treatments, every 10-14 days, from the 15-20 cm shoot height phase to the blooming phase | 0,25 - 1,0 |
| 1-2 treatments, every 10-14 days, in tuber formation and growth phase | 0,5 - 1,0 |
| Winter cereals | |
| autumn - 1-2 treatments, every 7-10 days, after 2-3 leaves have formed | 0,25 - 0,5 |
| spring - 2-3 treatments, every 10-14 days, up to heading phase | 0,5 - 1,0 |
| Spring cereals | |
| first treatment - after 3-4 leaves have formed | 0,25 - 0,5 |
| 2-3 treatments, every 10-14 days, from the tillering phase to the heading phase | 0,5 - 1,0 |
| Winter rape | |
| autumn - 1-2 treatments, every 7-10 days, after 4-6 leaves have formed | 0,25 - 0,5 |
| spring - 1-2 treatments, every 10-14 days, up to blooming phase | 0,5 - 1,0 |
| Sunflower | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 0,25 - 1,0 |
| Legumes, soybean | |
| 1-3 treatments, every 10-14 days, from the leaf rosette phase to the blooming phase | 0,25 - 1,0 |
| spring - 1-2 treatments, every 10-14 days, following blooming phase | 0,5 - 1,0 |
| Brassica vegetables, onion | |
| 1-3 treatments, every 10-14 days, in leaf intensive growth phase | 0,25 - 1,0 |
| Fruit trees and bushes, grapevine | |
| 1-2 treatments, every 10-14 days, up to blooming phase | 0,5 - 2,0 |
| 1-2 treatments, every 10-14 days, in fruit growth phase | 0,5 - 2,0 |
| spring - 1-2 treatments, every 10-14 days, following fruit harvesting phase | 0,5 - 2,0 |

improvement of plant health

Benefits of using a fertilizer containing zinc chelate:

- regulated plant hormone management,
- the proper course of basic physiological processes,
- intensification of photosynthesis,
- an increase of protein, sugar, vitamin levels,
- improvement of plant health,
- yields increase.

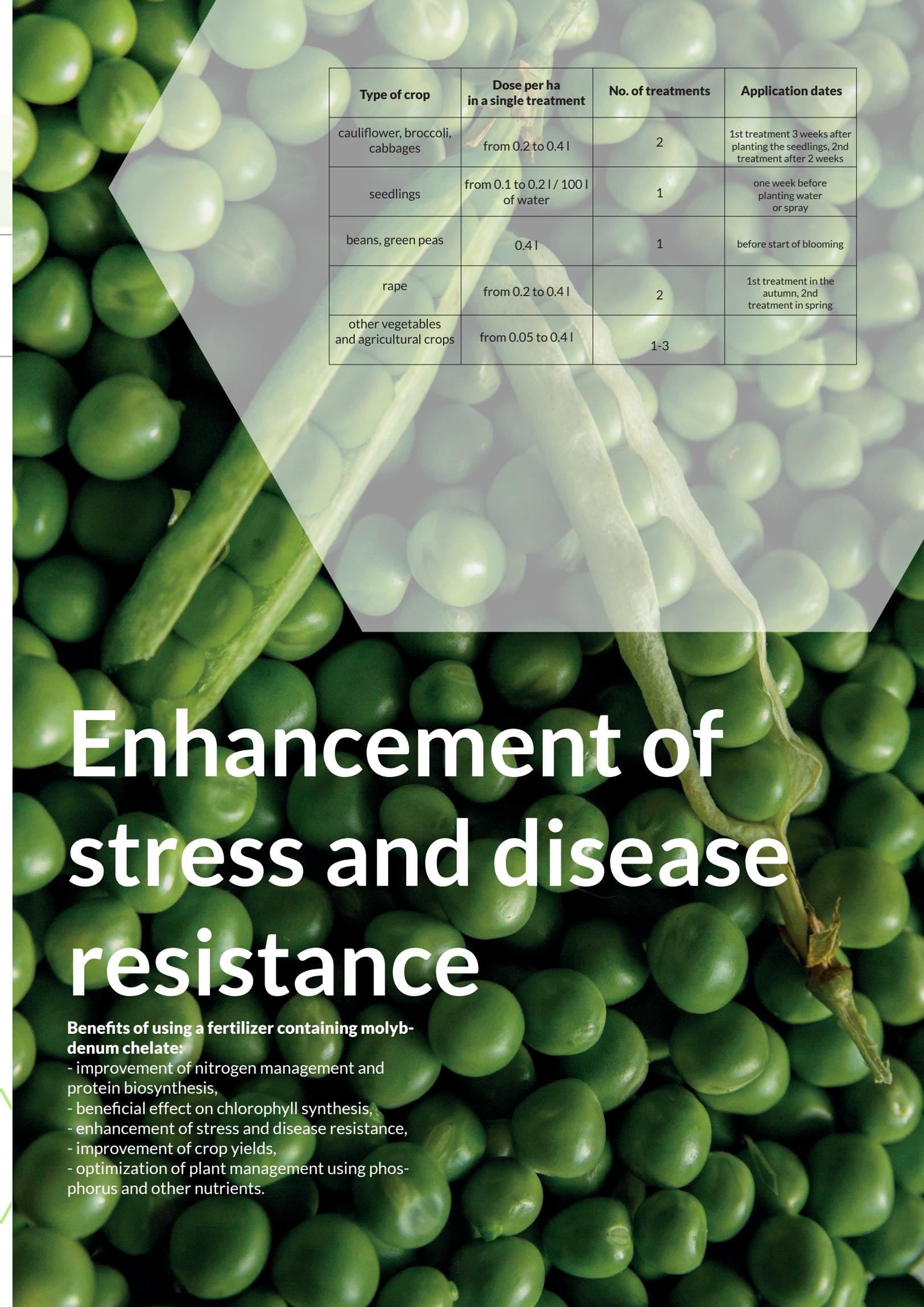


moMI

Micro nutrients, MEGA properties LIQUID MINERAL FERTILISER

moMI is a liquid mineral fertilizer with high molybdenum content applicable to agricultural, vegetable and orchard crops. The high concentration facilitates precise dosing, especially for plants sensitive to molybdenum deficiencies, such as: rapeseed, cabbage, cauliflower, broccoli, spinach, lettuce, peas and beans (agricultural and vegetable plantations), clover, tomato, roses, peach. Molybdenum regulates nitrogen and phosphorus metabolism in plants. Molybdenum mitigates the toxic effects of aluminium ions, as well as mitigates the effects of nutrient imbalance in plants.





| Type of crop | Dose per ha in a single treatment | No. of treatments | Application dates |
|-----------------------------------------|------------------------------------|-------------------|---------------------------------------------------------------------------------|
| cauliflower, broccoli, cabbages | from 0.2 to 0.4 l | 2 | 1st treatment 3 weeks after planting the seedlings, 2nd treatment after 2 weeks |
| seedlings | from 0.1 to 0.2 l / 100 l of water | 1 | one week before planting water or spray |
| beans, green peas | 0.4 l | 1 | before start of blooming |
| rape | from 0.2 to 0.4 l | 2 | 1st treatment in the autumn, 2nd treatment in spring |
| other vegetables and agricultural crops | from 0.05 to 0.4 l | 1-3 | |

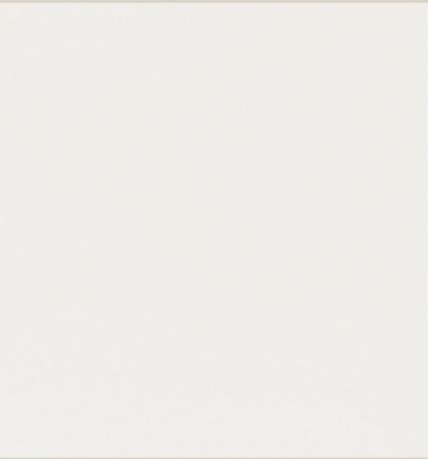
Enhancement of stress and disease resistance

Benefits of using a fertilizer containing molybdenum chelate:

- improvement of nitrogen management and protein biosynthesis,
- beneficial effect on chlorophyll synthesis,
- enhancement of stress and disease resistance,
- improvement of crop yields,
- optimization of plant management using phosphorus and other nutrients.

multi-nutrient fertilisers





Mirzepak



LIQUID MINERAL FERTILISER

Mirzepak is a mineral fertilizer designed to feed plants in plantations with high yield potential, intensively fertilized with NPK, and to quickly eliminate symptoms of micronutrient deficiency. It contains a lot of boron - the key micronutrient for brassica plants. Sulphur, magnesium and molybdenum enhance the efficiency of nitrogen fertilization, and other micronutrients present in the right proportion have a beneficial impact on growth, winter hardiness and plant health.

Advanced additional properties of Mirzepak fertilizer are as follows:

- high concentration of nutrients, small doses of fertilizer,
- unique gel formulation,
- very good solubility of the fertilizer and nutrient assimilation,
- easy preparation of the working liquid.
- contains magnesium and sulphur.

Benefits of using mineral fertilizer with 6 micronutrients and the addition of macronutrients:

- prevention of magnesium, sulphur and micronutrient deficiencies, mainly in brassica plants,
- rapid coverage of the deficiency of these nutrients and their effects,
- improvement of the efficiency of topdressing, mainly with nitrogen,
- enhancement of plant resistance to low temperature and water deficiency,
- improvement of plant condition and health,
- yields increase
- enhancement of fat content in seeds.



| Type of crop | Dose per ha per treatment | No. of treatments | Application dates |
|----------------------|---------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| winter rape | from 0.5 to 1.5 l/ ha | 4 | in autumn in the 4-8 leaf phase, spring after resumption of vegetation, beginning of shoot elongation, green compact bud phase, before blooming, yellow closed bud phase |
| Spring rape, mustard | from 0.5 to 1.5 l/ ha | 3 | leaf rosette phase green compact bud phase, pre-blooming, yellow closed bud phase |



Mlkukurydza



LIQUID MINERAL FERTILISER

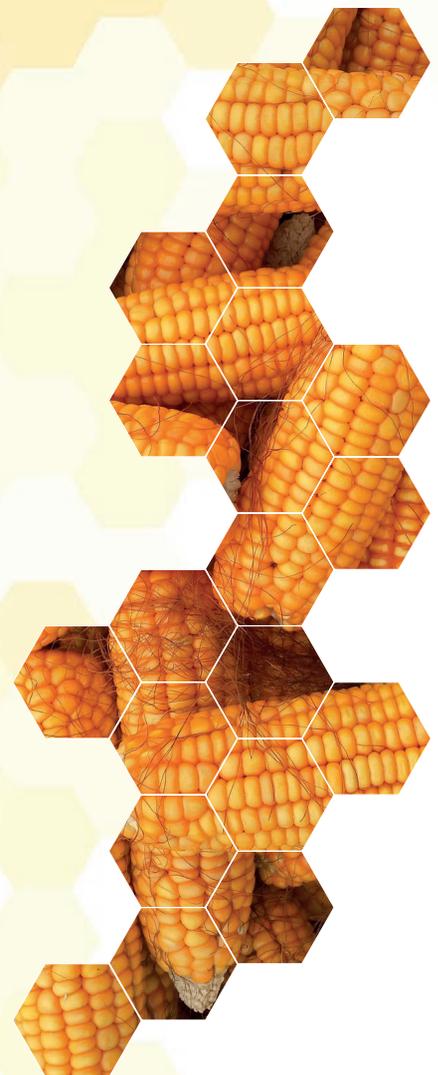
Mlkukurydza should be used on all maize plantations, especially at low temperatures, under conditions of lack of water in the soil and heavily dressed with NPK, during the early vegetation season. It stimulates the development of the root system, removes the deficiency of micro-nutrients, mainly zinc, as well as phosphorus and sulphur. Zinc regulates hormones, photosynthesis, protein biosynthesis, and affects plant health. Molybdenum and sulphur improve the efficiency of nitrogen fertilization. It contains silicon, which has a beneficial impact on nutrient uptake, especially phosphorus. It strengthens cell walls, enhances resistance to disease and abiotic stress.

Advanced additional properties of Mlkukurydza fertilizer are as follows:

- contains a chelating agent,
- unique gel formulation,
- very good solubility of the fertilizer and nutrient assimilation,
- easy preparation of the working liquid.
- contains sulphur, phosphorus and silicon,
- high concentration of nutrients, small doses of fertilizer.

Benefits of using mineral fertilizer with 6 micronutrients, silicon and the addition of phosphorus:

- prevention of magnesium and micronutrient deficiencies, mainly in maize,
- rapid coverage of deficiencies of these nutrients, especially in the early vegetation season,
- an option of supplementing soil-applied fertilization,
- improvement of the efficiency of basic fertilization, mainly with nitrogen,
- enhancement of plant resistance to low temperature and water deficiency,
- improving the vigour, condition and health of plants,
- enhancement and improvement of their quality.



| Treatment frequency / Development phase | Dose [l/ha] |
|--------------------------------------------------------------------------|-------------|
| First treatment - once 3-4 leaves have been formed | 0,5 - 1,0 |
| 1-2 treatments, every 10-14 days, up to intensive shoot elongation phase | 0,5 - 1,0 |



Mizboże



LIQUID MINERAL FERTILISER

Mizboże should be used on every winter and spring crops plantation. Removes latent and visible symptoms of plant nutrient deficiencies. In the fields intensively dressed with NPK fertilizers, it is a source of six basic micronutrients, in addition to magnesium and sulphur. Magnesium, copper and iron are essential for chlorophyll biosynthesis, they enhance photosynthesis efficiency. Sulphur and molybdenum improve nitrogen utilization, have a positive impact on grain protein content. Silicon facilitates the uptake of nutrients, especially phosphorus. Silicon strengthens cell walls, enhances resistance to lodging, diseases and abiotic stress.

Advanced additional properties of Mizboże fertilizer are as follows:

- unique gel formulation,
- easy transition to liquid form,
- contains a chelating agent,
- high concentration of nutrients, small doses of fertilizer,
- very good solubility of the fertilizer and nutrient assimilation,
- contains silicon.

Benefits of using mineral fertilizer with 6 micronutrients, silicon and the addition of macronutrients:

- prevention of magnesium, sulphur and micronutrient deficiencies, mainly in brassica plants,
- rapid coverage of the deficiency of these nutrients in the period of grain vegetation and their effects,
- improvement of the efficiency of basic fertilization, mainly with nitrogen,
- enhancement of plant resistance to low temperature and water deficiency, crop lodging
- enhancement of fat content in grain.
- an option of supplementation of soil-applied fertilization.



| Treatment frequency / Development phase | Dose [l/ha] |
|----------------------------------------------------------------------------|-------------|
| Winter cereals | |
| autumn -1-2 treatments, every 7-10 days, after the formation of 2-3 leaves | 0,5 - 1,0 |
| spring - 2-3 treatments, every 10-14 days, up to the heading phase | 0,5 - 1,5 |
| Spring cereals | |
| first treatment - after 3-4 leaves have formed | 0,5 - 1,0 |
| 2-3 treatments, every 10-14 days, from the tillering phase to the heading | 0,5 - 1,5 |



energyMlx



MACRO- and MICRO nutrients, MEGA performance PŁYNNY NAWÓZ MINERALNY

energyMlx is a fertilizer for any agricultural, vegetable and orchard plantation, especially in the environment of difficult root nutrition. On high-yield plantations, intensively soil-applied fertilization, it is an additional source of all necessary macro- and micro-nutrients in the right proportion for plants. It alleviates the impact of low and high temperatures, water shortage and abundance, the occurrence of diseases and pests, intensive chemical plant protection, micro-nutrients regulate physiological processes. The fertilizer allows to obtain high yields with very good quality.

Advanced additional properties of energyMlx fertilizer are as follows:

- suspension formulation,
- a chelated form of Cu, Zn, Mn, Fe, Co,
- the function of an adjuvant, improves the properties of the application liquid and the penetration of nutrients into the plant,
- high concentration of nutrients, small doses of fertilizer,
- easy preparation of the application liquid.
- very good solubility of the fertilizer and nutrient assimilation,
- contains silicon.

Benefits of using NPK (S) fertilizer, 7 basic micronutrients and silicon:

- prevention of macro- and micro-nutrient deficiencies in plants,
- improvement of the efficiency of basic soil-applied fertilization
- rapid coverage of nutrient deficiencies and their effects,
- an option of reduction of soil-applied fertilization,
- enhancement of plant resistance to weather stresses,
- improvement of the plants' condition and health, rapid recovery from damage,
- higher crop yields with superior quality.



| Treatment frequency / Development phase | Dose [l/ha] |
|---------------------------------------------------------------------------------------------------|-------------|
| Maize | |
| 1-2 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 1 - 3 |
| Sugar beet, mangolds, root vegetables | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive root growth phase | 1 - 3 |
| Potato | |
| 1-2 treatments, every 10-14 days, from the 15-20 cm shoot height phase to the blooming phase | 1 - 2 |
| 1-2 treatments, every 10-14 days, in tuber formation and growth phase | 1 - 3 |
| Winter cereals | |
| autumn - 1-2 treatments, every 7-10 days, after 2-3 leaves have formed | 1 - 2 |
| spring - 2-3 treatments, every 10-14 days, up to heading phase | 1 - 3 |
| Spring cereals | |
| first treatment - after 3-4 leaves have formed | 1 - 2 |
| 2-3 treatments, every 10-14 days, from the tillering phase to the heading phase | 1 - 3 |
| Winter rape | |
| autumn - 1-2 treatments, every 7-10 days, after 4-6 leaves have formed | 1 - 2 |
| spring - 1-2 treatments, every 10-14 days, up to blooming phase | 1 - 3 |
| Sunflower | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 1 - 2 |
| Legumes, soybean | |
| 1-3 treatments, every 10-14 days, from the leaf rosette phase to the blooming phase | 1 - 2 |
| 1-2 treatments, every 10-14 days, following blooming phase | 1 - 3 |
| Brassica vegetables, onion | |
| 1-3 treatments, every 10-14 days, in leaf intensive growth phase | 1 - 3 |
| Fruit trees and bushes, grapevine | |
| 1-2 treatments, every 10-14 days, up to blooming phase | 1 - 3 |
| 1-2 treatments, every 10-14 days, in fruit growth phase | 1 - 3 |

microMI



LIQUID MINERAL FERTILISER

microMI fertilizer should be used on any agricultural, vegetable and orchard plantation. On low-nutrient soils, it prevents micronutrient deficiencies in plants. In high-yield, intensively fertilized plantations, NPK is a source of readily available micronutrients. They regulate physiological processes and enhance plant yields, and have a positive impact on crop quality. Copper and iron are essential for chlorophyll biosynthesis, they enhance photosynthesis efficiency. Manganese regulates respiration, photosynthesis and the metabolism of organic compounds. Molybdenum and cobalt are responsible for nitrogen management. Zinc participates in phytohormone metabolism, and boron in plant blooming and fructification. Silicon strengthens cell walls, enhances resistance to lodging, diseases and abiotic stress. The right proportion of micronutrients ensures good utilization of macronutrients, stimulation of plant growth and development, reduced response to water and heat stress, increased plant resistance to diseases and pests, regeneration of damaged plants, high yields, good quality crops.

Advanced additional properties of microMI fertilizer are as follows:

- high concentration of Manganese, small doses of fertilizer,
- gel formulation,
- very good solubility of the fertilizer and nutrient assimilation,
- easy preparation of the working liquid.
- contains silicon.
- a chelated form of Cu, Zn, Mn, Fe, Co,
- the function of an adjuvant, improves the properties of the application liquid and the penetration of nutrients into the plant.

The benefits of using seven essential micronutrient and silicon fertilizer:

- prevention and coverage of micronutrient deficiencies in plants,
- improvement of the efficiency of basic soil-applied fertilization,
- enhancement of plant resistance to low temperature and water deficiency,
- improving the vigour, condition and health of plants,
- boosting of crop yields and improvement of their quality.
- enhancement of plant resistance to tissue damages and lodging.



| Treatment frequency / Development phase | Dose [l/ha] |
|---------------------------------------------------------------------------------------------------|-------------|
| Maize | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 0,25 - 1,0 |
| Sugar beet, mangolds, root vegetables | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive root growth phase | 0,25 - 1,0 |
| Potato | |
| 1-2 treatments, every 10-14 days, from the 15-20 cm shoot height phase to the blooming phase | 0,25 - 1,0 |
| 1-2 treatments, every 10-14 days, in tuber formation and growth phase | 0,5 - 1,0 |
| Winter cereals | |
| autumn - 1-2 treatments, every 7-10 days, after 2-3 leaves have formed | 0,25 - 0,5 |
| spring - 2-3 treatments, every 10-14 days, up to heading phase | 0,5 - 1,0 |
| Spring cereals | |
| first treatment - after 3-4 leaves have formed | 0,25 - 0,5 |
| 2-3 treatments, every 10-14 days, from the tillering phase to the heading phase | 0,5 - 1,0 |
| Winter rape | |
| autumn - 1-2 treatments, every 7-10 days, after 4-6 leaves have formed | 0,25 - 0,5 |
| spring - 1-2 treatments, every 10-14 days, up to blooming phase | 0,5 - 1,0 |
| Sunflower | |
| 1-3 treatments, every 10-14 days, from the 4-6 leaf phase to the intensive shoot elongation phase | 0,25 - 1,0 |
| Legumes, soybean | |
| 1-3 treatments, every 10-14 days, from the leaf rosette phase to the blooming phase | 0,25 - 1,0 |
| 1-2 treatments, every 10-14 days, following blooming phase | 0,5 - 1,0 |
| Brassica vegetables, onion | |
| 1-3 treatments, every 10-14 days, in leaf intensive growth phase | 0,25 - 1,0 |
| Fruit trees and bushes, grapevine | |
| 1-2 treatments, every 10-14 days, up to blooming phase | 0,5 - 2,0 |
| 1-2 treatments, every 10-14 days, in fruit growth phase | 0,5 - 2,0 |

MICRONutrients

fertilisers with nanoparticles

A close-up photograph of a scientist's hands in a laboratory. The scientist is wearing a white lab coat and blue nitrile gloves. They are holding a clear glass flask containing a bright blue liquid. The background is a blurred laboratory bench with various pieces of equipment, including a microscope and petri dishes. The overall color palette is dominated by light blues and whites, creating a clean, scientific atmosphere.

nanotechnology

Nanotechnology and Agrami company serving agricultural sector

Nanotechnology has been revolutionizing numerous industries. Nanotechnology refers to a set of techniques and methods of setting up all sorts of nanometric structures (individual particles).

In the last decade, nanotechnology started to be applied, inter alia, in medicine, pharmaceuticals, cosmetics, the paint industry, construction and, above all, in the agricultural sector.

Nanomaterials offer new opportunities, once the material is fragmented to nano size, it reveals unprecedented properties. Nanoparticles are characterized by exceptional biological activity, and due to their size, allow them to quickly and easily penetrate into living cells, as well as deep into plant tissues.

With the support of the Agro-Measures-Technology R&D Center, a series of studies has been carried out, which confirms the beneficial effects of nanosilver on plant development in every developmental phase. The method for obtaining silver nanoparticles, developed by Agrami, has been tested in every phase of the process. This ranges from carrying out nanometric structure studies of individual silver particles to microscopic studies depicting the nanomaterial.

Nanosilver demonstrates strong antibacterial, antifungal and antiprotozoal properties. Nanoparticle-based formulations show activity even when they contain trace quantities of nanoparticles, which can provide an alternative to conventional plant protection and stimulation agents.

Thanks to the use of nanotechnology in the agricultural sector, we can learn about, as well as appreciate, the positive impact on plant growth, increasing the biomass of plants, the length of the root system, the number of leaves, the content of chlorophyll, terpenes, or flavonoids in the cells, and, above all, the quality of the fruit.

nanoMI

Nanoparticles, giga performance LIQUID MINERAL FERTILISER

nanoMI, is a liquid mineral foliar fertilizer with a very high content of nano-colloidal silver (Ag+) of 10000 ppm per kg of fertilizer produced using nanotechnology. It is intended for use in the cultivation of all outdoor crops, ground and covered vegetable crops, orchards, berry plantations and ornamental plants. The nanoMI fertilizer improves the condition of plants, and nano silver reduces the growth of bacteria, fungi and viruses. It contains naturally occurring nutrients.

Advanced additional properties of nanoMI fertilizer are as follows:

- improves plant condition,
- a very high concentration of nanosilver creating an environment of potential:
 - fungicidal,
 - bactericidal,
 - virucidal activity.

Benefits of using nitrogen fertilizer with added nanosilver:

- improvement of the vigour and condition of plants,
- beneficial impact on chlorophyll synthesis and photosynthesis process,
- an increase of protein biosynthesis,
- a reduction of the incidence of diseases caused by fungi and bacteria,
- increasing yields and improvement of their quality,
- improvement of the storage capability of crops.



a unique product in the European market



nanoMI-Cu



Nanoparticles, giga performance LIQUID MINERAL FERTILISER

nanoMI-Cu can be used on all plantations. Nitrogen and copper contained in the fertilizer cause intensive plant growth, enhance the disease resistance of plants, reduce the pressure of pathogens, allow to reduce the use of chemical plant protection products. The fertilizer ensures very good condition of plants, allows to obtain high yields of very good quality.

Advanced additional properties of nanoMI-Cu fertilizer are as follows:

- macro- and micro-nutrient composition and liquid formulation of the fertilizer,
- contains copper nanoparticles, creating an environment with potential:
 - fungicidal,
 - bactericidal,
 - virucidal activity,
- easy preparation of the application liquid.
- very good solubility and nutrient assimilation,
- the function of an adjuvant, improves the properties of the application liquid and the penetration of nutrients into the plant,.

Benefits of using nitrogen fertilizer with added nanocopper:

- improvement of plant condition and nutrition,
- beneficial impact on photosynthesis, chlorophyll and protein biosynthesis,
- enhancement of plant resistance to weather stress,
- a reduction of the incidence of diseases caused by fungi and bacteria,
- increasing yields and improvement of their quality,
- enhancement of the storage capability of crops.

10 000 ppm of nanocopper



| Treatment frequency / Development phase | Dose [l/ha] or concentration % |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Agricultural plants | |
| 1-3 treatments, every 10-14 days, after 3-4 leaves have formed especially in intensive growth phase | 0,2 - 0,3 (0,1%) |
| Field vegetables | |
| 1-3 treatments, every 10-14 days, after 3-4 leaves have formed or once the seedlings, cuttings have taken root | 0,2 - 0,3 (0,1%) |
| Vegetables under cover | |
| 1-3 treatments, every 10-14 days, in intensive growth phase | (0,1%) |
| Fruit trees and bushes, grapevine | |
| 1-2 treatments, every 10-14 days, up to blooming phase | 0,2 - 0,5 (0,1%) |
| 1-3 treatments, every 10-14 days, in fruit growth phase | 0,2 - 0,5 (0,1%) |
| spring - 1-2 treatments, every 10-14 days, following fruit harvesting phase | 0,2 - 0,5 (0,1%) |

wapńMInAgCu



LIQUID MINERAL FERTILISER

wapńMInAgCu fertilizer is intended for foliar support feeding of agricultural and horticultural plants, especially under circumstances of deficiency or difficulty in the uptake of calcium from the soil and high pressure of diseases. Calcium is essential in intensive crop growing technologies and under stressful conditions. It guarantees the proper structure and function of cell walls and membranes. Contributes to the regulation of water, mineral and transport in the plant. Increases plant tolerance to environmental stresses. Necessary for proper growth of roots and above-ground part. Stimulates plant rooting, blooming, fructification. Calcium, especially silver and copper nanoparticles, can limit the disease development. It conditions high yields, improves their storage capability, especially of fruits, vegetables and root crops.

Advanced additional properties of wapńMInAgCu fertilizer are as follows:

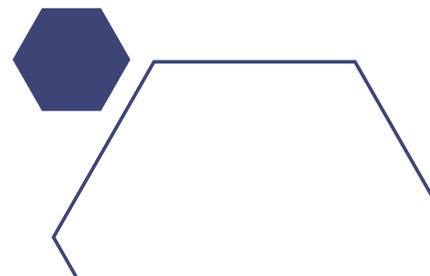
- very high concentration of calcium,
- presence of silver and copper nanoparticles,
- fertilizer's very good solubility,
- high bioavailability of the nutrient,
- an adjuvant in the chemical composition,
- small doses of fertilizer, economical to use,
- easy preparation of the application liquid.

Benefits of using calcium fertilizer with added nanosilver and nano-copper:

- regulation of plant water management,
- enhancement of plant resistance to stress,
- stimulation of root growth, blooming and fructification,
- higher yields,
- improvement of plant health,
- enhancement of plant resistance to tissue damage,
- higher yields,.



| Treatment frequency / Development phase | Dose [l/ha] |
|----------------------------------------------------------------------|-------------|
| Winter agricultural plants | |
| autumn - after the formation of 2-3 leaves | 1 - 2 |
| spring - 1-2 treatments, every 10-14 days, in intensive growth phase | 1 - 2 |
| Spring agricultural plants | |
| 1-3 treatments, every 10-14 days, after 3-4 leaves have formed | 1 - 2 |
| Vegetables, root crops | |
| 1-3 treatments, every 10-14 days, in intensive growth phase | 1 - 2 |
| Fruit trees and bushes, grapevine | |
| 1-2 treatments, every 10-14 days, in fruit growth phase | 1 - 3 |



Nutrient content:

WATER CONDITIONERS

| MI6 | |
|--------------------------------------------------------|-------------|
| Nutrient content: | % by mass |
| Nitrogen (N) | 3,2% |
| Nitrogen (N) expressed in amide form | 3,2% |
| Phosphorous pentoxide (P ₂ O ₅) | 15,0% |
| Magnesium oxide (MgO) | 4,5% |
| Sulphur trioxide (SO ₃) | 9,0% |
| Biuret content | max. 0,078% |

| MI6.1. | |
|--------------------------------------------------------|-----------|
| Nutrient content: | % by mass |
| Nitrogen (N) | 3,0% |
| Nitrogen (N) expressed in amide form | 3,0% |
| Phosphorous pentoxide (P ₂ O ₅) | 16,2% |

SINGLE-NUTRIENT FERTILISERS

| borMI | |
|-------------------|-----------|
| Nutrient content: | % by mass |
| Boron (B) | 11,0% |

| cynkMI | |
|----------------------------|-----------|
| Nutrient content: | % by mass |
| Zinc (Zn) chelated by EDTA | 16,0% |

| moMI | |
|-------------------|-----------|
| Nutrient content: | % by mass |
| Molybdenum (Mo) | 10,0% |

MULTI-NUTRIENT FERTILISERS

| MIrzepak | |
|---------------------------------|-----------|
| Nutrient content: | % by mass |
| Boron (B) | 2,1% |
| Copper (Cu) chelated by EDTA | 0,75% |
| Iron(Fe) chelated by EDTA | 1,0% |
| Manganese (Mn) chelated by EDTA | 1,8% |
| Molybdenum (Mo) | 0,02% |
| Zinc (Zn) chelated by EDTA | 0,95% |

| MIkukurydza | |
|---------------------------------|-----------|
| Nutrient content: | % by mass |
| Boron (B) | 0,25% |
| Copper (Cu) chelated by EDTA | 1,45% |
| Iron (Fe) chelated by EDTA | 1,05% |
| Manganese (Mn) chelated by EDTA | 1,0% |
| Molybdenum (Mo) | 0,04% |
| Zinc (Zn) chelated by EDTA | 2,0% |

| MIzboże | |
|---------------------------------|-----------|
| Nutrient content: | % by mass |
| Boron (B) | 0,25% |
| Copper (Cu) chelated by EDTA | 1,5% |
| Iron (Fe) chelated by EDTA | 2,0% |
| Manganese (Mn) chelated by EDTA | 2,5% |
| Molybdenum (Mo) | 0,03% |
| Zinc (Zn) chelated by EDTA | 2,5% |

| energyMIx | |
|--------------------------------------------------------|-------------|
| Nutrient content: | % by mass |
| Nitrogen (N) | 11,0% |
| - Nitrogen (N) expressed in nitrate form | 1,5% |
| - Nitrogen (N) expressed in amide form | 9,5% |
| Phosphorous pentoxide (P ₂ O ₅) | 10,0% |
| Potassium oxide (K ₂ O) | 11,6% |
| Sulphur trioxide (SO ₃) | 6,5% |
| Boron (B) | 0,07% |
| Copper (Cu) chelated by EDTA | 0,09% |
| Iron (Fe) chelated by EDTA | 0,130% |
| Manganese (Mn) chelated by EDTA | 0,13% |
| Molybdenum (Mo) | 0,004% |
| Zinc (Zn) chelated by EDTA | 0,130% |
| Biuret content | max. 0,247% |

| microMI | |
|---------------------------------|-----------|
| Nutrient content: | % by mass |
| Boron (B) | 1,0% |
| Copper (Cu) chelated by EDTA | 1,0% |
| Iron (Fe) chelated by EDTA | 1,5% |
| Manganese (Mn) chelated by EDTA | 2,0% |
| Molybdenum (Mo) | 0,07% |
| Zinc (Zn) chelated by EDTA | 1,5% |

FERTILISERS WITH NANOPARTICLES

| nanoMI | |
|-------------------|------------|
| Nutrient content: | % by mass |
| Nitrogen (N) | 15,0% |
| Biuret content | max. 0,39% |

| nanoMI-Cu | |
|-------------------|-----------|
| Nutrient content: | % by mass |
| Nitrogen (N) | 16,2% |

| wapriMIInAgCu | |
|---------------------|-----------|
| Nutrient content: | % by mass |
| Calcium oxide (CaO) | 18,6% |

agrami

EFFICIENCY THROUGH KNOWLEDGE

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