



„FEEDSTUFF RESUPPLY DIFFERENTLY“

PRODUCT CATALOG



While nature is enormous, man is only tiny. For this reason, human existence depends on the relationship **between humanity and nature, and the way mankind uses the forces of natural elements for its own benefit.**

SZENTGYÖRGYI ALBERT



Our company was founded in 1991 as a pioneer, with the aim of distributing microbiological products.

In 1997 a Hungarian team of scientists created the Mikro-Vital bacterial manure, which we distribute even today, and we have established the Mikro-Vital product line, within which every product serves the formation of healthy soil life and environment friendly plant nutrition.

After the change of ownership in 2020, we anaged to bring the enterprise to the forefront of the market in one and a half years.

A solid professional background, continuous product development, and a qualified sales team are the keys to our success. Last year, **our MV-Supary product received recognition**

at the Hungarian Product Award, which was a great achievement in the history of our company.

We introduced the market to a bacterium product **which provides a wide range of utilization opportunities, resists extreme weather conditions,** and does not require immediate incorporation.

Furthermore, in 2021, **the combination of the product MV-SUPARY and seed pelleting technology earned the Agrarian Innovation Award.** Since MV-SUPARY can also be applied as a biological seed pelleting material, it stands as a unique product on the market.

This year, we are working on the development of products with similar potential in order to provide



Balázs Viktor
Manager
Bio-Nat Kft.



Umenhoffer Péter
Manager
Bio-Nat Kft.

our current and future partners with the largest spectrum of bacterial preparations.

We expanded our product portfolio for the sake of efficient plant nutrition with the addition of foliar fertilizer products.

Cooperation partners:



MIKRO-VITAL



The Mikro-Vital is a concentrated soil inoculant product, which we use to invigorate the deteriorating microbiological condition of our soils.

The product contains free-living, nitrogen-fixing and phosphor-mobilising soil bacteria, as well as micronutrients.

When used properly, we can improve

the nutrient supply capability, structure and cultivability of our soil! It fixes nitrogen in the air and makes potassium and phosphorus soluble and absorbable. With their metabolism, they contribute to the enhancement of the

root mass of the plants, improving the nutrient and water supply of the plant.

MIKRO-VITAL COMPONENTS

- **AZOSPIRILLUM BRASILENSE**
- **AZOTOBACTER VINELANDII**
- **PSEUDOMONAS GESSARDII**

UTILIZATION

In every plough land culture and horticulture, in both traditional and ecological agriculture

TIME OF APPLICATION

In spring and autumn, either prior to sowing, applied to the whole surface area or simultaneously with the sowing process, applied in the row.



WHY THE MIKRO-VITAL?

- Invigorates soil life
- Improves the nutrient supply capability of the soil
- Helps the formation of proper soil colloids

APPLICATION METHOD

With specific application equipment, with an application of 1,0–3,0 l/ha along with the use of 40–50 l water quantity; in the absence of application equipment, it is also applicable by a field sprayer with the use of 300–500 l/ha water quantity, and it is advised to be incorporated as soon as possible.

RECOMMENDED CONDITIONS:

- a minimum of 5–6 °C soil temperature
- 5,0 – 8,5 soil pH
- organic matter content around 1% (depends on soil type)

MIKRO-VITAL PLUSZ



Mikro-Vital Plusz is the number one soil inoculant product of agrarians using mulch cultivation.

MIKRO-VITAL PLUSZ COMPONENTS

- AZOSPIRILLUM BRASILENSE
- AZOTOBACTER VINELANDII
- PSEUDOMONAS GESSARDII
- BACILLUS ARYABHATTAI

UTILIZATION

In every plough land culture and horticulture, in both traditional and ecological agriculture

TIME OF APPLICATION

In spring and autumn, either prior to sowing, applied to the whole surface

Essentially, this product is built from the Mikro-Vital. We changed the ratio of bacterial strains found in Mikro-Vital and expanded it with a strain of bacteria, which increases the stress resistance of plants, with particular attention to drought conditions.

area or simultaneously with the sowing process, applied in the row.

APPLICATION METHOD

With specific application equipment, with an application of 1,0–3,0 l/ha along with 40–50 l amounts of water; in the absence of application equipment, it is also applicable by a field sprayer with the use of 300–500 l/ha water quantity, and it is advised to be incorporated as soon as possible.

WHY THE MIKRO-VITAL PLUSZ?

- Beside atmospheric nitrogen fixation, it mobilizes the fixed phosphor and potassium
- Effectively breaks down dead plant residue
- Has a siderophore effect against pathogenic fungi
- Urges the growth of the root and the plant

RECOMMENDED CONDITIONS:

- a minimum of 5–6 °C soil temperature
- 5,0 – 8,5 soil pH
- organic matter content around 1% (depends on soil type)

STORAGE LIFE

Stored refrigerated 90 days, without refrigeration below 15 °C



The Mikro-Vital C+ is a concentrated stubble decomposer product which enables us to effectively break down dead plant residue.

Our Mikro-Vital C+ product also contains two new bacterial strains, which largely contribute to breaking

down crop residues with the help of enzymes (cellulases, proteases, and chitinases) produced by them. Moreover, they have several direct and indirect functions in the soil as well.

MIKRO VITAL C+ COMPONENTS

- AZOSPIRILLUM BRASILENSE
- AZOTOBACTER VINELANDII
- PSEUDOMONAS GESSARDII
- CELLULOMONAS FLAVIGENA
- PAENIBACILLUS PEORIAE

UTILIZATION

Basically, in plough land culture and horticulture, which have high amounts of crop residue.

TIME OF APPLICATION

Stubble cultivation period in summer and autumn, when the highest amount of crop residue is incorporated.



The most optimal application is, if we use an application equipment installed on disc harrows or a mulch cultivator during stubble cultivation.

APPLICATION METHOD

With specific application equipment, with an application of 2,0–4,0 l/ha along with the use of 40–50 l water quantity; in the absence of application

WHY THE MIKRO VITAL C+?

- Breaks down crop residue with the most efficiency
- Repels pathogens due to its exceptional siderophore production
- Is capable of operating in a wide range of temperatures

equipment, it is also applicable by a field sprayer with the use of 300–500 l/ha water quantity, and it is advised to be incorporated as soon as possible.

RECOMMENDED CONDITIONS:

- a minimum of 5–6 C soil temperature
- 4,0 – 8,5 soil pH
- shredded, evenly scattered crop residue

ORGANIC MANURE CONDITIONING



APPLICATION METHOD

It is appropriate to perform the conditioning when the collection sump is being emptied. During outloading, we spray the product on the manure in several layers.

- During daily outloading, or
- During manure depo stratification

RECOMMENDED AMOUNT

Farmyard manure with litter per cubic meter, 0,4 dl Mikro-Vital C+ and 10 liters of water mixed together. Apply the product without dispersing or spraying.

Accelerates the rate of composting, the amount of wastewater decreases, deodorizes, and reduces the volume of organic manure.

By the time the conditioned manure is applied to the plough lands, it will already be in an advanced, more mature condition, making the exploitation of the extractable macro- and micronutrients easier for the crops.





MV-SUPARY

2020 Innovation Award – award-winning successful innovation – „creation of MV-SUPARY”

2021 Innovation Award – Agrarian Innovation Award – „the joining of MV-SUPARY and seed pelleting technology”

The **MV-SUPARY** is the most recent product of Bio-Nat Kft., it provides a unique solution for soil treatment in drought and heat, and furthermore, it helps the pelleting process of seeds, which is complemented by bacteria.

MV-SUPARY COMPONENTS

- **BACILLUS SUBTILIS**
- **BACILLUS ARYABHATTAI**
- **PAENIBACILLUS PEORIAE**

UTILIZATION

In every plough land culture, in both traditional and ecological agriculture, and furthermore in seed establishments for additional seed pelleting.

TIME OF APPLICATION

In a warm, dry period, either prior to sowing, applied to the whole

The product contains three endospore-producing bacterial strains. They help the nutrient supply of plants and induce the immunity of plants against pathogenic fungi.



surface area, or simultaneously with the sowing process, applied in the row. During the seed pelleting process, together with the seed pelleting material.

APPLICATION METHOD

In every plough land culture and horticulture, either prior to the sowing and planting processes, incorporated into the soil, or during the sowing and planting processes, along with the

WHY THE MV-SUPARY?

- Crowds out soil pathogens from the root zone
- Mobilizes dietary minerals efficiently
- Improves the stress resistance of crops
- Resists drought and heat

preparation of the soil with an application of 1-3 l/ha, depending on the application equipment, and the use of 40-500 l/ha water quantity. In case of seed supplementary pelleting, with seed pelleting machinery, an application of 1-3 l/ton mixed with 10 liters of water and basic seed pelleting material.

RECOMMENDED CONDITIONS:

Due to its endospore form, this product has the most resilience against environmental factors.



MIKRO-VITAL AVANTI



Avanti is the next generation, innovative product of the Mikro-Vital product line, created through the unique research and development work of Bio-Nat Kft. It is able to activate the natural defense mechanisms of plants through its unique bacterial strains, resulting in so-called induced systemic resistance, which provides long-term, sustainable protection for crops. The use of the product allows for healthier, more resistant plants, thus supporting environmentally conscious crop production.

The Avanti product is made of endospored bacteria, thus ensuring their survival in the environment.

AVANTI BACTERIAL SPECIES

- BACILLUS ARYABHATTAI
- BACILLUS SAFENSIS
- BACILLUS SUBTILIS
- BACILLUS TEQUILENSIS

UTILIZATION

Basically, in plough land culture and horticulture, which have high amounts of crop residue.

TIME OF APPLICATION

In all arable and horticultural crops, it can be incorporated into the soil before sowing or planting, or applied simultaneously with sowing or planting during soil preparation in a quantity of 1-3 l/ha, depending on the application device, with a water volume of 40-500 l/ha. During seed treatment

WHY MICRO-VITAL AVANTI?

- The preparation significantly enhances the natural defenses of plants, thereby indirectly reducing their susceptibility to diseases caused by phytopathogenic fungi.
- strengthens the efficient nutrient uptake of plants
- resists extreme environmental effects
- increases the stress tolerance of plants

and dressing, it can be applied in a quantity of 1-3 l/ton of seed with a water volume of 10 liters/ton of seed.

RECOMMENDED CONDITIONS

Due to its endosporic form, it is the most resilient formulation against environmental variables.

MIKRO-VITAL HORTUS



Hortus is a new product from Mikro-Vital's product line suitable for horticultural use. In addition to its excellent nutrient mobilization ability, it also has a significant biocontrol effect, helping the natural metabolism of plants.

HORTUS BACTERIAL SPECIES

- **BACILLUS SP.**

UTILIZATION

Mikro-Vital Hortus can be used in horticulture, plantations, small garden farms, lawn plantings and cut flowers to ensure a longer shelf life.

It supports plant health, promoting higher yields and better nutrient content. It can also be used practically in the home environment.

The product is made of endosporic bacteria, so in addition to its long shelf life, it is extremely resistant to environmental factors.



TIME OF APPLICATION

In spring and autumn, before sowing or transplanting, or applied to the row at the same time as sowing or planting, as a nutrient solution.

RECOMMENDED CONDITIONS

In all horticultural crops, Hortus can be applied by working it into the soil before

WHY MIKRO-VITAL HORTUS?

- excellent nutrient mobilization ability
- biocontrol effect
- long shelf life
- versatile use: in horticulture, in grass planting, but also for home plants

sowing or planting, or during soil preparation during sowing or planting, in an amount of 1–3 l/ha.

For home and small garden use, it can be used as a nutrient solution: mix one or two caps of Hortus product with 5–10 liters of water, then water your plants with it.

MIKRO-VITAL GRANDE

EU FERTILISING PRODUCT – COMPOUND LIQUID INORGANIC MACRONUTRIENT FERTILISER

As a consequence of intensive agriculture, the mineral, organic matter and microbiome content of soils has been significantly decreased in recent decades. Therefore, the importance of preparations that replenish microelements and trace elements for plants is increasing. These solutions could strengthen the immune system of plants and improve the quality, quantity and flavour of the harvest.

During the stressful phases of plant development (germination, setting, flowering, fruit growth, fruiting), plants need a lot of energy in a short time. Our product could be an economical and effective complement to pesticide treatments, especially fungicide and insecticide treatments. Its micronutrient content is 100% water-soluble in chelate form to

aid absorption, thereby increasing the quantity and improving the quality of the crop. The saponin content of the product helps sticking and absorption on the leaf, while the willow bark extract can be an effective addition to the fungal and bacterial control and insect repellent. Saponin also an effective repellent of the nematodes. Fulvic acid content is a natural chelating agent enhancing the nutrient uptake and an effective natural antiviral ingredient.

UTILIZATION

For the treatment of fruit trees, grapes, vegetables, arable crops, ornamental plants, lawns, pastures.

RECOMMENDED UTILIZATION

Minimum 200 litres/ha of water on crop fields, In vineyards and orchards, spray at least 500 litres of water per hectare.

SPRAYING

Apply 4 litres/ha in spring and autumn.

WHY MIKRO-VITAL GRANDE?

HEALTHY AND TASTY PLANTS ECONOMICALLY

- Improved electrolyte system of plants
- Increased resistance to diseases
- Increased yields and improved quality
- Improved plant regeneration (frost, ice damage, storms)
- Increased shelf life of crops

APPLICATION FOR DISEASED PLANTS

In the event of hail, frost damage, sandstorms, scorch symptoms, immediate application of the appropriate dose is recommended, followed by repeated treatment after 5 days.

Application may vary depending on crop and weather conditions.

Spraying should preferably be carried out in the morning or in the evening at temperatures below 20 °C. Rain falling within 1 to 3 hours after spraying may reduce the efficiency of absorption.



METHODS OF APPLICATION OUR PRODUCT



MIKRO-VITAL, MIKRO-VITAL PLUSZ, MV-SUPARY

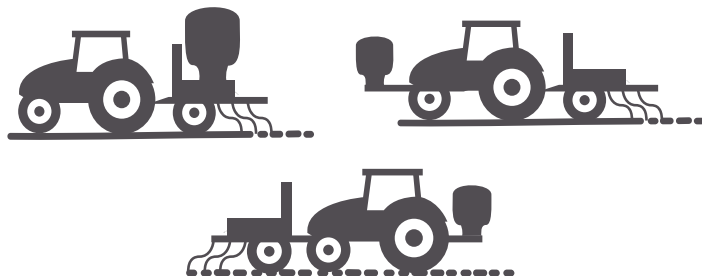
► SEEDING

► APPLICATION IN ROW

1.



2.



► **OUR PRODUCTS CAN ALSO BE DELIVERED BY DRONE!**



MIKRO-VITAL, MIKRO-VITAL C+

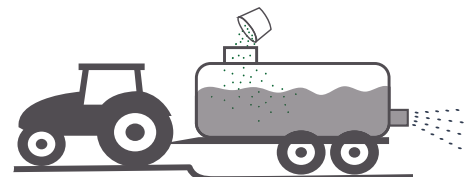
► APPLICATION IN ROW

► APPLIED OVER THE ENTIRE SOIL SURFACE



► APPLICATION IN ROW

► APPLY WITH SLURRY



► SEEDING

► APPLIED OVER THE ENTIRE SOIL SURFACE

1.



2.





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