

# *Fito Horm*<sup>®</sup>

...PLANT NATURALLY DESERVES IT

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# DEAR READER,

Continuous renewal, development and innovation have always played an important role in the business policy of Fitohorm Kft.

Since the beginning, over the years, we have introduced countless new products to the market, assessing and keeping in mind the needs of our users. During that time, we have always strived for reliable quality, the professionalism provided by a reliable network of consultants and the provision of first-class logistics services.

At Fitohorm Kft., we not only keep in mind the quality of our products, but we also consider it important that our customers are provided with accurate, up-to-date information and advice.

Today, there is a wide range of choices on the foliar fertilizer market, where unfortunately there are also poor, less effective products, therefore, we recommend that when choosing products, you inform yourself about their usability and price-value ratio.

In this catalogue, we would like to draw the attention of the Customers and Farmers to the following products and services:

The members of the ECO PRODUCT FAMILY introduced last year (EcoActiv, EcoBoron, EcoCopper), which are made using high quality raw materials, at an extremely favorable price. In terms of price/value, they are among the first on the Hungarian market.

- In addition to our HERBAL plant conditioner, our FULVOMAX product has an extremely positive effect on cultivated plants thanks to its exceptionally high content of fulvic acid and amino acids.

- Last but not least, our FitoService leaf analysis service. Year after year, it proves its importance and return even in difficult times.

Fitohorm users can verify the effectiveness of the products based on their own experience year after year, which increases crop safety, increases the quantitative and qualitative indicators, and thus increases income. The results of several years of experimental and licensing procedures have already been confirmed in practice, according to which Fitohorm products have a positive effect on plants.

Among the values represented by Fitohorm Kft., one of the most important principle is still RELIABILITY. It obliges all our employees to strive for this and to provide full service to our partners.

With this product guide, we would like to provide information on the correct selection of foliar fertilizers and their professional usage.

We trust that Fitohorm products will contribute to the success of your farming. We wish you a successful economic year, but above all, good health on behalf of our employees at Fitohorm Kft.

Sincerely,



**SZABÓ ATTILA**  
Executive Director

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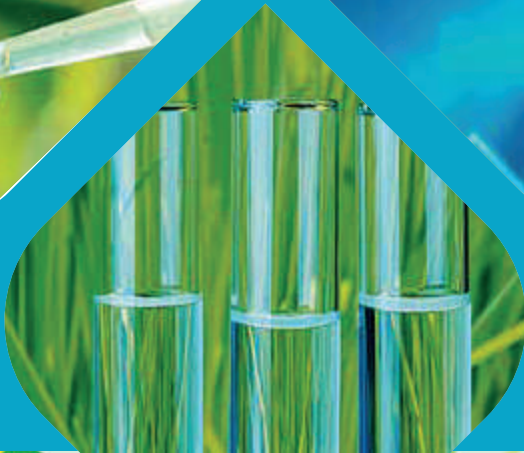
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# SMALL BOOK





# ABOUT FOLIAR FERTILIZERS

## CHELATIZED MICRO-ELEMENT FERTILIZER AND THE FITOHORM!

FITOHORM KFT is committed to chelated, true solution foliar fertilizers, based on licensing experiments 38 years ago and in the light of practical experience to date.

Chelates are metal complexes of special structure, with ligands surrounding the metal ion in a "chelate" (Greek "chelate") and thus forming stable metal ring complexes. Because of their water solubility and stability, metal chelates can be used as both spray and soil fertilizers. The use of chelated micronutrient foliar fertilizers allows for a more even distribution of nutrients, which in itself provide good adhesion and therefore better utilization as these formulations penetrate the waxy cuticle of the leaves more easily and quickly..

### DISPERSE SYSTEMS:

The **pure salts**, due to their unformulated nature, have inadequate foliar efficacy.

An **emulsion** is a colloid in which particles of a liquid are dispersed in another insoluble liquid. As these products are referred to as a kind of physical solution, it is difficult and slow to take up the active ingredient.

The **suspension** is a mixture in which there is no dissolution of the components. Most commonly, a mixture of solid particles suspended in a liquid is referred to as a suspension. After some time, the heavier components settle on the bottom of the vessel (gravity separation; settling). Usually a group of particles larger than 500 nanometers distributed in a liquid. Often unstable, their mixability and application time are significantly more critical. Floating solids particles are much more difficult to penetrate into plants due to their size, so they have a much lower efficiency than true solution foliar fertilizers.

Az **solution** is a multi-component system (mixture) in which one component is usually present in greater amounts (solvent) than the other components (solute).

The **Real solutions** can be classified as homogeneous dispersion systems. Among the components, the solvent (continuous medium) was highlighted, the rest being the dissolved (dispersed) material. In real solutions, the particles have a particle size of 0.1-1 nm.

The nutrient requirement of a rapidly developing stock often exceeds the nutrient uptake capacity of the roots. In case of unfavorable soil conditions (compaction, sludge, drought, etc.) or extreme weather conditions (drought, too cold weather, leaching losses, etc.), nutrient uptake becomes inhibited. In these cases, well-applied foliar fertilization is an effective aid to the stock, as the necessary nutrients can be quickly and purposefully introduced into the plants. The most effective means of this is chelating agents. Chelated leaf fertilizers are widely used to improve the nutritional status of micronutrient deficient populations.

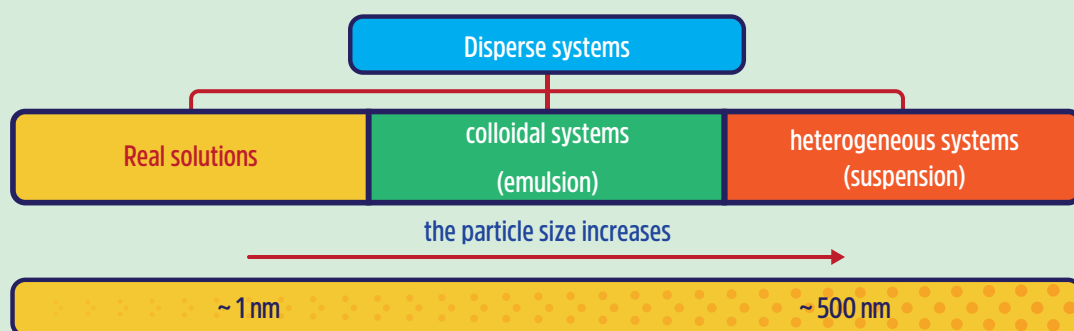


Why use  
foliar fertilizer?



Foliar fertilizer formulations,  
foliar fertilizer compatibility

Advice based on soil and leaf studies, which FitoHorm KFT has been using successfully since 1980, facilitates the correct selection of trace elements. We also encourage our new partners to carry out these tests prior to a reasonable nutrient supply.

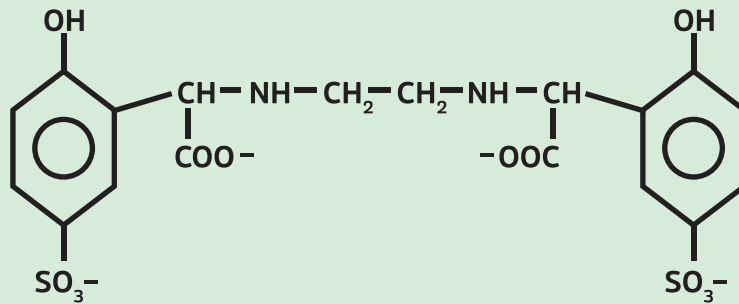


the particles	real solutions	colloidal systems	heterogeneous systems (suspension)
size	0,1-1 nm	1-500 nm	500 nm
visibility	invisible	with ultra and electron microscope	with light microscope
deposition	don't settle	don't settle	willingly takes place
filterability on a paper filter	no filterable	no filterable	filterable
example	sugar solution	sugar solution	plant protection solution with elemental sulfur

FitoHorm's chelated, true solution foliar fertilizers have been guaranteeing good mixability, adequate efficiency and high content for users for 45 years.

Chelated formulations can be stored in solution for a much longer period of time without the risk of precipitation, and are more problematic when co-applied with pesticides. The use of chelated micronutrient foliar fertilizers allows for a more even application of nutrients, which in themselves provide good adhesion and therefore better utilization as these formulations penetrate the waxy cuticle of the leaves more easily and quickly. Chelates can also be ranked based on different parameters. The best known of these is EDTA (**ethylenediamine tetraacetate**), the most modern and the most environmentally friendly is EDDHSA **ethylene diamine-N, N'-bis [(2-hydroxy-5-sulfo) ferric acetate]**. FitoHorm KFT foliar fertilizers are chelated with EDDHSA chelator, which has Reach registration.

(EDDHSA: Unique Micronutrient Enhancement Formula is an organic chelating molecule. With its amino acid formula, it brings microelements into the form most easily absorbed by the plant. Numerous plant experiments have proven its effectiveness. It does not have the disadvantage of EDTA.)



	PH stability (>7)	efficiency of absorption	duration of effect
EDTA	•	•	•
STPA	••	••	••
EDDHMA	•••	•••	••
EDDMA	•••	•••	•••
EDDHSA	••••	••••	••••

# FITOHORM SMALL BOOK

## WHAT, WHEN, WHAT TO USE IT FOR?

### > Seed treatment (dressing)

#### Why use Fitohorm dressing material?

- » Because it provides the necessary nutrients for the germinating seeds - until the root and foliage of the seedling is formed,
- » Because it improves the germination power and percentage of seeds with lower germination capacity (older items),
- » Because it accelerates the growth of plants and thus ensures uniform emergence,
- » Because it allows the plant to excel in rooting: faster access to deeper, nutrient-rich layers of soil - and more efficient nutrient uptake from these layers,
- » Because it increases the resistance of the plant to adverse environmental conditions at germination (drought, inland water, cold).

### > ROOTING

Occasionally, the rate of growth is even unsatisfactory, even with a higher root mass, because the root system is unable to absorb sufficient nutrients due to its rapid development. It is more common that nutrient uptake is inhibited for some environmental reason (eg drought). It is important for the nutrient uptake to have the root as early and as large as possible, since only plants with a strong root can withstand environmental stress and can subsequently produce high yields. Root cultivation requires a lot of energy and its production and transport must be accelerated. For this, it is important to create the largest possible root mass.

#### OUR PRODUCT RECOMMENDED FOR SEED DRESSING:

- » Fitohorm MagMAX  
(4-5 liters/ton of seed)



#### OUR RECOMMENDED PRODUCTS FOR ROOTING:

##### Primary effect:

- » Fitohorm Turbo Magnesium
- » Fitohorm Turbo Start

##### Secondary effect:

- » EcoActiv
- » Fitohorm Turbo Macro

## > Growth-incentive (green weight increasing)

It is extremely important to know the agrotechnical optimum of each plant, and in particular the specific nutrient requirements of the varieties / hybrids, which ensure the optimum yield and maximum yield under specific ecological conditions. Without the right amount of green mass, plants cannot be expected to produce high yields.

### OUR RECOMMENDED PRODUCT FOR INCREASING GREEN MASS:

- » FitoHorm Turbo Nitrogen
- » FitoHorm Turbo Mg



## > Stimulation of crop fixation

The basis of our yields is the sum of the bound fruits. Unfortunately, the ideal circumstance is very rare during the harvesting season, so stimulating it is of utmost importance in Hungary. There are two ways we can promote FitoHorm products at the same time:

1. Stimulate pollen production to increase pollen production. This will increase the likelihood of the stigma getting into pollen.
2. Another method is to increase the stamina's capacity to stay wet for longer, to adhere to the pollen, and to provide enough power to shoot the pollen tube.

### OUR RECOMMENDED PRODUCTS:

- » Polyboron 140
- » Polyboron Plus
- » EcoBoron





## > Maturation acceleration, quality improvement

There are several reasons for accelerating the maturation process: unfavorable environmental conditions, market, work organization or extremes (gluten, color, sugar level, etc.). Each is a strong argument for using a maturation accelerator!

### OUR RECOMMENDED PRODUCTS FOR QUALITY IMPROVEMENT AND MATURITY ACCELERATION:

- » FitoHorm Turbo Potassium



## > Our products that can be mixed with liquid UAN solutions:

The use of UAN solutions (Nitrosol, Nikrol, etc.) as head fertilizers is a very widespread method in our country in early spring. Its utilization through the foliage and its scorch-free application, in all cases, depends on the chemical form and weather conditions. Thanks to the combined effect, our micronutrient foliar fertilizers, which can be applied in one pass with various UAN solutions, are utilized and activated even faster in the plant. In our products, the active ingredients and the chelating molecule are mixed both physically and chemically without any damage. Thanks to their mixability, they allow targeted micronutrient replacement at no additional cost.

### OUR RECOMMENDED PRODUCTS FOR MIXING (1-2% ACTIVITY):

- » FitoHorm Bio Grain
- » MicroMax
- » FitoHorm Turbo Sulfur
- » FitoHorm Turbo Copper
- » FitoHorm Turbo Potassium
- » FitoHorm Turbo Start
- » EcoActiv

# DEFICIENCY SYMPTOMS

## > Nitrogen deficiency (N)

**Dwarf growth:** Due to the lack of N, the growth of the plant is inhibited and therefore unable to reach the ideal size. The inhibitory effect is exerted by longitud

N-deficiency is characterized by „**stiffness**”, which is manifested on the stem and leaves.

Nitrogen deficiency always first shows signs of **yellowing and necrosis on older leaves and plant parts** while the younger parts of the plant retain their green color for a long time. Symptoms of N-deficiency differ from other deficiency **diseases in that the reddish tones on the leaves always accompany the lighter green or yellow color of the whole plant.**

In case of N-deficiency use **FitoHorm Turbo Nitrogen** solution foliar fertilizer.



## > Phosphorus deficiency (P)

**Symptoms of P deficiency** are less characteristic than other deficiencies. In many cases, the affected plant may give the appearance of N-malnutrition or optimal nutrient supply. Anthocyanin formation associated with P deficiency may result in reddish, purple, or dark purple discoloration. In cereals, this can occur mainly on the leaf pod and stalk, in the corn itself on the leaf, while on other plants it can occur on the back or possibly on both sides of the older leaves.

Symptoms often **first appear only on older leaves.** The plant produces only tiny, mostly deformed flowers. P-deficiency reduces the quality of cereals in the bakery industry and prevents the starch fro

In case of P deficiency use **FitoHorm Turbo Macro** or **FitoHorm Turbo Start** fertilizer.



# HIÁNYTÜNETEK



## > Potassium deficiency (K)

Insufficient K supply can be recognized even before the appearance of obvious symptoms of deficiency. **K-deficient plants**, due to disturbances in the turgor regulation and stomach mechanism, **lose sleep faster** in dry, warm, sunny days than well-potassium-rich plants.

K-deficiency begins with yellowing on the older, lower leaves, beginning at the apex of the leaves, and later the **tissue between the leaves becomes dry**. In monocotyledons, K-deficiency symptoms always start at the apex of the leaves and spread most rapidly along the edges towards the leaf base.

The K-deficiency **results in reduced plant resistance to disease, drought and cold tolerance and deterioration in fruit coloring**. In case of K-deficiency use

**FitoHorm Turbo Potassium** fertilizer.



## > Magnesium deficiency (Mg)

Characteristic symptoms of **Mg deficiency**, first of all on the older leaves, stem from the destruction of chlorophyll. Deficiency symptoms can also begin on the younger leaves if the plant grows very fast and the magnesium is not transported sufficiently from the older leaves..

In grasses and cereals, due to local chlorophyll accumulation, older leaves, along the veins, exhibit a **bead-like marble appearance** while the rest of the leaf retains its green color. Keeping the letter light, this phenomenon is particularly visible. Later, pale green or yellowish green chloroses occur. The yellowing extends from the apex and the margin of the leaf to the base of the leaf.

In case of Mg deficiency use **FitoHorm Turbo Magnesium, Eco Activ** or **Fito Activ** foliar fertilizer.



# DEFICIENCY SYMPTOMS

## > Sulfur deficiency (S)

Sulfur deficiency, like **nitrogen deficiency**, appears as a **yellowish-green or markedly yellow color**, which makes it difficult in many cases to distinguish the deficiency symptoms of the two elements.

The obvious difference between sulfur and nitrogen deficiency is that **the former usually first appears on the youngest leaves**. In this case, older leaves do not die as with nitrogen deficiency. Sulfur-deficient **plants are lower than normal**, and when deficient, they grow stubbornly, as do nitrogen-deficient plants. The **leaves are smaller**, often **narrower**. In the case of a deficiency of sulfur, protein production deteriorates, along with the baking industry parameter, and the oil content of the oil plants decreases.

In case of S-deficiency use **Fitohorm Turbo Sulfur**, **Eco Activ** or **Fito Activ** foliar fertilizer.



## > Boron deficiency (B)

Boron deficiency always occurs on the youngest leaves and on the tops of the shoots and roots. **Boron deficiency manifests itself in a variety of visually detectable morphological changes, such as**

- » Chlorotic discoloration of the youngest rosette leaves;
- » Shorter flavors;
- » Terminal bud and shoot death;
- » Leaf stalk, stem paralysis and run-up;
- » Less flower and seed training combined with kicking of seed boxes;
- » Inhibited root growth with abnormal root formation abnormally;
- » Brown blotch, vitrification, dry rot, loose tissue, often with cavities in the fruit, carrot, torso, especially near the bundles and conveying tissues.

In case of B-deficiency use **Polyboron 140**, **Polyboron Plus** or **Eco Boron** foliar fertilizer.



# DEFICIENCY SYMPTOMS



## > Calcium deficiency (Ca)

Ca-deficiency is strongly correlated with the functions of calcium in the plant. Symptoms first appear on the youngest and most diffusing organs, so the growth of the plants is inhibited and their bushiness is bushy. **The youngest leaves, which are primarily affected, are usually smaller, deformed, and their tips and edges curl in a spoon.** The edge of the leaf is irregular. Starting from the edges and especially from the apex, spreading to the intervertebral fields, there is chlorotic scab and **coherent chloroses**, which produce brown, necrotic, over time patches. Occasionally, the leaf disc may also develop necrosis. It is characteristic of Ca-deficiency that the color of the vessels, even on fully necrotized leaves, is always **darker than that of the intercostal fields.**

In the case of poor Ca supply, the otherwise normally developing plant may have a sudden onset of so-called. "**Softening of the stalk**" or "**fracture of the stalk**".

## LACK OF CALCIUM CAN CAUSE MANY OTHER SYMPTOMS AS EXAMPLES:

- » Cereals often have only frivolous eyes
- » In spring intensive growth of rape , rape stems and cracks not caused mainly by the cold,
- » Common beans, locusts, mustard and alfalfa often kick their flowers,
- » With peppers "Sunburn", a dry dead crop of fruit,
- » Melons and tomatoes show" peak "and" flower peak rot ", especially at high temperatures,
- » On the lettuce there is a tan.

For Ca deficiency use **FitoHorm Turbo Calcium** foliar fertilizer, **FitoHorm 40 Ca**, **FitoHorm** or **40 Ca nitrogenfree** potassium solution.



# DEFICIENCY SYMPTOMS

## ➤ Copper deficiency (Cu)

The occurrence of copper deficiency can fluctuate significantly from year to year, depending on the weather conditions at the same site. In drier years, copper deficiency is more common in the early stages of juvenile development. **Copper deficiency is very difficult to detect with the eyes.** Symptoms usually first appear on the leaf, still on very active metabolic leaves and organs. Copper deficient plants often produce higher vegetative masses, but severe disturbances occur during the generative developmental phase. Mostly fruit trees are characterized by an increased grafting of side buds. In the case of copper deficiency, the herbaceous species may exhibit sustained wilting, the formation of "flaccid" tactile leaves, leaf blemishes, or leaf deflection.

In case of Cu deficiency use **EcoCopper**, or **FitoHorm Turbo Copper Fertilizer**.



## ➤ Iron deficiency (Fe)

**Iron deficiency** is still the most difficult remedy for deficiency disease, which can cause significant damage and loss of yield to certain crops and certain soils. At a slight deficiency, **the youngest leaves of the plant lighten to yellowish-green.** As the deficiency increases, the interstitial fields become yellow to orange or orange. The discoloration is manifested on the youngest leaves, in the form of a chlorotic stripe covering the entire leaf. The younger the leaf, the more intense the symptoms of specific chlorosis appear. **In the case of a very severe deficiency, the youngest leaf emerging is yellowish-white or almost white,** or only green at the base of the leaf, contrasting sharply with the other leaves.

In case of Fe deficiency use iron solution **FitoHorm 55 Fe** or **FITO-FERR T-3**.



# DEFICIENCY SYMPTOMS



## > Manganese deficiency (Mn)

Chlorophyll is degraded in manganese deficient cells. As a result, the cells lose their green color and small, yellowish-green, tiny, punctate necrosis first develops in the smaller blood vessels, initially confined to areas farther from the blood vessels and exhibiting light spots in the incident light. The spots will turn yellowish white.



In the case of persistent deficiency, the flesh of the leaves also becomes chlorotic, leaving only a narrow green border around the vein at the base of the leaf. Symptoms of manganese deficiency are most often found on leaves of younger or middle age, and are most pronounced on leaves closer to the base. At high levels of growth inhibition due to manganese deficiency, **reduced flower and fruit production, weak leaf and root growth** can also be observed.

For Mn deficiency use **FitoHorm 54 Mn Manganese** Solution or **FitoHorm Turbo Manganese** Fertilizer.



## > Zinc deficiency (Zn)

**Zinc deficiency** develops in plants in different ways, which can be:

- » Small leaf
- » Rosette
- » Chlorotic congestion due to patchy chlorosis in the interveinal fields, which gives the leaves a mosaic appearance.



Since zinc plays an important role in auxin metabolism, the deficiency symptoms are also due to auxin deficiency. Thus, the leafy foliage, coupled with smaller or larger leaf deformation, and the growth inhibition coupled with rosette formation due to shorter flaves, are considered to be typical symptoms of zinc deficiency. In maize, in the case of a deficiency of zinc, the development of fertilization disorders is very noticeable, which is often accompanied by the formation of small deformed grains.

For Zn deficiency, use **FitoHorm Turbo Zinc** Fertilizer.

## NUTRIENT INTERACTION

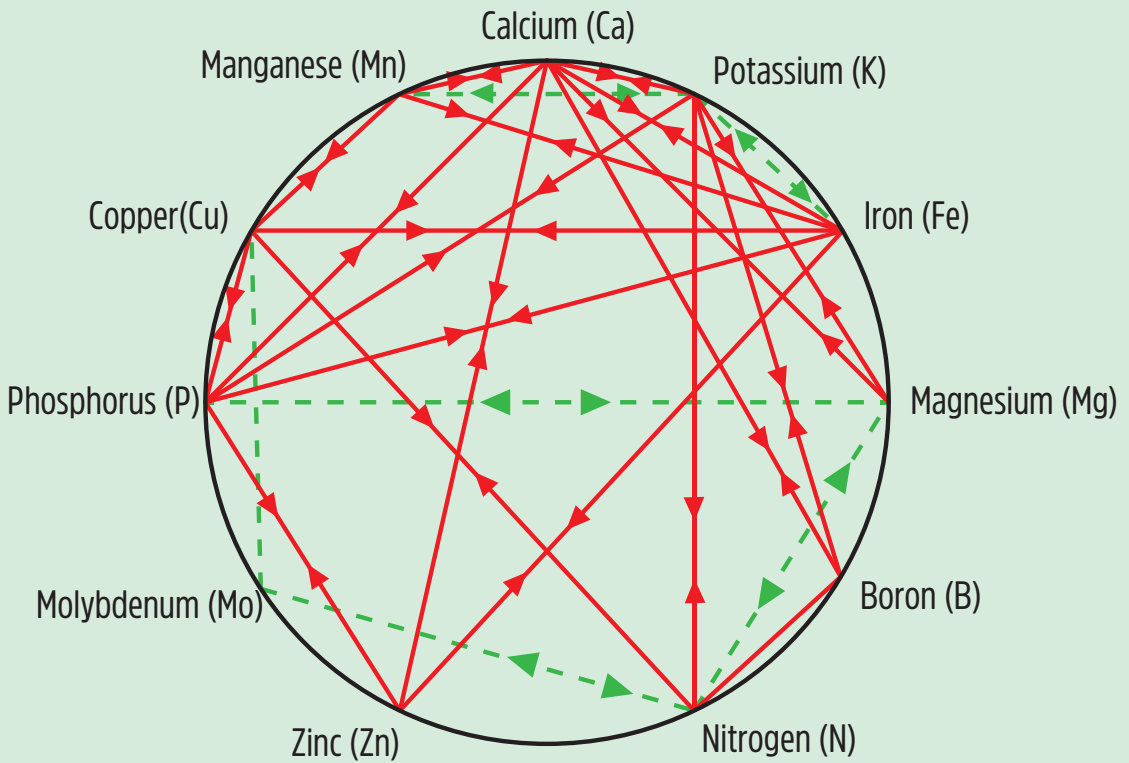
Synergistic (helping each other's effects) and antagonistic (inhibiting each other's effects) processes refer to how the simultaneous presence of individual metals helps or impairs each other's physiological effects. These are chemical relationships where one element binds the usual binding site of the other element and thus prevents it from taking effect in the biochemical process, or protects the given element from a physiologically inhibiting substance

### Antagonist

The excess of one element inhibits the uptake of another element.

### Synergistic

A positive interaction where one element helps the uptake of another element.

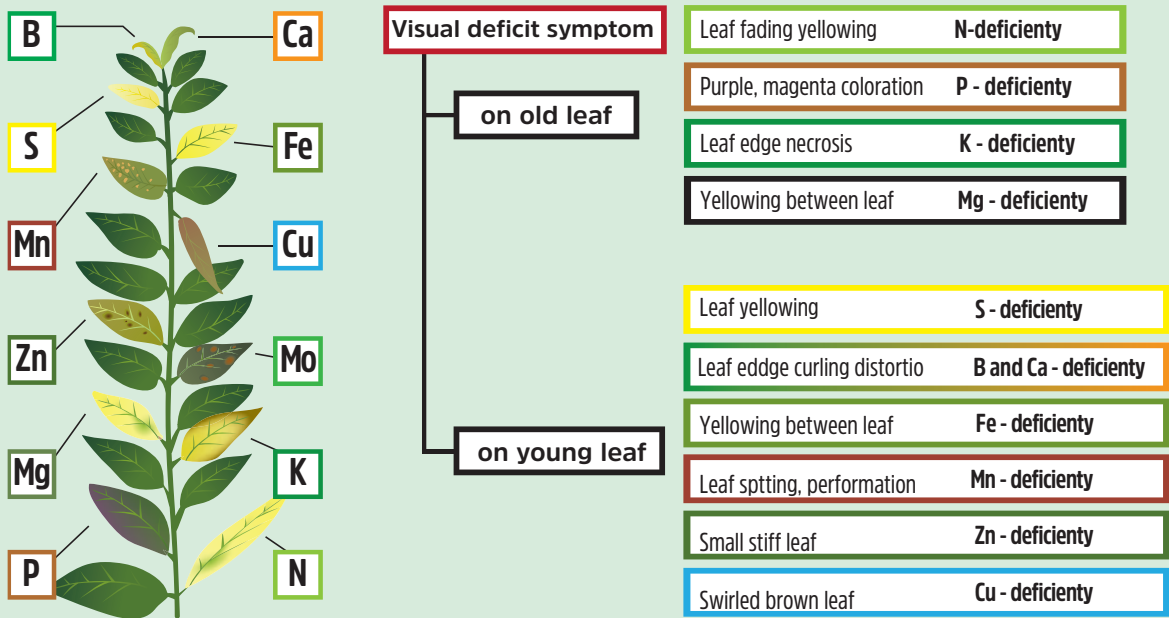


# RECOGNIZING DEFICIENCY SYMPTOMS

It often happens that the plants we produce take on an abnormal color or shape (e.g. the leaves become deformed, stained, or develop improperly).

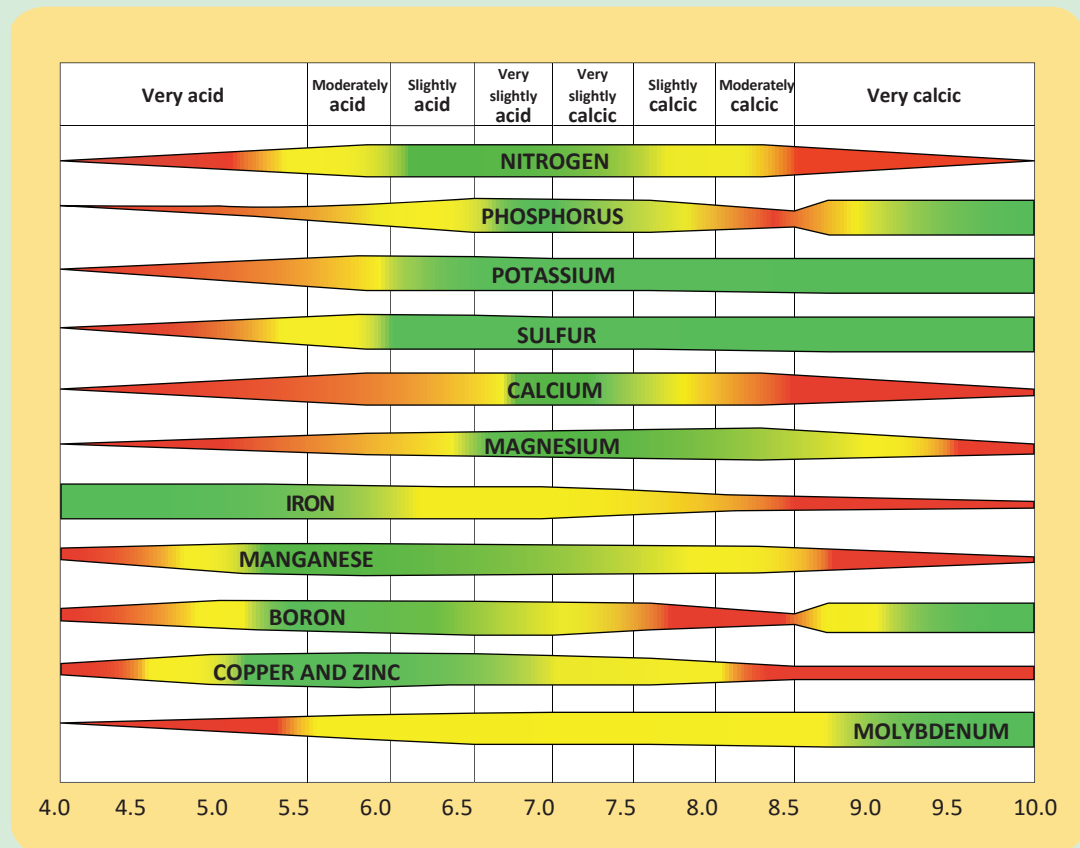
At first, we always think the worst, that some kind of disease or pest is causing the change, but often the plant has nutrient absorption problems.

Plants absorb macronutrients and secondary nutrients in quantities thousands of times greater than micronutrients per day, but despite the small amounts, micronutrients play an essential role in life processes. For the healthy development of the plant, we must monitor the development of nutrient levels and replace them in case of deficiency. The figure below helps us in this, visualizing the symptoms and locations of each nutrient deficiency through the foliage of a plant.



## NUTRITIONAL CAPACITY ON THE SOIL PH FUNCTION

The diagram shows that as the pH increases, the uptake of many trace elements in the soil is greatly reduced. This is especially true for iron and manganese. From the diagram you can see which nutrients are blocked by the host, so effective replenishment of these nutrients by foliar fertilization is essential.



## HOW EFFECTS SOIL PH ON NUTRIENT CONSUMPTION (PH FACTOR)

The pH of the growing medium is very important and is also the most misunderstood factor. The plant carries the elements in the water, so their water solubility is essential for immediate utilization. This is a function of pH.

The best pH for any medium is in the range of 5.4 to 6.0 Nutrient utilization is a function of pH. The width of the strips indicates the degree of utilization.



# INHIBITORS

Nitrogen inhibitors are chemical compounds that reduce the loss of nitrogen applied to plants. By extending the active time, the nitrogen component of the fertilizer remains in the soil (either urea-N or ammonium-N), thus the inhibitor improves nitrogen use efficiency (NUE) and reduces environmental emissions.

There are two main types of nitrogen inhibitors:

1. Urease inhibitors (UI), which inhibit the hydrolytic action of the urease enzyme on urea.
2. Nitrification inhibitors (NI), which inhibit the biological oxidation of ammonium to nitrate.

## > Urease inhibitors (UI)

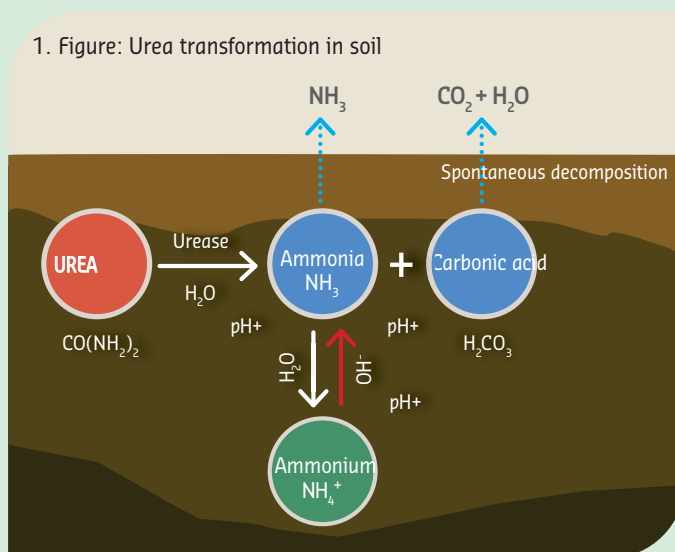
Urea fertilizer is difficult for plants to absorb. Before it can be used as a nitrogen source, it must first be converted into ammonium ( $\text{NH}_4^+$ ) and nitrate ( $\text{NO}_3^-$ ).

Urea is unstable in aqueous media due to the presence of the urease enzyme, so the conversion process usually starts immediately, but not directly to ammonium. Urea is first converted to ammonia and carbonic acid, which spontaneously decompose further. (Figure 1)

The ammonium conversion rate and ammonia loss depend on several factors:

- » the most important thing is soil temperature and moisture,
- » the amount of plant residues on the soil surface,
- » the cation exchange capacity of the soil and the pH value of the soil.

High ammonia losses tend to occur in light soils and tillage zones. Although ammonia losses of up to 80% have been recorded in laboratory studies, an average of 24% (20% ammonia-N) ammonia loss through volatilization is assumed (EEA, 2013).

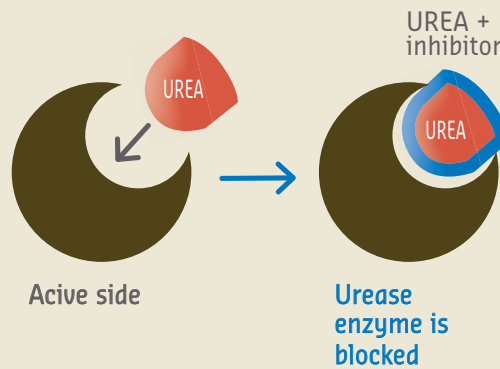


### Reduction of ammonia loss

One way to reduce ammonia loss is to treat urea-based fertilizers with urease inhibitors. This effectively delays their conversion to ammonia and carbamic acid by blocking the action of the urease enzyme for approximately two weeks (Figure 2).

Using the technology, ammonia losses can be reduced by an average of 70%.

2. Figure: OPERATION OF UREA INHIBITORS

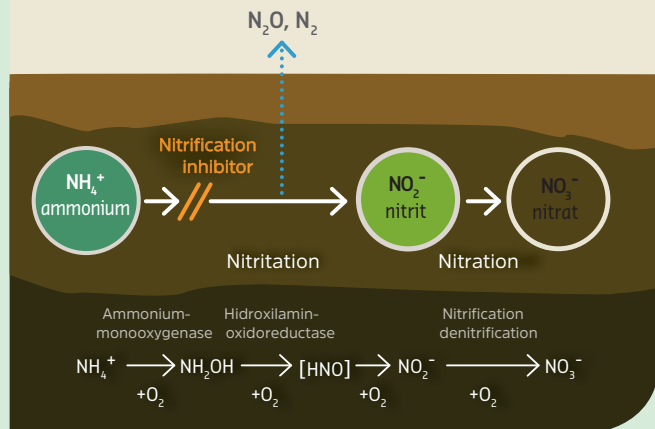


### > Nitrification inhibitors (NI)

Depending on the temperature, ammonium and ammonium nitrate fertilizers in urea are rapidly converted to nitrate by nitrification. The use of fertilizers that inhibit nitrification significantly reduces the risk of nitrate leaching.

The nitrification inhibitor delays the conversion of ammonium nitrogen in the soil to nitrate by temporarily suppressing the effect of *Nitrosomonas* ssp. the enzyme ammonium monooxygenase of soil bacteria, which is responsible for the first step of the nitrification process (conversion of ammonium to nitrite) (Figure 3).

3. Figure: NITRIFICATION OF SOIL AND FUNCTIONING OF NITRIFICATION OF INHIBITORS



The length of the nitrification time depends mainly on the ambient temperature. At low soil temperatures the period is quite long, while at higher temperatures it is relatively short.

In addition to nitrate, ammonium can also be a direct source of nitrogen for plants. However, unlike nitrate, it is poorly translocated into the rhizosphere, which prevents its rapid uptake. Nitrification inhibitors support the partial ammonium feeding of the plant.

# FitoHorm®

..PLANT NATURALLY DESERVES IT

## RECOMMENDED BY THE FITOHORM TEAM



### UREAFIN

Dosage for 100 l Nitrosol: 1 dl

- ✓ CAN BE APPLIED TOGETHER WITH NITROSOL
- ✓ PLANT NITROGEN USE INCREASES BY 10-15%
- ✓ FAVORABLE COST PER HECTARE

**CONTACT OUR CONSULTANTS FOR FREE, PERSONALISED ADVICE !**

[www.fitohorm.hu](http://www.fitohorm.hu)

Tel.: +36 30 708 1461

## EFFECTS OF FULVO AND AMINO ACIDS ON PLANTS

Fulvic and amino acids can be absorbed by the plant through both the roots and the leaves, and with their help, various stress effects, such as frost, drought, heat stress, water pressure, wind or phytotoxicity, can be tolerated more easily.

Humic acids are a combination of humic acid, hematomelanic acid, and fulvic acid. Humic acids effectively strengthen the immune system, can be used to treat various viral infections, and can be used for general recovery after a serious illness.

- » Potassium humate (better known as humic acid) is characterized by its large size and mass of molecules. Their area of application is mainly the soil and the root zone of plants. They provide excellent and longlasting nutrition for soil-dwelling microorganisms, thereby enhancing their activity and reproduction.
- » In contrast, fulvic acids are small and low molecular weight compounds. However, when applied to plant leaves, they are absorbed quickly and completely due to their size and natural nature. They penetrate the plant cell wall and even the membranes of cell components.

### ➤ The positive effect of fulvic acid on plant life processes

- » Improves the absorption of nutrients. As a natural chelator, it helps enter metal ions into plant cells.
- » Enhances the metabolism of plant cells (improves oxygen uptake, resistance to wilting).
- » The plant's immune system is strengthened, thus its resistance.
- » It binds heavy metals, active ingredients of pesticides, and helps to break down pollutants.
- » It restores the natural chemical balance of the living cell, activating its life processes.
- » It plays an important role in the production of protein components (amino acids) and growth, thus in the development of crop quantity and quality.
- » In the presence of fulvic acids, RNA and DNA (protein) synthesis becomes more intense, the DNA content of cells increases, which has a positive effect on disease resistance.i

**Amino acids play many roles in plants, including acting as signaling molecules, regulating root and shoot structure, and regulating flowering time and stress defense. In most plants, nitrogen is transported primarily in the form of amino acids.**

Thanks to its exceptionally high fulvic acid content and the essential amino acids (L-glutamine, L-arginine and L-methionine) contained in it, our FulvoMax preparation positively influences numerous plant physiological processes:

- » Together with inorganic nitrogen, they stimulate root growth, inducing finer roots, increasing the number of root tips and stimulating the development of mycorrhiza.
- » Increases the activity of antioxidant enzymes, thereby reducing the growth of bacteria in the plant body.
- » Increases the stress tolerance of plants during drought periods.
- » It plays an important role in photosynthesis and chlorophyll formation.

Dosage: 2-3 liters/ha



# FITOHORM MAGMAX

## MICRO - ELEMENT COMPOSITION FOR COATING

A good start is important in all areas of life, and this is exponentially true for the early stages of our cultivated cultures. If you think about it, all the negative effects that lurk on a young plant can be greatly reduced if germination, rising and the subsequent juvenile life stage take place quickly, explosively, in proper condition. Homogeneous, vitally emerging vegetation fights weed competition more effectively, grows out of the "mouth" of pests sooner, and, thanks to its strong roots, provides a basis for further development that can be the key to survival in a later stressful period.



FitoHorm's product range has so far not included a microelement formulation specifically intended for dressing, however, our seed treatment experiments with microelements in recent years have drawn attention to the benefits and necessity of this type of formulation.

The following microelements in the product help the initial / germination of the plant:

### > Zinc (Zn)

- » both specific and non-specific activators of enzymes
- » **multiplies the elongation of the primary root hairs**
- » an activator of the synthesis of auxin as a growth hormone in association with manganese.

### > Manganese (Mn)

- » enzyme (Peptidase, Prolidase Glutamyl transferase, Enolase,) affects cellular respiration, i.e. ensuring the smooth flow of carbohydrates,
- » **linked to zinc affects the formation of auxin, it helps the elongation of both root formulas and shoot initiation formulas to be faster.**

### > Boron (B)

- » "switching element" of carbohydrate metabolism processes
- » carbohydrate "mobilizer" element
- » **it regulates the water uptake of the germinating seed, i.e. it affects the swelling processes of the seed in the first days.**

### > Molybdenum (Mo)

- » Catalytic nutrient in almost all enzymatic processes bound to metal components,
- » helps to absorb and incorporate boron,
- » **regulates initial nitrogen uptake.**

Another outstanding advantage of MagMAX is that it can be mixed well with other dressings, increasing their adhesion, efficiency and coloring effect.



MATE Kaposvár Campus  
experimental results

*FitoHorm*





# FITOSERVICE

## THE LEAF ANALYSIS!

In the '80s, the spread of FitoHorm mono foliar fertilizers was helped by nutrition consultancy. One of the pillars of this system was leaf analysis. Following the change of regime, the structure of farmers was completely transformed, so the nutrient supply through the foliage was also neglected. It took many years for farmers to re-learn how to target macronutrients and micronutrients. And over the past decade, the optimal application of different types of fertilizers has been learned. The correct use of basic, starter and head fertilizers has been replaced.

### OPINIONS ABOUT THE FOLIAGE MICROELEMENT REPLACEMENT

- » They do not believe in the efficiency of foliar fertilizers.
- » Generalize all kinds of liquid preparations for use in leaves.

#### Solution:

- ✓ The different formulations and their effectiveness (bacterial fertilizers, biostimulants, plant conditioners, foliar fertilizers, etc.) must be handled and known.
- ✓ The correct application of foliar fertilizers must be learned.

### FITOSERVICE – THE RENEWABLE LEAF ANALYSIS!

A system that includes leaf analysis, consulting and a complete offer. A suite of services based on leaf analysis, where, after personalized research, our consultants use a program to provide a nutrient supply offer through the leaf.

#### BENEFITS

- ✓ Comprehensive service in the field, plantations and horticulture
- ✓ More than 50 types of cultivated plants nutrient testing is provided
- ✓ National coverage.
- ✓ Our consultants are professionals.
- ✓ Complete, controlled content complex foliar fertilizer supply.
- ✓ Study accepted in AKG program.



Test data from consecutive years provide an important basis for comparison and significantly increase the reliability of leaf analysis.

Hundreds of plant studies carried out in recent years have in many cases yielded surprising results. Although leaf analysis can be considered as a snapshot of the complex development process of plants, evaluating the results of samples together with soil test results and nutrient supply and agrotechnical interventions already made, very valuable relationships have been found, which are the correct conclusions. After deduction, they have contributed significantly to improving either the qualitative or the quantitative parameters of a given culture. Leaf analysis can thus be useful not only in plants showing symptoms of deficiency, but in fact wherever we want to grow healthier, more resistant plants, or produce higher yields and better quality crops.

FITOSERVICE offers accredited examination of the most important macro and micro elements of leaf samples: N, P, K, Ca, Mg, Cu, Zn, Mn, Fe, S and B

The value of leaf analysis data is highly dependent on correct sampling, method and time of sampling. Consult our consultants for the most accurate information.



# FitoHorm®

...PLANT NATURALLY DESERVES IT.

## Biostimulants



### FulvoMax

Fulvic acids +  
Amino acids  
**2-3 liter/ha**

**AÖP  
+ 1p**

### Herbál

Herbal extract +  
Vermicompost  
**5-10 liter/ha**

**AÖP  
+ 1p**



**BOTH OF OUR BIOSTIMULANTS ARE WORTH 1 POINT IN THE AGROECOLOGICAL PROGRAM!**

**CONTACT OUR CONSULTANTS FOR FREE, PERSONALISED ADVICE !**

[www.fitohorm.hu](http://www.fitohorm.hu)

Tel.: +36 30 708 1461

# FIELD





# FOR ARABLE LAND CULTURES

## COMPOSITION OF PRODUCTS

Multi-active solution fertilizers (w / v%)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Field dose
		%	%	%	%	%	%	%	%	%	%	%	%	l/ha
1	FitoHorm Grain	18	-	-	-	5	-	-	0,25	1,5	0,25	-	0,002	4-5
2	FitoHorm Bio Grain	-	-	-	-	-	-	0,5	1	1,8	0,3	0,3	0,03	4-5
3	FitoHorm Corn Plus	19	-	-	-	6	-	0,15	0,06	0,006	1,9	0,013	0,003	4-5
4	FitoHorm Oil plant	18	-	-	-	6	-	-	-	-	-	4	0,04	4-5
5	FitoHorm Grapes-Fruit	-	-	-	2	5	-	2	-	-	-	0,5	-	4-5
6	FitoHorm Vegetable	18	-	-	5	13,5	-	-	0,2	-	-	0,2	0,004	4-5
7	MACROSOL	8	4	5	-	-	-	-	-	-	-	-	-	4-5
8	MicroMax	-	-	-	-	-	-	3	1,32	0,15	0,23	0,26	0,07	2-3
9	FitoHorm Soy	-	-	-	-	-	-	0,4	0,5	0,5	1,5	0,5	0,3	2-3
10	FitoActiv	-	-	-	6,6	10,6	-	-	-	-	-	-	-	3-5
Solution fertilizers with high active ingredient content (w / v%)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Field dose
		%	%	%	%	%	%	%	%	%	%	%	%	l/ha
1	Polyboron140	-	-	-	-	-	-	-	-	-	-	14	-	2-3
2	Polyboron Plus	-	-	-	-	-	-	-	-	0,15	-	12,5	0,03	2-3
3	FitoHorm Turbo Nitrogen	30	-	-	3	6,5	-	-	-	0,01	-	-	-	10-15
4	FitoHorm Turbo Sulfur	20	-	-	-	60	-	-	-	-	-	-	-	2-3
5	FitoHorm Turbo Potassium	4	-	36	-	57	-	-	-	-	-	-	-	2-3
6	FitoHorm Turbo Calcium	12	-	8	2,7	-	13,5	-	-	-	-	-	-	3-5
7	FitoHorm Turbo Copper	20	-	-	-	11,5	-	-	-	8	-	-	-	2-3
8	FitoHorm Turbo Zinc	-	-	-	-	-	-	-	-	-	10	-	-	2-3
9	FitoHorm Turbo Manganese	-	-	-	-	-	-	-	8	-	-	-	0,5	2-4
10	FitoHorm Turbo Molibden	-	-	-	-	-	-	-	-	-	-	1	1	1-2
Eco products (w / v%)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Field dose
		%	%	%	%	%	%	%	%	%	%	%	%	l/ha
1	EcoBoron	18	-	-	-	-	-	-	-	-	0,25	6	0,005	2-3
2	EcoActiv	-	-	-	3	6,5	-	0,2	0,4	0,72	0,12	0,12	0,012	3-5
3	EcoCopper	12	-	-	-	5	-	-	-	4	-	-	0,05	2-3



## COMPOSITION OF PRODUCTS

Starter solution fertilizers (w / v%)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Field dose
		%	%	%	%	%	%	%	%	%	%	%	%	I/ha
1	FitoHorm Turbo Magnesium	4	35	-	10	-	-	-	-	-	-	-	-	2-3
2	FitoHorm Turbo Start	11	23	-	-	-	-	0,025	-	0,003	0,3	0,017	0,0014	3-4
3	FitoHorm Turbo Makro	10	10	10	-	-	-	-	-	-	-	-	-	4-5

Mono-element solution fertilizers (w / v%)		Composition(%)				Field dose
						I/ha
1	FitoHorm 10 B	Boron solution		B	2,5	3-4
2	FitoHorm 14 N	Nitrogen solution		N	32	5-10
3	FitoHorm 24 Mg	Magnesium solution		MgO	6,6	+ SO <sub>3</sub> 10,6%
4	FitoHorm 30 P	Phosphorus solution		P <sub>2</sub> O <sub>5</sub>	18	+ N 7%
5	FitoHorm 39 K	Potassium solution		K <sub>2</sub> O	9	+ P <sub>2</sub> O <sub>5</sub> 6% + N 3%
6	FitoHorm 40 Ca	Calcium solution		CaO	21	+ N 12%
7	FitoHorm 40 Ca (nitrogen free)	Calcium solution		CaO	17	
8	FitoHorm 54 Mn	Manganese solution		Mn	4	3-5
9	FitoHorm 55 Fe	Iron solution		Fe	4	3-5
10	FitoHorm 63 Cu	Copper solution		Cu	4	4
11	FitoHorm 65 Zn	Zinc solution		Zn	4	3-6
12	FitoHorm T-3 for soil management	Iron solution		Fe	3	50-100 ml/vine

Plant conditioners	N	Fulvosav	Aminosav	MgO	SO <sub>3</sub>	Fe	Mn	Cu	Zn	B	Mo	Field dose	
	%	%	%	%	%	%	%	%	%	%	%	I/ha	
1	FulvoMax	-	18	5	-	-	1,5	0,66	0,075	0,115	0,13	0,035	2-3
2	HERBAL	Multi-phase, biologically high organic matter.										5-10	

Seed fertilizer (m/v %)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Seed dose
		%	%	%	%	%	%	%	%	%	%	%	%	I/t
1	FitoHorm MagMAX	-	-	-	-	-	-	-	1,3	-	2,5	0,2	0,1	3-5

Inhibitors		Composition	Field dose For 100 l Nitrosol
2	Ureafin	Soil improver containing a urease inhibitor substance: NBPT	1 dl



## MALTING BARLEY

In recent years, malting barley has been appearing in the crop rotations of Hungarian farmers at an increasing rate, with both autumn and spring varieties becoming increasingly popular. The technology of fodder barley and malting barley differs primarily in the area of nutrient supply. While the explicit goal of the former is good specific gravity and protein content, when growing malting barley, we must strive to minimize the protein content. In order to achieve this goal, the rational use of foliar fertilizers may be of particular importance, with which we can more quickly and very effectively correct the crop balance that is disrupted for various reasons during the growing season.

After either autumn or spring sowing, it is extremely important to support the soon-to-be-emerging stem and bush formation of the sprouted crop. One of the key issues in surviving the period of lack of precipitation that often occurs in the early spring months is whether the stand sufficiently covers and shades the soil surface, thereby reducing the possibility of water loss. To support bushiness and further root formation, we recommend applying our TurboS-tart product, which contains high levels of phosphorus, zinc and other microelements, at a dose of 3L/ha (even together with UAN solution top dressing).

Malting barley – as a food industrial raw material – also requires greater attention from a plant health perspective, the basis of which is a good condition continuously controlled during the growing season. In recent years, our experiments carried out jointly with KÖRÖS-MAROS BIOFARM have proven that the combined use of our plant conditioning product, marketed under the name HERBÁL (5l/ha), and our Turbo Manganese (3l/ha) solution improved the resistance and yield of the plants without increasing the protein content of the grain. In malting barley, nitrogen fertilization and its timing are of paramount importance. Compared to the farm practice used in the cultivation of our other cereal crops, we recommend applying half of the nitrogen top dressing, and a third on soils with good humus content. This naturally requires continuous balancing, since malting barley also “loves” nitrogen, and its deficiency can backfire here as well. Nitrogen deficiency, which is clearly visible even by visual inspection during the growing season, can be treated excellently with a high-nitrogen foliar fertilizer, without the risk of increasing the protein content! In our offer, Turbo Nitrogen (6L/ha) is the solution for this, which we recommend supplementing with Turbo Potassium (2L/ha) in order to improve other content parameters. This product combination is available at our dealers under the name Gluten package with a significant price advantage!

APPLICATION		
I. IN AUTUMN	II. AT THE END OF BUSHINESS, WHEN THE STEM STARTS TO FORM IN SPRING	III. AT EARING / BEGINNING FLOWERING
<b>Purpose</b>		
1. Inducing the formation of a large number of bushiness nodules.	1. Completion of bushiness and increase in the number of fibers.	1. Completing the bond.
	2. The smooth start to the stem and helping stem growth.	2. Improving quality.
	3. To promote strong ear lifting and pushing.	3. Reducing the stress of drought damage.
<b>Recommended foliar fertilizer:</b>		
<b>FitoHorm Turbo Start</b> 2-3 liters / ha	<b>FitoHorm Bio Grain</b> 5 liters / ha	<b>FitoHorm Gluten package</b> 10 ha / package*

\*Note: 1 Gluten package contains: 20 liters of FitoHorm Turbo Potassium + 60 liters of FitoHorm Turbo Nitrogen product.

FURTHER USAGE POSSIBILITIES		
PRODUCT	DOSAGE PER HECTARS	PURPOSE OF APPLICATION
HERBAL	5 liters	
FitoHorm Turbo Manganese	3 liters	Barley and oats are particularly sensitive to manganese supply. Inadequate manganese content can lead to reduced yields.
FitoHorm Turbo Nitrogen	8-10 liters	During stem growth, nitrogen absorption is ensured by the urea form, and the other components in it help provide a gradual and even supply of nutrients over several weeks.
MikroMax	2-3 liters	

# DURUM WHEAT



Durum wheat cultivation is on the rise in Hungary due to the significant changes in the crop market in recent years, but we are struggling with a slight lag in terms of cultivation experience. The use of foliar fertilizers in durum technology is of greater importance worldwide compared to traditional wheat technology, as both the sensitivity of the plant and the desired quality require fine-tuning of the technology.

Durum producers with decades of experience complement their basic and top dressing practices with plant protection treatments in the following way:

To support initial development, 2l/ha of Turbo Start is recommended in the autumn or early spring, which we recommend supplementing with Turbo Copper at a dose of 2L/ha.

**To replenish the general other microelement needs of durum wheat, it is recommended to use 5L/ha of Grain or Bio Grain, which is typically applied in one pass with the first fungicide treatment.**

**The development of quality - especially glassiness - in the phenological phase before ripening is achieved by using the most effective foliar fertilizers. Therefore, it is essential to supplement nitrogen, potassium, magnesium and sulfur in one pass with the final, ear protection intervention, which elements are included in the largest quantities in our Gluten technology package by packaging Turbo Nitrogen and Turbo Potassium products. (6+2L/ha)**

APPLICATION		
1. IN AUTUMN	II. AT THE END OF BUSHINESS, WHEN THE STEM STARTS TO FORM IN SPRING	III. AT EARING / BEGINNING FLOWERING
<b>Purpose:</b>		
1. Inducing the formation of a large number of bushiness nodes.	1.Completion of bushiness and increase in fiber number.	1.Completing the bond.
	2. Assisting in smooth stem initiation and stem growth.	2.Improving quality.
	3.To promote strong ear lifting and pushing.	3.Reducing the stress of drought damage.
<b>Recommended foliar fertilizer:</b>		
<b>FitoHorm Turbo Start</b> 2-3 liters / ha	<b>FitoHorm Grain or Bio Grain</b> 4-5 liters / ha	<b>FitoHorm Gluten Package</b> 10 ha / package*

\*Note: 1 Gluten package contains: 20 liters of FitoHorm Turbo Potassium + 60 liters of FitoHorm Turbo Nitrogen product.

FURTHER USAGE POSSIBILITIES		
Product	Dosage per hectare	Purpose of application
FitoHorm Turbo Copper	2-3 liters	It improves the drought tolerance of cereals and can be applied together with UAN solutions.
MikroMax	2-3 liters	We recommend using it mainly on sandy soils, as these generally have a low micronutrient content.
FitoHorm Turbo Manganese	2-6 liters	Besides Potassium, Manganese reduces drought stress to the greatest extent.
FitoHorm Turbo Nitrogen	8-10 liter	During stem growth, nitrogen absorption is ensured by the urea form, while the other components in it help provide a gradual and even supply of nutrients over several weeks.



## SOY

Recent economic and climatic changes have prompted us to rethink our crop production “habits”, and one of the old and new players in this is soybean. As an oilseed crop, soybean offers many opportunities to encourage higher yields through its nutrient supply, but this element of its cultivation is highly controversial, it is a plant with high nutrient requirements, but compared to our other spring-sown crops, it is perhaps more modest in terms of inputs. It is a very responsive and grateful plant when fed through the leaves at the right time, with the right nutrients. Our Turbo Start product, recommended to support its post-emergence development, responds well to high phosphorus content from its initial development to the end of maturation, especially until the leaf closure period. Similar to sunflower, it requires potassium supplementation through the leaves, especially in the period after leaf closure.

Among the micronutrients, sulfur is definitely worth paying attention to during pod setting and grain saturation. Sulfur can be supplemented together with potassium with our Turbo Potassium product at a dose of 3 l/ha.

In terms of microelements, the first thing we have to do is boron. It is continuously required until flowering and, influencing numerous physiological processes, can be applied several times in smaller doses to ensure continuous access to boron for soybeans. We recommend Polyboron Plus at a dose of 3 l / ha.

Molybdenum is the next thing we need to talk about, its importance in soybeans is so important in nodule formation and nitrogen metabolism. Our recommended product is Turbo Molybdenum at a dose of 2 l / ha.

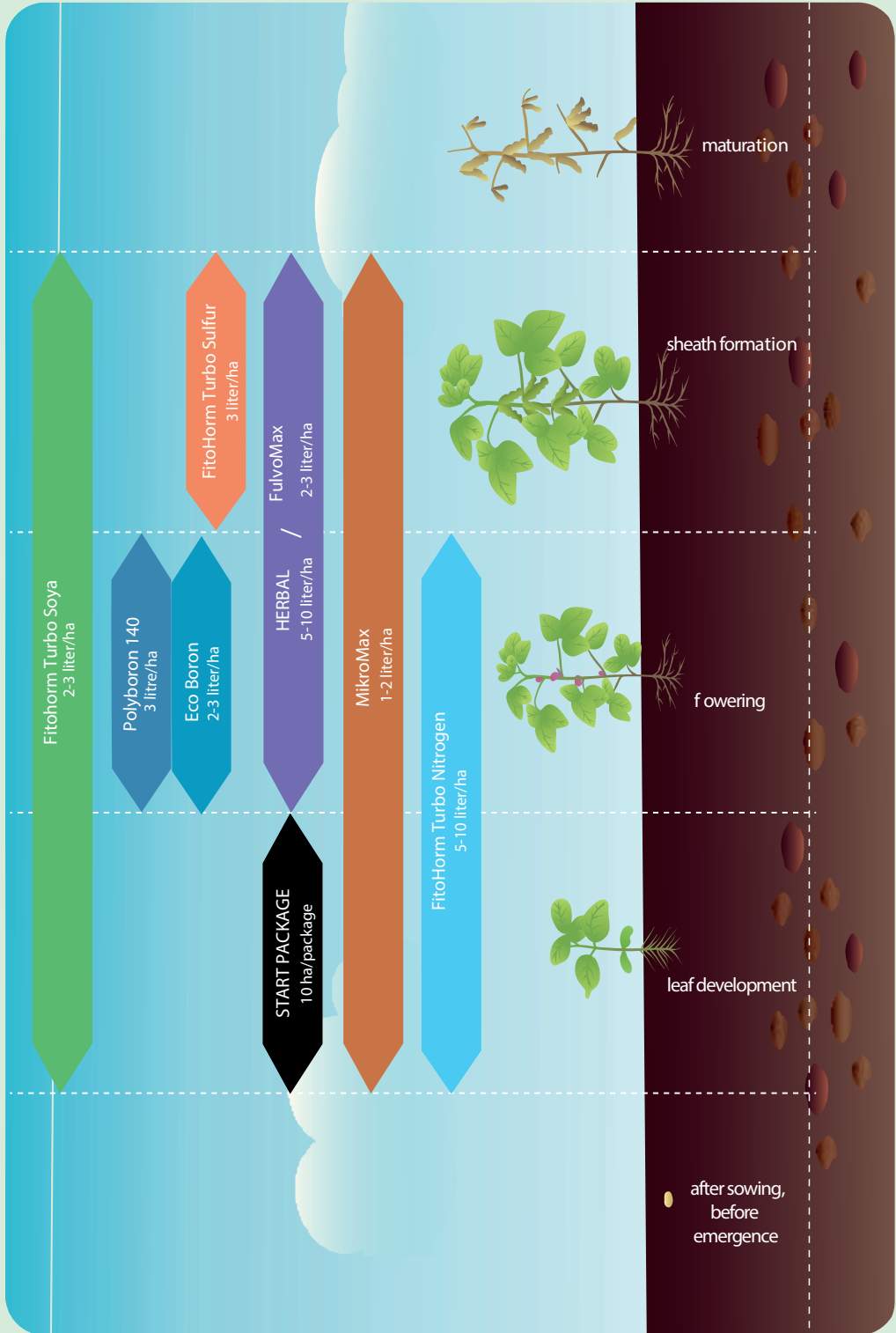
Application		
From the 4-leaf stage to flowering 1-3 times	In blooming 1-2 times	1-2 times during the seed growth period
<b>Purpose:</b>		
1. Helping root nodules develop	1. To promote fertilization.	1. Improve nutrient and water uptake from the soil.
2. Ensuring dynamic development	2. To help the flow and incorporation of assimilates into the plant	2. Prevent the development of micronutrient deficiencies due to stress.
		3. Ensure the incorporation of large amounts of protein and oil.
<b>Recommended foliar fertilizer:</b>		
<b>Fitoform Start package</b> 10 ha/package*	<b>Polyboron Plus</b> 2-3 liters / ha	<b>Fitoform Turbo Potassium</b> 2-3 liters / ha

\*Note: 1 Fitoform Start package contains: 20 liters of FitoHorm Turbo Start + 20 liters of FitoHorm FulvoMax product

FURTHER USAGE POSSIBILITIES		
Product	Dosage per hectare	Purpose of application
Fitoform Soy	4-5 liters / ha	It provides sufficient nutrients for the development of a strong shoot system.
Fitoform Turbo Sulfur	2-3 liters	It increases the dry matter content of plants and reduces drought damage.

# SOYA, BEANS, PEAS

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

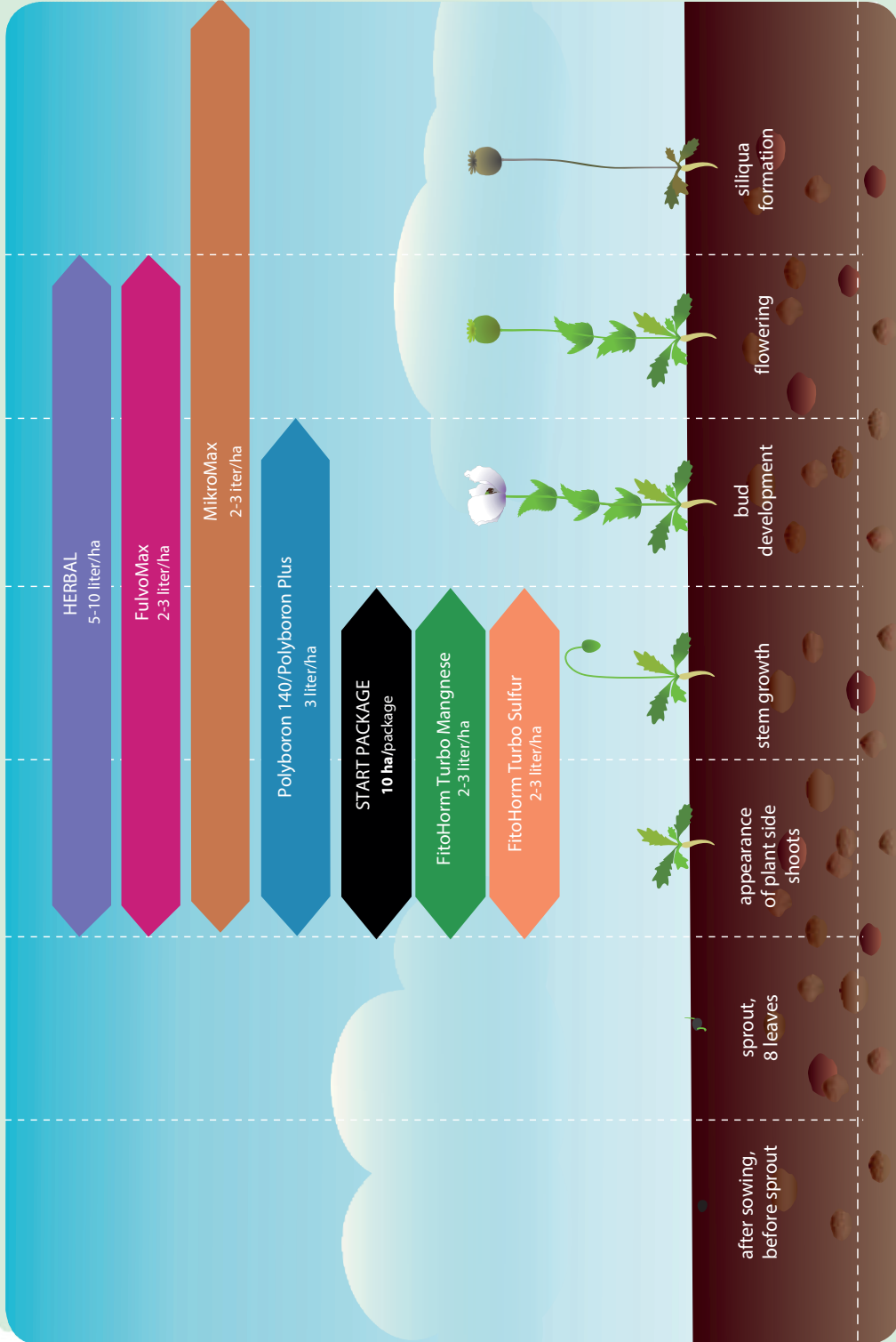






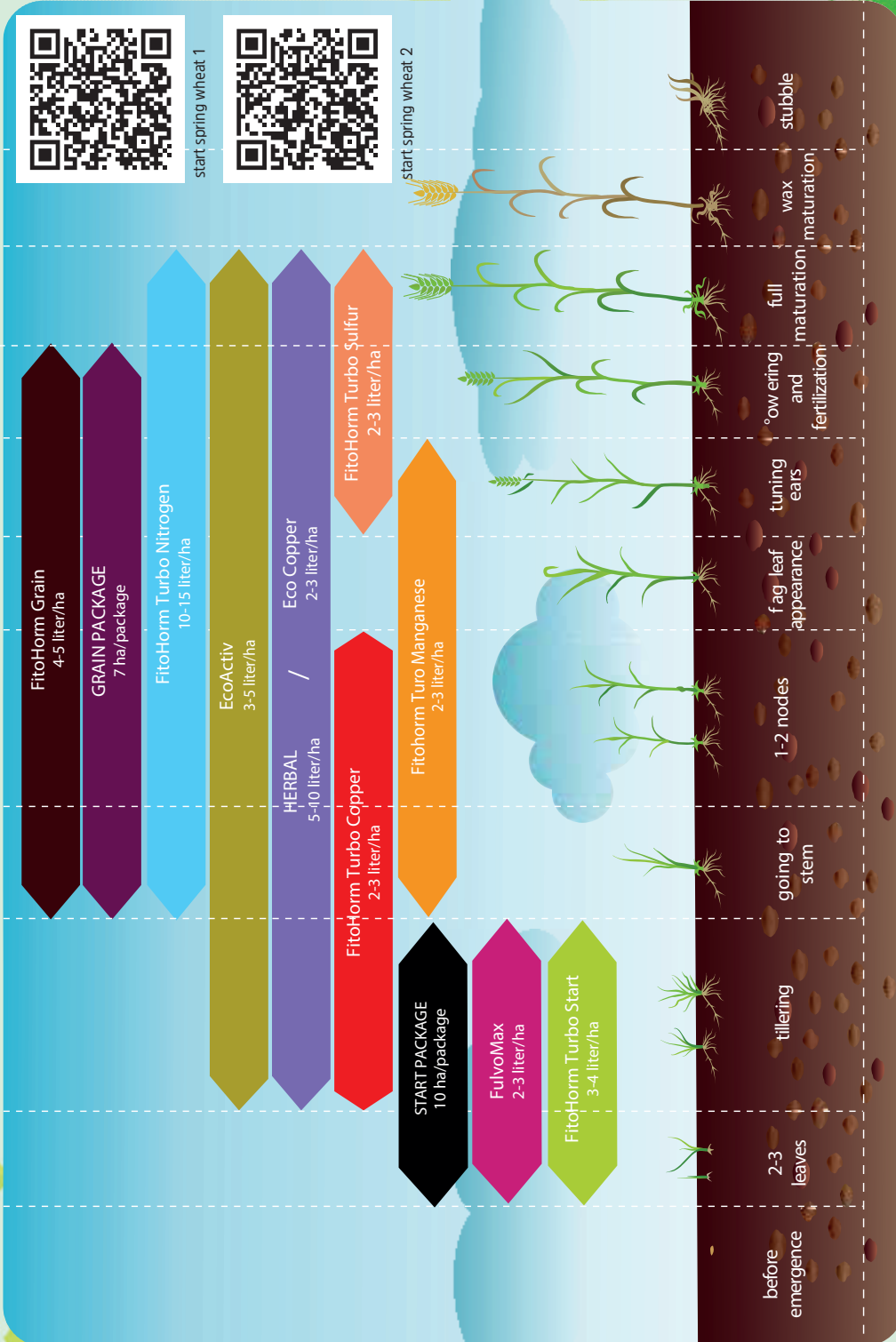
# POPPY

FIELD



*Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!*

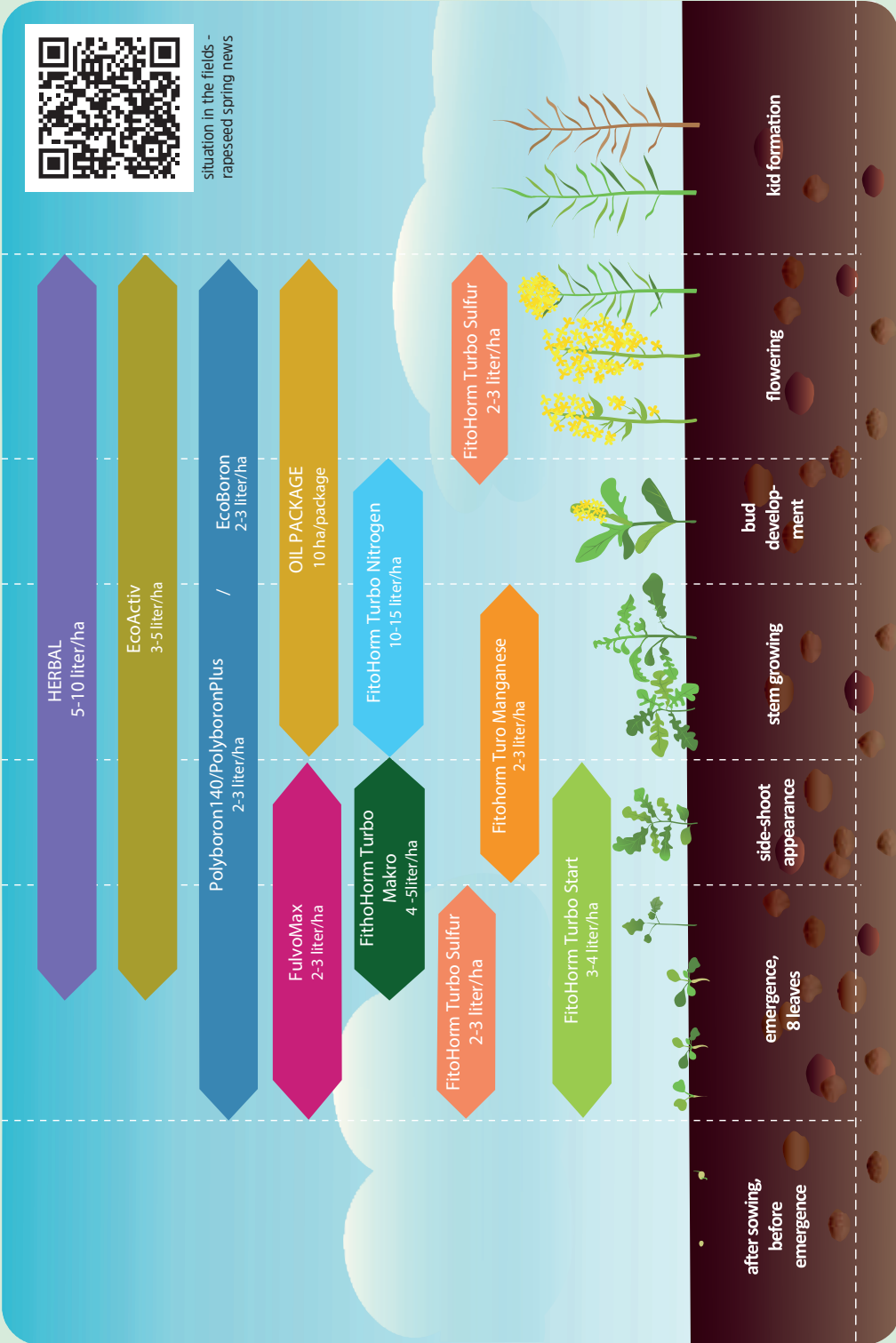
# CEREALS



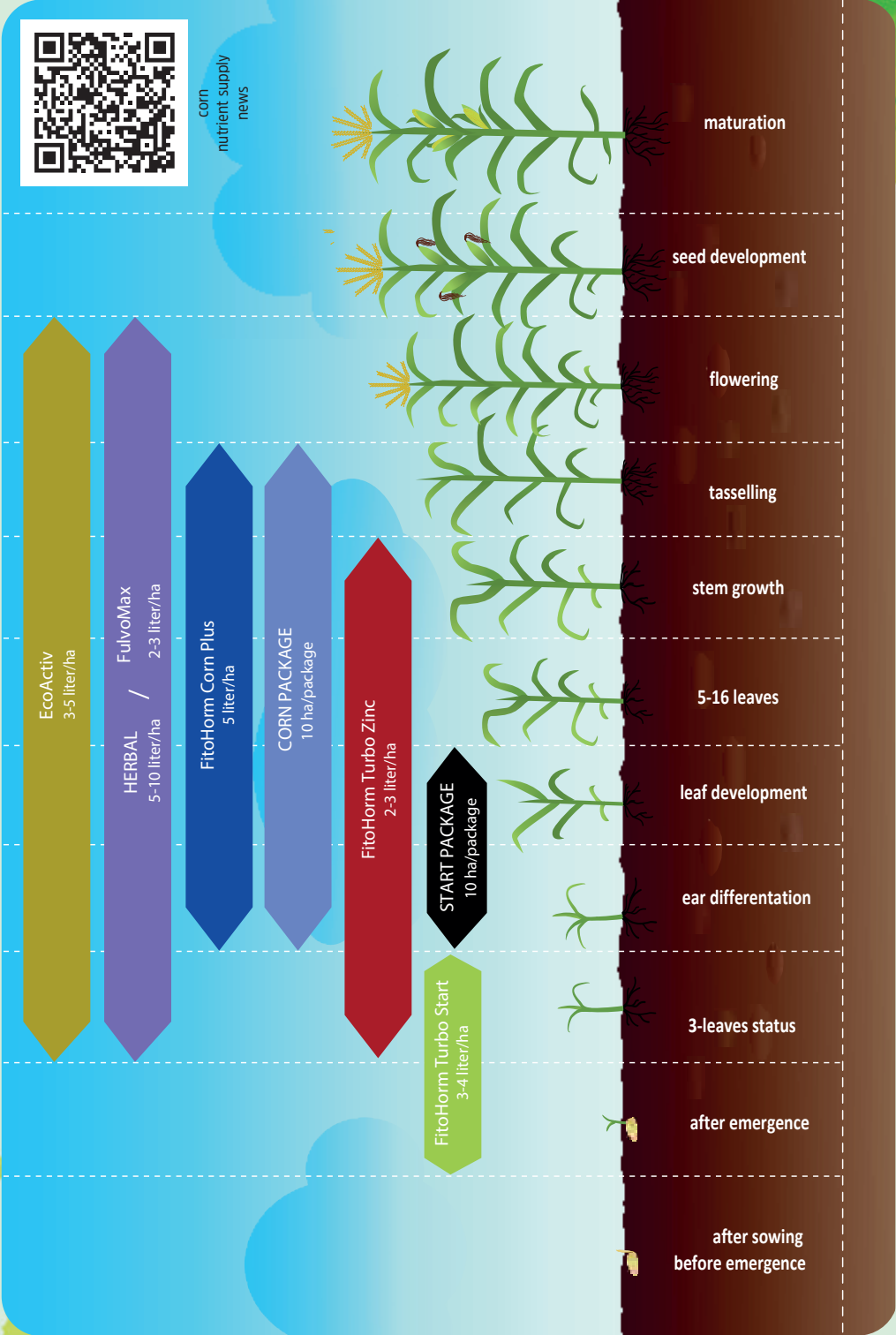
Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

# AUTUMN COLESEED

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!



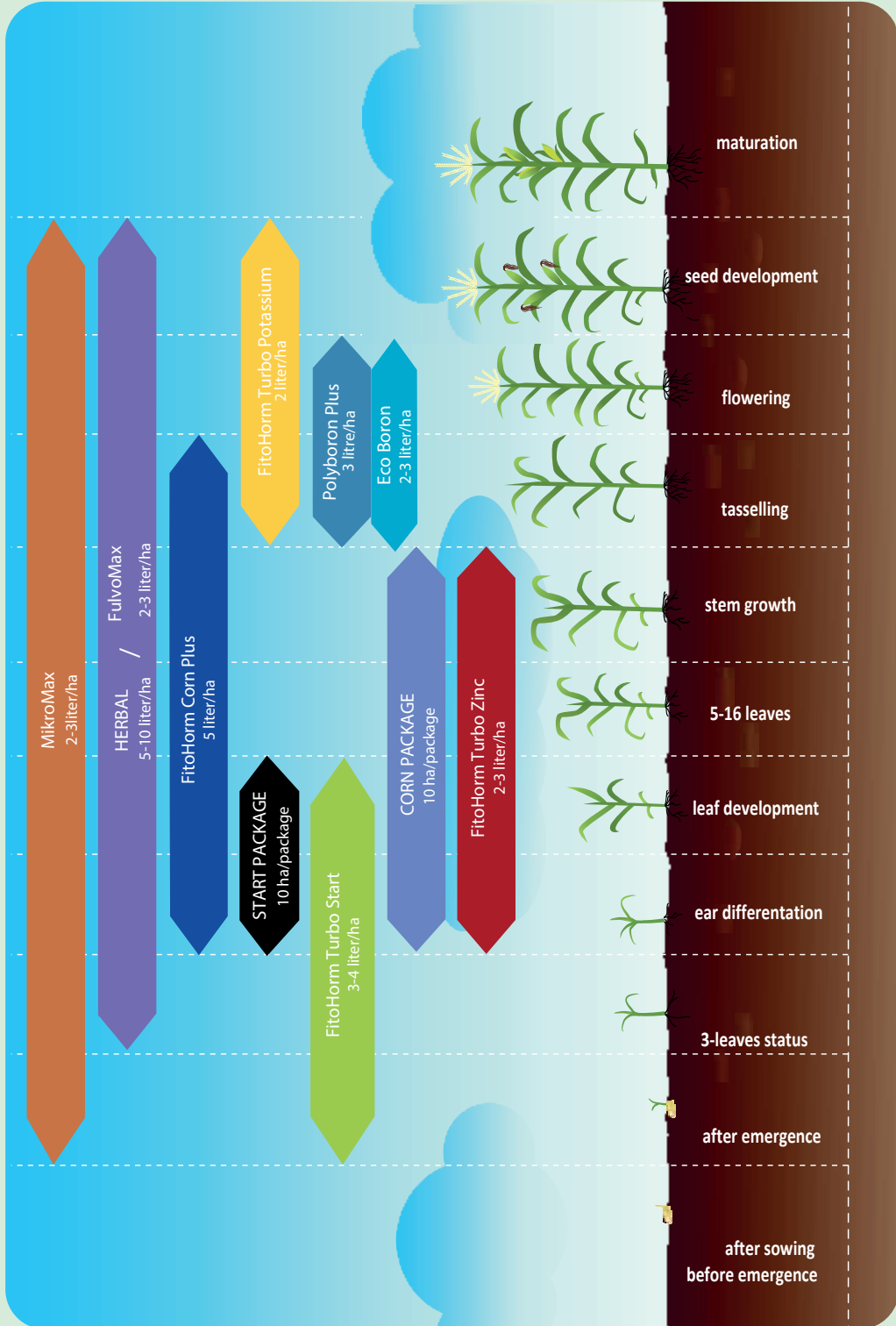
# CORN



Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

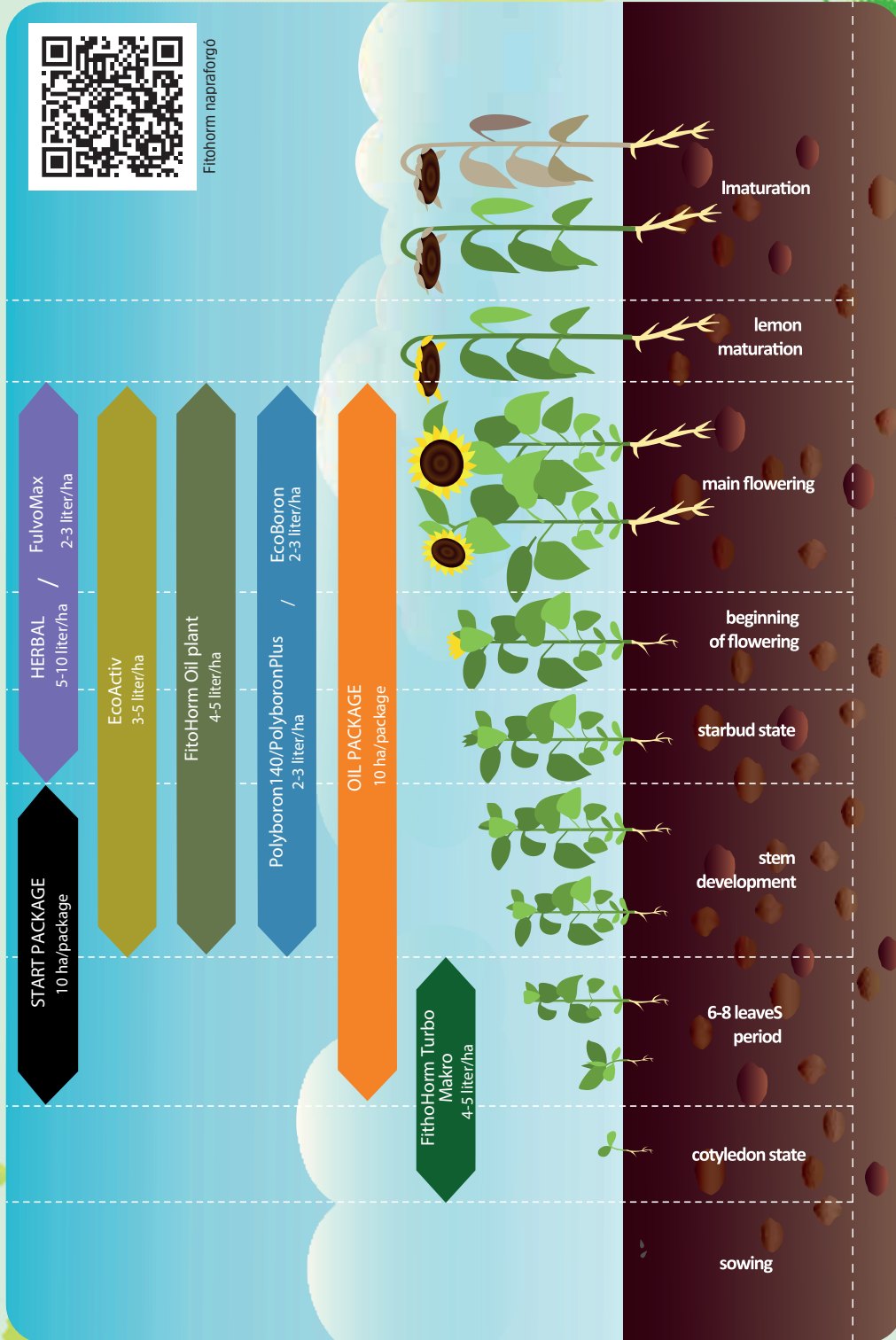
# SWEETCORN

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!





# SUNFLOWER

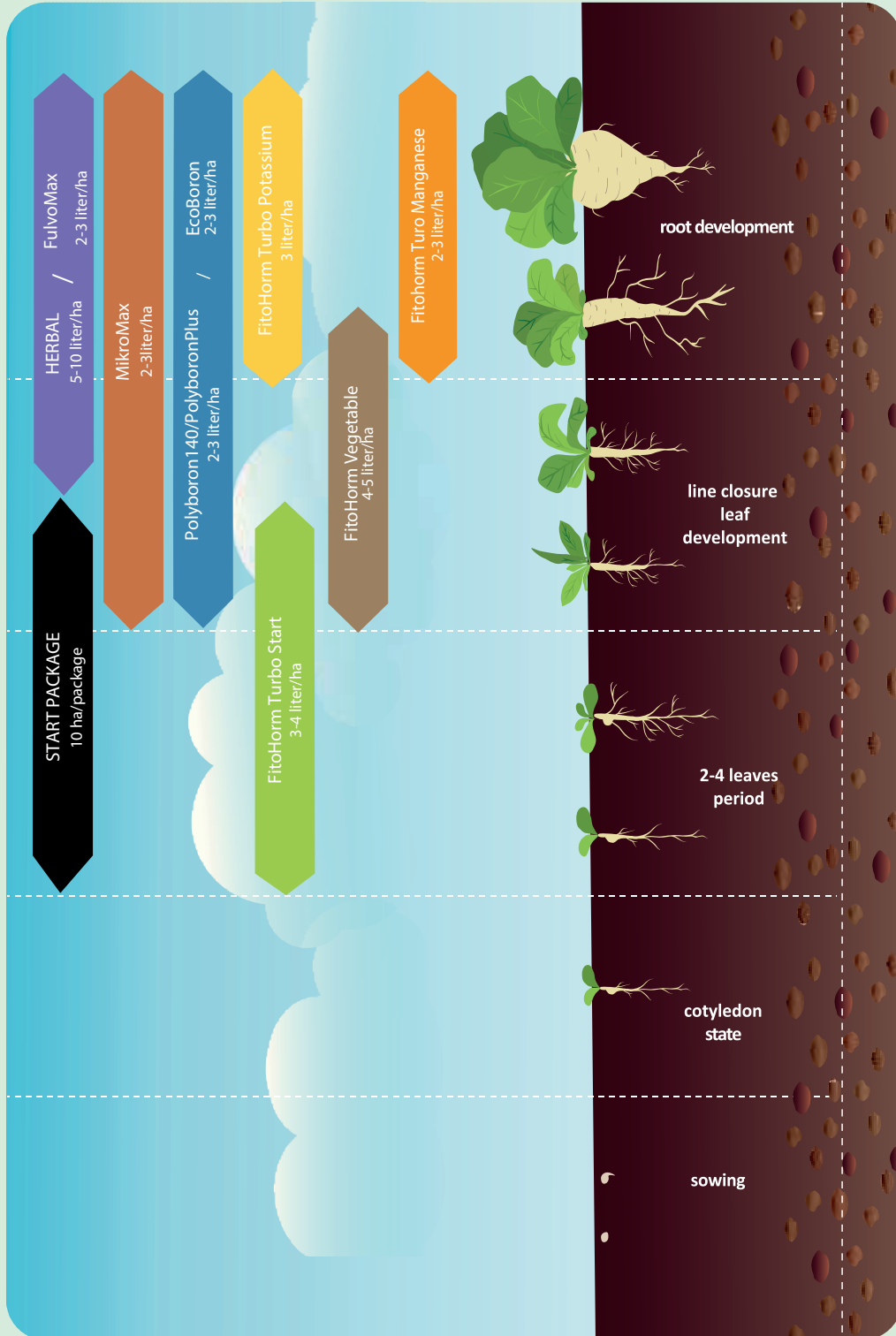


FitoHorm napraforgó

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

# SUGAR BEET

FIELD



Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

# HORTI- CULTURE



# FOR HORTICULTURAL CULTURES

## COMPOSITION OF PRODUCTS

High Fertilizer Solution Fertilizers (w/v %)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	plantation dose	Horticultural dose
		%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	Polyboron 140	-	-	-	-	-	-	-	-	-	-	14	-	0,5-1,5	3-5
2	Polyboron Plus	-	-	-	-	-	-	-	-	0,15	0,15	12,5	0,03	0,5-1,5	3-5
3	FitoHorm Turbo Nitrogen	30	-	-	3	6,5	-	-	-	0,01	-	-	-	0,5-1,5	12-18
4	FitoHorm Turbo Magnesium	4	35	-	10	-	-	-	-	-	-	-	-	0,5-1,5	3-5
5	FitoHorm Turbo Sulfur	20	-	-	-	60	-	-	-	-	-	-	-	0,5-1,5	3-5
6	FitoHorm Turbo Potassium	4	-	36	-	57	-	-	-	-	-	-	-	0,5-1,5	3-5
7	FitoHorm Turbo Calcium	12	-	8	2,7	-	13,5	-	-	-	-	-	-	0,5-1,5	4-6
8	FitoHorm Turbo Copper	20	-	-	-	11,5	-	-	-	8	-	-	-	0,5-1,5	3-5
9	FitoHorm Turbo Zinc	-	-	-	-	-	-	-	-	-	10	-	-	0,5-1,5	3-5
10	FitoHorm Turbo Makro	10	10	10	-	-	-	-	-	-	-	-	-	0,5-1,5	5-7

Multi-fertilizer solution fertilizers (w/v %)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Plantation dose	Horticultural dose
		%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	MikroMax	-	-	-	-	-	-	3	1,32	0,15	0,23	0,26	0,07	0,5-1,5	3-5
2	MAKROSOL	8	4	5	-	-	-	-	-	-	-	-	-	0,5-1,5	5-7
3	FitoHorm Grapes-Fruits	-	-	-	2	5	-	2	-	-	-	0,5	-	0,5-1,5	5-7
4	FitoHorm Vegetable	18	-	-	5	13,5	-	-	0,2	-	-	0,2	0,004	0,5-1,5	5-7

Eco products (m/v %)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Ültetvény dózis	Kertészeti dózis
		%	%	%	%	%	%	%	%	%	%	%	%	%	l/ha
1	EcoBoron	18	-	-	-	-	-	-	-	-	0,25	6	0,005	0,5-1	3-4
2	EcoActiv	-	-	-	3	6,5	-	0,2	0,4	0,72	0,12	0,12	0,012	0,5-1	3-4
3	EcoCopper	12	-	-	-	5	-	-	-	4	-	-	0,05	0,5-1	3-4

## COMPOSITION OF PRODUCTS

Mono Elemental Fertilizers (w/v %)		Composition(%)				Plantation dose	Horticultural dose
						%	l/ha
1	FitoHorm 10 B	Bóroldat	B	2,5		0,5-1,5	4-6
2	FitoHorm 14 N	Nitrogénoldat	N	32		0,5-1,5	10-15
3	FitoHorm 24 Mg	Magnéziumoldat	MgO	6,6	+ SO <sub>3</sub> 10,6%	0,5-1,5	10-15
4	FitoHorm 30 P	Foszforoldat	P <sub>2</sub> O <sub>5</sub>	18	+ N 7%	0,5-1,5	10-15
5	FitoHorm 39 K	Káliumoldat	K <sub>2</sub> O	9	+ P <sub>2</sub> O <sub>5</sub> 6% + N 3%	0,5-1,5	8-10
6	FitoHorm 40 Ca	Kalciumoldat	CaO	21	+ N 12%	0,5-1,5	7-9
7	FitoHorm 40 Ca (nitrogen free)	Kalciumoldat	CaO	17		0,5-1,5	7-9
8	FitoHorm 54 Mn	Mangánoldat	Mn	4		0,5-1,5	5-7
9	FitoHorm 55 Fe	Vasoldat	Fe	4		0,5-1,5	5-7
10	FitoHorm 63 Cu	Rézoldat	Cu	4		0,5-1,5	6
11	FitoHorm 65 Zn	Cinkoldat	Zn	4		0,5-1,5	6-8

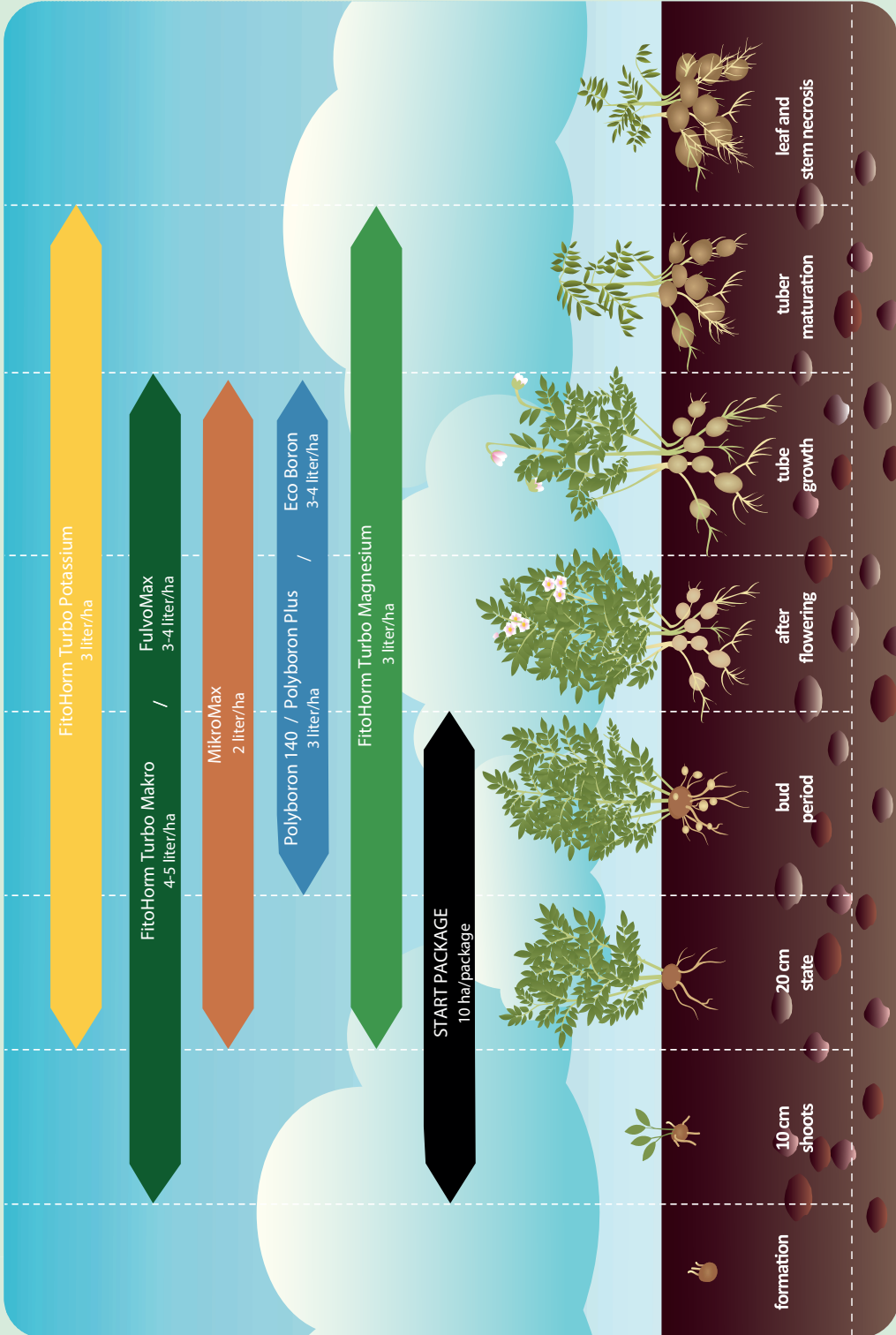
Solid, irrigating fertilizers (m/m %)	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Horticultural dose
	%	%	%	%	%	%	%	%	%	%	%	%	tápoldatnak 100l vízbe
1 FitoHorm Complete Plus	14	7	21	-	22	-	0,165	0,032	0,017	0,02	0,01	0,002	0,5 kg

Iron chelates (w/v %)		Iron content	Plantation dose	Horticultural dose
1	Fitoferr T-3 for soil treatment	3	50-100 ml/vine	50-100 ml/vine

Plant conditioners	N	Fulvo acid	Amino acid	MgO	SO <sub>3</sub>	Fe	Mn	Cu	Zn	B	Mo	Plantation dose	Horticultural dose
	%	%	%	%	%	%	%	%	%	%	%	l/ha	
1 FulvoMax	-	18	5	-	-	1,5	0,66	0,075	0,115	0,13	0,035	0,5-1	3-4



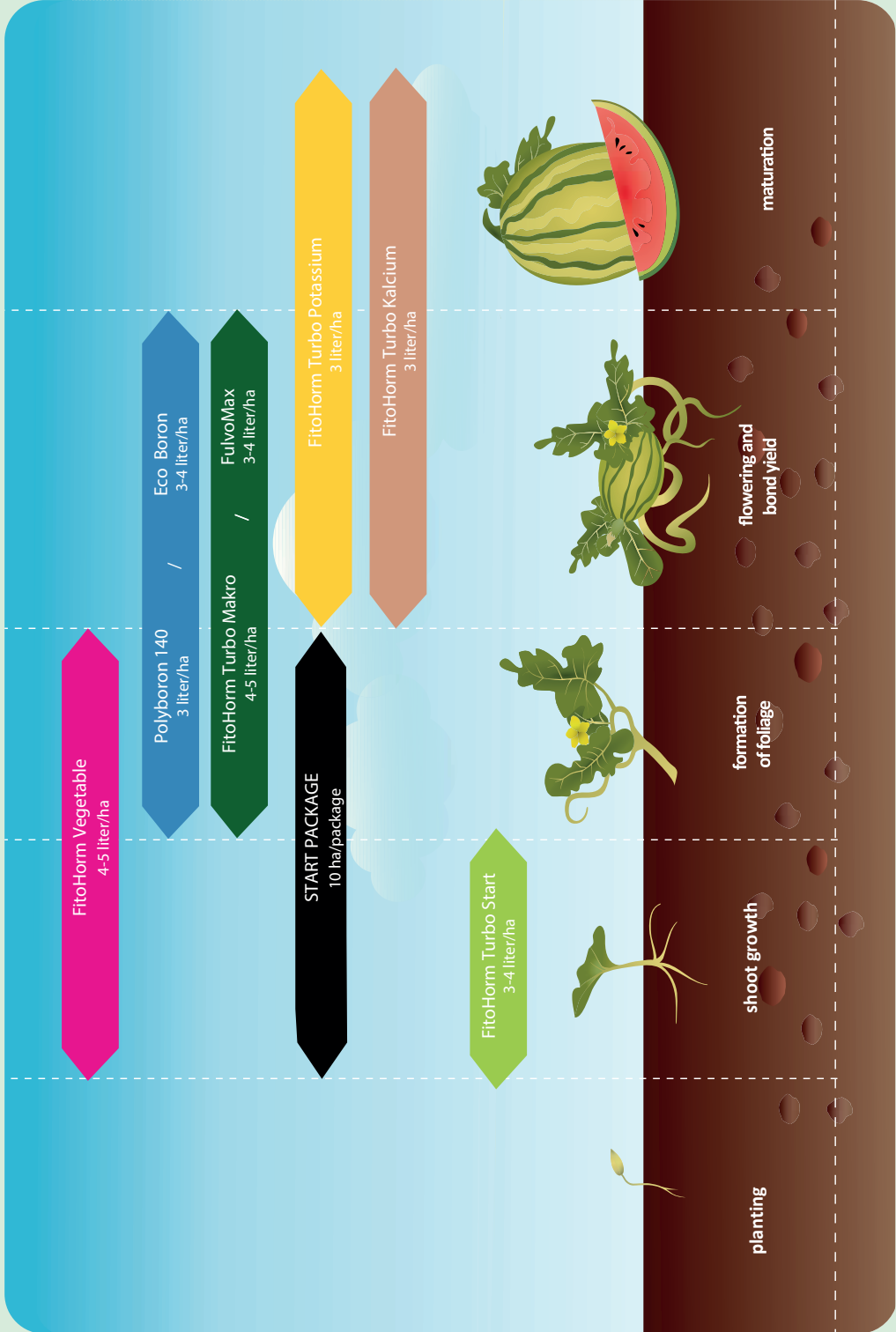
# POTATO



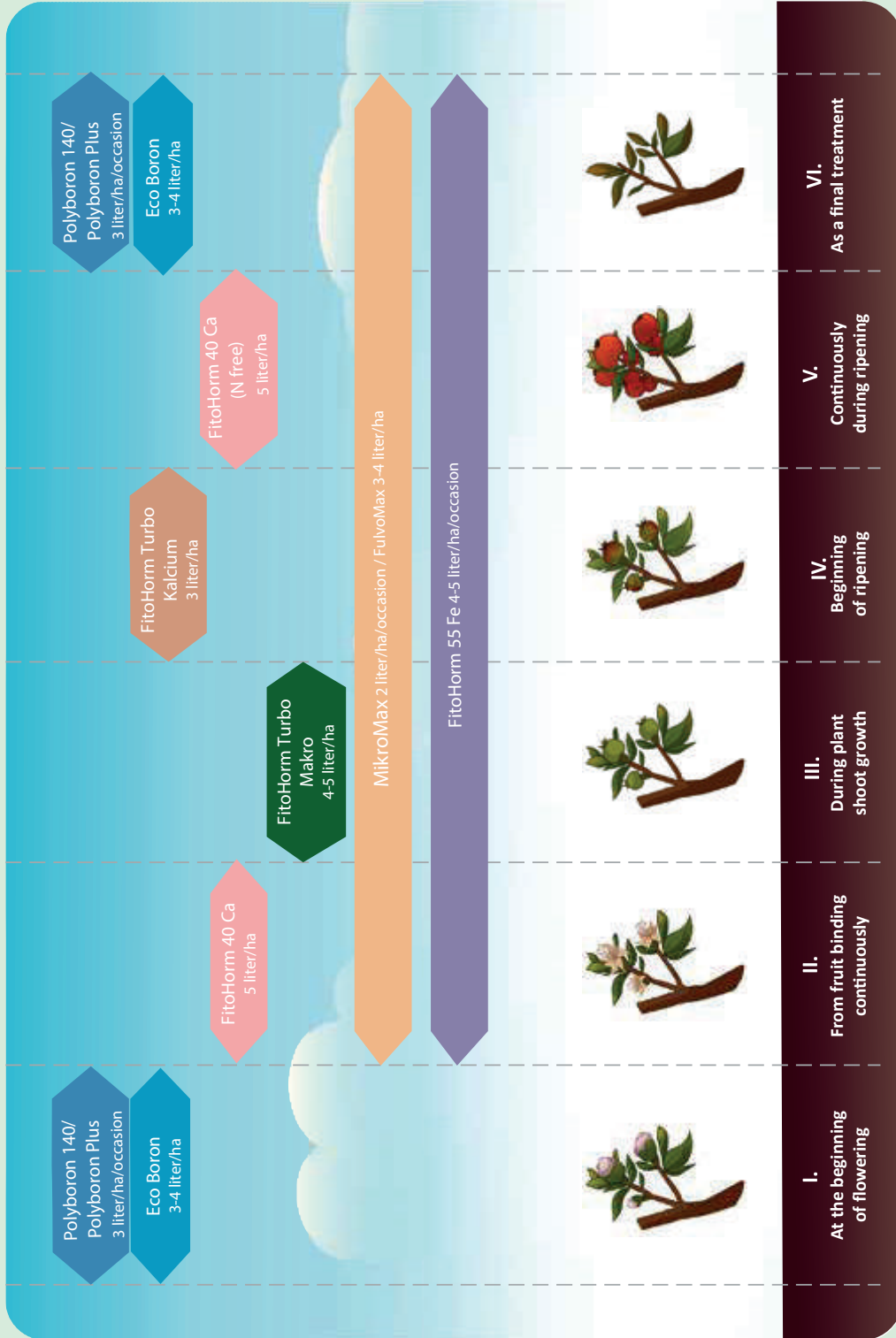
Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

# CUCURBITS

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!



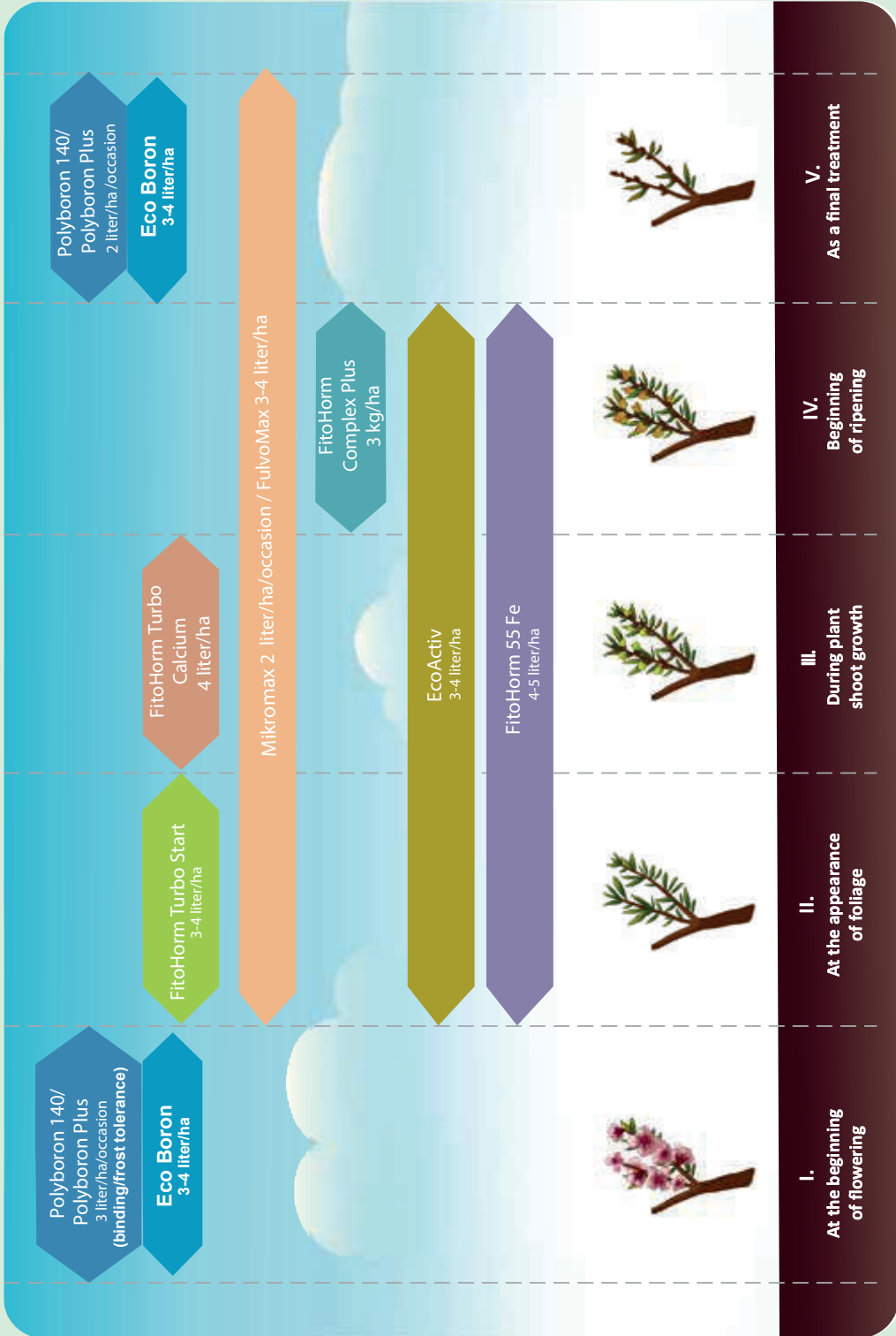
# APPLE



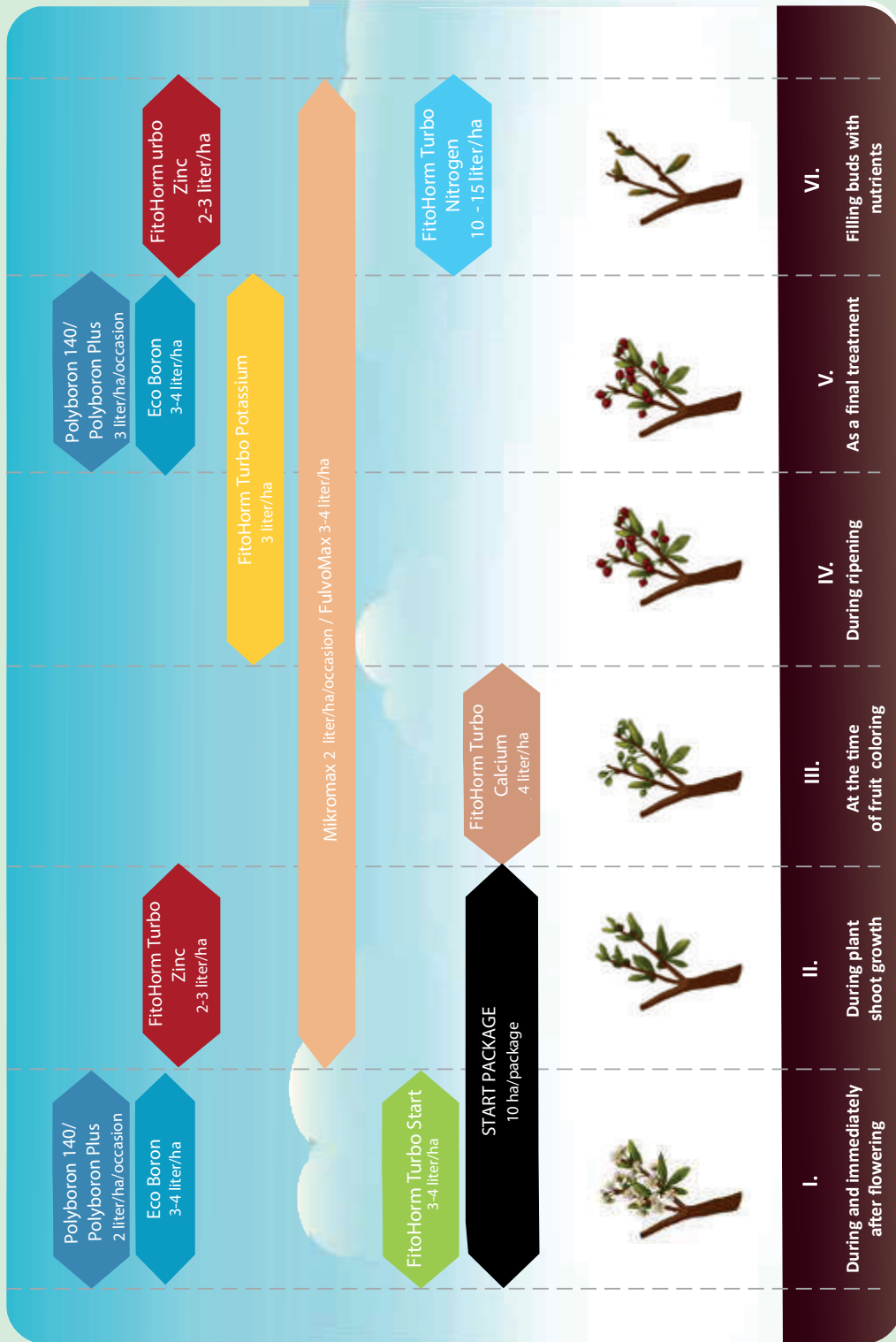
Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!

# PEACH, APRICOT AND PLUM

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!



# CHERRY AND SOUR CHERRY

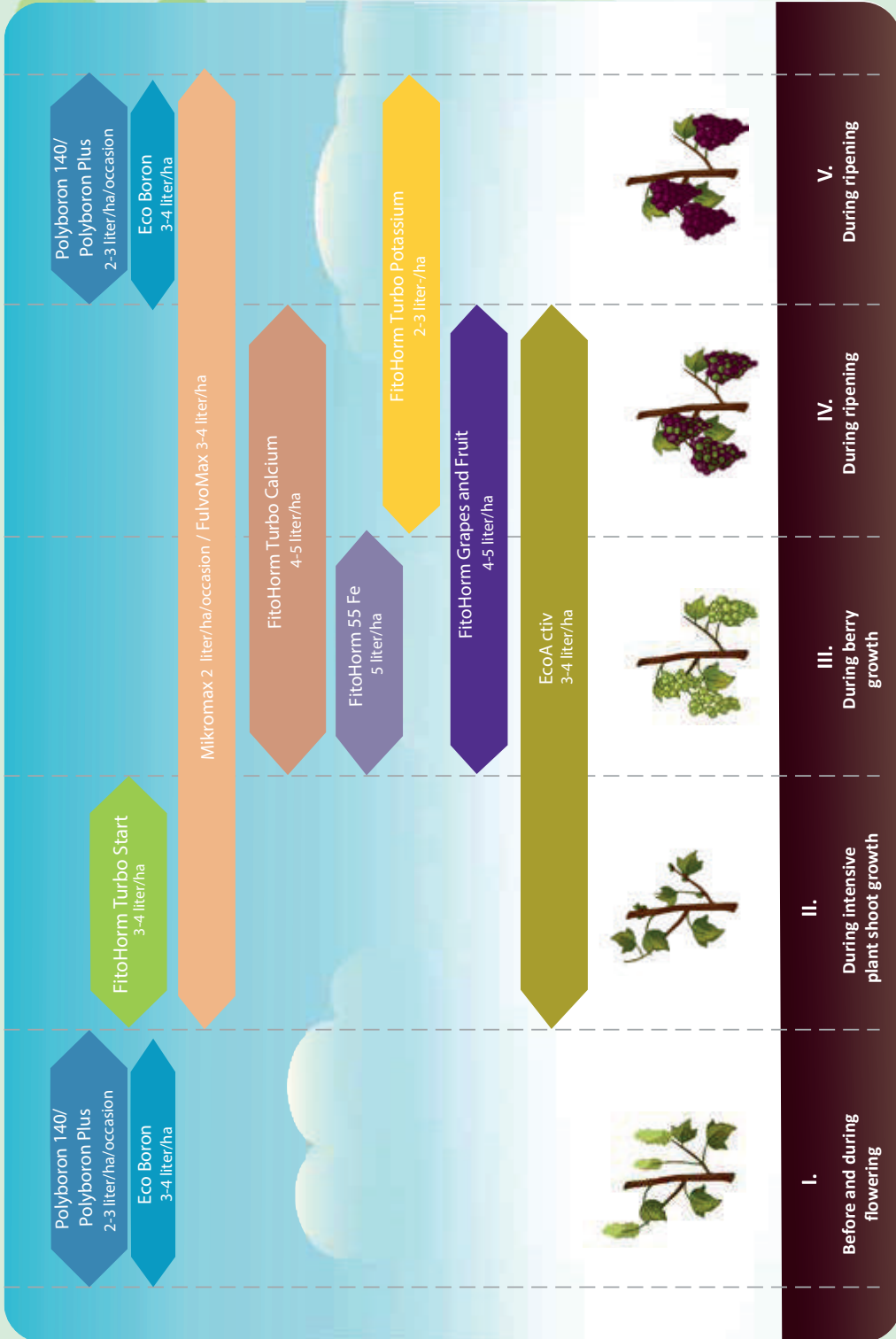


Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!



# GRAPE

Regarding the combined use of the different products recommended for each phenological state, always make a mixing test or contact our competent consultants!



# PEPPER, TOMATOES HOUSEHOLD AND BACKYARD TECHNOLOGICAL PROPOSAL

Nowadays, with the change in consumer habits, the production of good-tasting, uniform-shaped, attractive, "large" fruit has come to the fore. This is true for peppers and tomatoes, regardless of the type of crop they produce. Growing high-quality, healthy plants is essential for the production of high-quality peppers and tomatoes. The foliar fertilization and nutrient solution technology developed by FitoHorm Kft. can help with this. The proposal is primarily designed for small garden and backyard growing conditions. The proposed technology helps ensure that the internal value indicators, color, spices and aromas of the fruits can develop properly. Through this, anyone who applies our proposal below has the opportunity to produce valuable fruits. In the case of larger-scale production and more professional needs, we are of course also at the disposal of our producers within the framework of personal consultation. The particularly high meso- and microelement content of the materials present in the technology, due to their appropriate timing, allows for the production of high-quality fruit even under average growing conditions. In all cases, perform a mixing test with the combination partners before plant protection treatments, and observe all relevant rules when applying. The solution mixed with the nutrient solution must be applied within 6-8 hours.

Sowing seeds, raising seedlings, planting		
I. After sowing	II. When growing seedlings, apply to the pricked plants	III. For plants planted in their permanent location
<b>Application</b>		
For irrigation 1x time.	1-2 times.	For the first time.
<b>Recommended foliar fertilizer:</b>		
<b>Fitohorm Turbo Start</b> 1 liter / 100 liters, or 1% solution for irrigation, as a nutrient solution	<b>Fitohorm Turbo Makro</b> 1-2 liters / 100 liters, or as a 1-2% nutrient solution <b>+Fitohorm MikroMax</b> 0.5% spray solution applied as foliar fertilizer.	<b>Fitohorm Turbo Makro</b> 1-2 liters / 100 liters, or 1-2% nutrient solution

Shoot growth, flowering, fruit growth		
I. Shoot growth	During the period of flower bud development (immediately before flowering at the beginning of flowering) New flowering in a wave (for semi-determinate and continuous growth genetics)	III. During the growing season of fruits and crops Fruit growth at the end, ripening, closing treatment
<b>Application</b>		
2-3 times in the initial period.	1-2 times	1-2 times
<b>Recommended foliar fertilizer:</b>		
<b>Fitohorm Komplett Plusz</b> -0.2-0.5 kg/100 liters into irrigation water, as a nutrient solution, every 10-14 days		
<b>Fitohorm Turbo Calcium</b> 1% spray concentration as foliar fertilizer <b>+ Fitohorm MikroMax</b> 0.5% spray concentration as foliar fertilizer	Fitohorm Polybor Plus 0.5% spray solution concentration, as foliar fertilizer	<b>Fitohorm Turbo Calcium</b> 1% spray concentration as foliar fertilizer+ <b>Fitohorm MikroMax</b> 0.5% spray concentration as foliar fertilizer

+ treatment of special micronutrient needs or deficiency symptoms:

with **Fitohorm MikroMax** solution

- Applied in nutrient solution at a concentration of 0.1%

- Applied as a foliar fertilizer at a concentration of 0.5% in spray solution

# ORGANIC FARMING



# ORGANIC FARMING AND FITOHORM

Organic farming or ecological farming, as the farmers call it, is a carefully planned cultivation system where the use of synthetically produced chemicals and fertilizers is prohibited, while the use of natural active ingredients and minerals is necessary and recommended, as well as physical clearance, and the careful individual plant care. The basic principle of ecological farming is to continue the production of economic plants and animals in such a way as to make the best possible use of the ecological properties of the place of production, while at the same time making the least possible intervention in the local ecosystem and in no way harming or polluting it. **FitoHorm chelates are completely natural.** The characteristics of the growing area, the soil properties, the climate, the available water sources, the natural plant cover (remains) must first be accurately known in order to be able to use and protect our plants. Animals in the area can help a lot in plant protection and maintaining soil strength.

During cultivation, synthetic materials must not be used for any purpose and not even under "force". Efforts must be made to reduce energy consumption, use different organic wastes and renewable sources, giving priority to locally available sources. Pay attention to the effect these have on our plants, e.g. pentosan effect, zinc deficiency, since these can be prevented, there is no need to be afraid of them, because we can counter them with FitoHorm products. The cultivated plants must be selected taking into account the characteristics of the area, sometimes it is difficult to ensure the balanced development of the plants. In this situation, FitoHorm products can be used with great efficiency and it is possible to avoid that plant protection in degraded stands becomes intractable.

**FitoHorm's organic products help plant protection and ensure quality goods at the same time.**



# FOR ORGANIC FIELD AND HORTICULTURAL CULTURES

## COMPOSITIONS OF PRODUCTS

Multi-fertilizer solution fertilizers (w/v %)	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Arable dose	Horticultural dose (ml/10 l water)		
	%	%	%	%	%	%	%	%	%	%	%	%	l/ha	foliage treatment	Irrigation	
1 FitoHorm Bio Grain	-	-	-	-	-	-	0.5	1	1.8	0.3	0.3	0.03	4-5	-	-	
2 FitoHorm Soy	-	-	-	-	-	-	0.4	0.5	0.5	1.5	0.5	0.3	2-3	-	-	
3 FitoHorm Grape Fruit	-	-	-	2	5	-	2	-	-	-	0.5	-	4-5	100-160	20	
4 MicroMax	-	-	-	-	-	-	3	1.32	0.15	0.23	0.26	0.07	2-3	60-80	10	
Solution fertilizers with a high active ingredient content (m/v %)	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	Arable dose	Horticultural dose (ml/10 l water)		
	%	%	%	%	%	%	%	%	%	%	%	%	l/ha	foliage treatment	Irrigation	
1 Polyboron 140	-	-	-	-	-	-	-	-	-	-	14	-	2-3	40-60	10	
2 Polyboron Plus	-	-	-	-	-	-	-	-	0.15	0.15	12.5	0.03	2-3	40-60	10	
3 FitoHorm Turbo Zinc	-	-	-	-	-	-	-	-	-	10	-	-	2-3	80-160	20	
Monoelement solution fertilizers (w/v %)	Composition															
	1 FitoHorm 10 B	Boron solution										B	2.5	3-5	100-200	10-50
	2 FitoHorm 40 Ca (nitrogen free)	Calcium solution										CaO	17	5-7	100-200	10-50
	3 FitoHorm 54 Mn	Manganese solution										Mn	4	3-5	100-200	10-50
	4 FitoHorm 55 Fe	Iron solution										Fe	4	3-5	100-200	10-20
	5 FitoHorm 63 Cu	Copper solution										Cu	4	4	100-200	10-50
	6 FitoHorm 65 Zn	Zinc Solution										Zn	4	3-6	100-200	10-20
Iron chelates (w/v %)	Iron content															
	1 FitoFerr T-3 for soil treatment											Arable dose			Horticultural dose (ml/10 l water)	
Plant conditioners	N	Fulvic acids	Amino acids	MgO	SO <sub>3</sub>	Fe	Mn	Cu	Zn	B	Mo	Arable dose				
	%	%	%	%	%	%	%	%	%	%	%	l/ha				
1 FulvoMax	-	18	5	-	-	1.5	0.66	0.075	0.115	0.13	0.035	2-3				
2 HERBAL	Multi-phase, biologically outstanding organic materials.															
													5-10			



# Fito Horm®

...PLANT NATURALLY DESERVES IT

## ECO PRODUCTS



**Eco Boron**



**Eco Copper**



**Eco Activ**

### THREE REASONS TO USE IT:

**An effective solution**

**Reasonable price**

**Economical packaging**  
(600, 1000 liters)

**FIND OUR CONSULTANS FOR FREE PERSONAL ADVICE!**

[www.fitohorm.hu](http://www.fitohorm.hu)

Tel.: +36 30 708 1461



**PRODUCTS**

## > ECO COPPER

EcoCopper, the younger brother of our Turbo Copper product, is a copper fertilizer with a new composition, in which nitrogen and molybdenum have been added to copper. We recommend it mostly to producers who love the excellent mixability, sediment-free, stable quality, and spectacular effect of Turbo Copper, but consider it more important to replace molybdenum instead of sulfur in their copper fertilization. This may be justified, for example, on acidic soils, where molybdenum is easily bound and uptake is also hindered.

Like our other copper fertilizers, Eco Copper can be mixed with UAN solutions, and thanks to its chelation, it does not bind in the soil, and can be taken up from there by the plant culture you want to feed.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	10	-	-	4,1	-	-	-	3,3	-	-	0,04
m/v%	12	-	-	5	-	-	-	4	-	-	0,05
g/l	120	-	-	50	-	-	-	40	-	-	0,5

Chelating agent: EDDHSA

### Advantages of its application:

- » Economical copper fertilizer in excellent quality.
- » Spectacular effect when mixed with UAN solutions.
- » It supports the incorporation of nitrogen.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 2-3 l/ha/occasion 1-2% concentration (1-2 dl/10 l water)
Horticultural, home garden	



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.



## > ECO ACTIV

EcoAktiv foliar fertilizer is a modern magnesium sulfate solution supplemented with a series of microelements, which is a very competitive solution for farmers who use bitter salt in terms of its usability, efficiency and price-value ratio! The EDDHSA chelating agent used during its production improves the absorbability of the magnesium and other microelements in it, as well as the physical and chemical properties and mixability of the solution.

Its regular use increases the photosynthesis activity of the leaves, increases nitrogen absorption and incorporation, and improves the condition and content values of the treated cultures. It effectively treats the symptoms of sulfur and magnesium deficiency and has an excellent greening effect. Given that EcoAktiv is already in a dissolved state, it is significantly easier to use than crystalline bitter salt, which does not contain chelated other microelements!

It can be used in all cultures from the appearance of the green plant parts to the beginning of autumn leaf yellowing at a dose of 5-10 L/ha.

Composition													
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo	
m/m%	-	-	-	2,5	5,4	-	0,16	0,3	0,6	0,1	0,1	0,01	
m/v%	-	-	-	3	6,5	-	0,2	0,4	0,72	0,12	0,12	0,012	
g/l	-	-	-	30	65	-	2	4	7,2	1,2	1,2	0,12	
Chelating agent: EDDHSA													

### Advantages of its application:

- » Thanks to its solution formula, it is easy to mix and easy to use
- » It is more than a bitter salt, as

it also contains chelated microelements, without the typical sediment formation

- » It can also be mixed with UAN solutions.

### Directions for use

Area of use	Dose
Arable land Horticultural,	for foliar fertilization: 3-5 l/ha/occasion
home garden	2-3% concentration (2-3 dl/10 l water)



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.



FitoHorm

## > ECO BORON

It is recommended to apply in the period before the full flowering of oil plants. With its help, we can stimulate cell division, strengthen flower organs and increase the number of fertilized flowers, and reduce the amount of leech seeds.

By using it in unfavorable conditions, we can strengthen the photosynthetic activity of plants. Nitrogen strengthens the stem and stimulates the development of (side) shoots. Boron plays a very important role primarily in flowering biology and fertility processes.

Boron is involved in shoot tip development, seed setting and carbohydrate metabolism. In the case of a low supply of molybdenum, the chlorophyll content of plants decreases, their photosynthesis becomes inhibited, and disturbances occur in the generative development phase.

In the case of butterflies, its deficiency is associated with symptoms typical of nitrogen deficiency, which is based on the significant molybdenum demand of the tuber bacteria living in symbiosis with them.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Fe	Mn	Cu	Zn	B	Mo
m/m%	14,4	-	-	-	-	-	0,2	4,8	0,004
m/v%	18	-	-	-	-	-	0,25	6	0,005
g/l	180	-	-	-	-	-	2,5	60	0,05

Chelating agent: EDDHSA

### Advantages of its application:

- » Economical boron fertilizer in excellent quality,
- » with its use we strengthen the flower organs and increase the number of fertilized flowers, reduce the quantity of leech seeds,
- » using it under adverse conditions we can strengthen the photosynthetic activity of plants,
- » spectacular effect when mixed with UAN solutions.

### Directions for use

Area of use	Dose
Arable land Horticultural,	for foliar fertilization: 2-3 l/ha/occasion 1-2%
home garden	concentration (1-2 dl/10 l water)



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.





## > UREAFIN

Urea fertilizer is difficult for plants to absorb. Before it can be used as a nitrogen source, it must first be converted into ammonium (NH<sub>4</sub><sup>+</sup>) and nitrate (NO<sub>3</sub><sup>-</sup>). High ammonia losses tend to occur in light soils and tillage zones. An average of 24% (20% ammonia-N) ammonia losses are assumed to occur through volatilization (EEA, 2013).

To reduce these losses, we have launched our product UREAFIN! UREAFIN is a liquid urease inhibitor that slows down the conversion of urea to ammonia by one to two weeks, allowing the applied urea more time to penetrate deeper into the soil after rain. It should be mixed primarily with concentrated UAN solutions immediately before foliar application.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	FULVIC ACID
m/m%	22,16	-	-	2,1	4,8	-	-	-	0,007	5,6
m/v%	27,7	-	-	2,7	6	-	-	-	0,009	7
g/l	277	-	-	27	60	-	-	-	0,09	70

Chelating agent: EDDHSA

### Advantages of its application:

- » Can be mixed with UAN solutions
- » Favorable cost per hectare
- » The plant's nitrogen utilization increases by 10-15%.

### Suggested usage

Area of use	Dose
Arable land	1 dl UREAFIN mixed with 100 l UAN solution

Pour the measured amount of UREAFIN into the sprayer filled to 1/3 of its volume. In the case of pump tanks, the UREAFIN preparation must be filled first.

For greatest efficiency, appropriate nozzles should be provided for maximum coverage.



## > FULVO MAX

FulvoMax is a plant conditioner containing free plant amino acids, fulvic acids and microelements, so it can be said that it is a real energy bomb for our cultivated plants. When applied as a foliar fertilizer, it strengthens the cells and helps to maintain a healthy stock, and it also ensures that the plants' nutrient needs are met. The microelements have been prepared in the right ratio for the plants and are all chelated with our own EDDHSA chelating agent, thus ensuring better utilization, more uniform application and easier absorption.

The biostimulant effect of the preparation is enhanced by the presence of free amino acids of plant origin, which have been carefully selected to help the integration of micro and macro nutrients into the plants. During product development, we looked for amino acids that were produced by enzymatic hydrolysis, because this way optically active amino acids are produced, which are immediately incorporated into the plants, thus saving energy, which can be used for other life processes.

### Composition

	B	Cu	Fe	Mn	Mo	Zn	Fulvo acid	Amino acid
m/m%	0,1	0,06	1,25	0,5	0,03	0,1	15	4
m/v%	0,13	0,075	1,5	0,66	0,035	0,115	18	5
g/l	1,3	0,75	15	6,6	0,35	1,15	180	50

Chelating agent: EDDHSA

### Advantages of its application:

- » By using it, the plant saves energy,
- » accelerates and stimulates physiological processes, such as root growth
- » increases the stress and drought tolerance of the plant, thereby making it more resistant to extreme weather conditions (frost, drought, heat stress, water pressure, wind).

### Directions for use

#### Area of use

Arable land

#### Dose

for foliar fertilization: 2-3 l/ha/occasion

**It can be used in the agroecological program, and you will receive 1 point after applying it!**



In order to protect bees and other pollinating insects, the product cannot be used during the flowering period! It cannot be used in the presence of flowering weeds!



Suitable for drone use..



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand. To be used only in justified cases. Do not exceed the recommended dosage.



## > HERBAL

By strengthening the root system, it promotes the utilization of nutrients, mineral salts and trace elements in the soil. **It accelerates the uptake of nutrients**, stimulates growth, thereby making the plant stronger and increasing its nutrient supply. By improving its water management, the plant makes good use of the uneven amount of rainfall, **HERBAL helps the vegetation through the temporary drier period.**

**It strengthens the immune system** and makes the plant resistant to different weather conditions. As a result, the strengthened plant tolerates strong sunlight and extreme conditions more easily.

### Composition

	organic matter content	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca
m/v%	3,0	0,02	0,05	0,6	0,1
herbal extract, organic earthworm humus extract					

### Advantages of application:

- » Stimulates plant growth, chlorophyll formation and respiration activity (more intensive photosynthesis) activation of special, so-called secondary defense functions (phytoalexins),
- » strengthening the resistance of plants,
- » increases the plant strengthening function,
- » increases the biological activity of the soil, thereby ensuring the strong growth of the root system.

### Directions of use

Area of use	Dose
Arable land	In the amount of 5-10 l/ha, in a maximum concentration of 4%, applied 2 times during the growing season.

**It can be used in the Agricultural Ecology Program,  
After using it, you get 1 point!**

Way of use	Arable
Optional good jó practice	Application of soil conditioners, plant conditioners or N-fixing products on at least 50% of the arable land
Contribution to the inveroamental objective	The practice promotes the recovery of the soil's organic matter stock and the improvement of soil potential and soil biodiversity, thereby contributing to the reduction of nutrient loss and the improvement of the soil's water retention capacity. And healthier soil contributes to reducing the use of fertilizers and pesticides.



## > GRAIN

It is one of the most popular products of Hungarian foliar fertilization, which maintains its leading role in the nutrition of ear plants to this day. It is a multi-active, complex preparation that can ensure the nutritional supply of grains when used in any phenological phase. When compiling the content of meso- and microelements, we focused on those nutrients (S, Cu, Mn, N, Zn), which are needed in larger quantities by the ear plants during their development.

In addition to the meso- and microelements, the FitoHorm Grain solution fertilizer contains a modern chelating agent, this formulation ensures the fast and efficient absorption of the microelements through the leaves. The big advantage of the targeted nutrient supply realized by foliar fertilization is that we feed the specific culture in the given year, and that we can moderate the adverse weather effects.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	15	-	-	-	4	-	-	0,2	1,25	0,2	-	0,0016
m/v%	18	-	-	-	5	-	-	0,25	1,5	0,25	-	0,002
g/l	180	-	-	-	50	-	-	2,5	15	2,5	-	0,02

Chelating agent: EDDHSA

### Advantages of use:

- » Plant-specific, appropriate microelement composition in an ideal ratio,
- » provides a harmonious supply of nutrients,
- » liquid, immediately absorbable form (nutrients in real solution)

### Directions for use

Area of use	Dose
Arable land	4-5 liters/ha when bushing and/or flowering.



Applied independently or in one pass with plant protection works.



Suitable for drone use

It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.



To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > BIO GRAIN

FitoHorm Bio Grain contains essential microelements for grain in the right proportion in a complex, exceptionally high concentration and in large quantities.

The product contains only microelements. In addition to the microelements, the solution fertilizer contains a modern chelating agent, which ensures the quick and perfect absorption of the microelements through the leaves.

It can be recommended to all farmers who do not want to spend much on foliar fertilizers, but want to solve the replacement of microelements safely. Foliar fertilization provides targeted nutrient supply. The effects of unfavorable weather conditions can be effectively mitigated, the tendency to bushiness is strengthened by adequate microelement supplementation in the early phenological phase.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	0,46	0,83	1,5	0,25	0,25	0,025
m/v%	-	-	-	-	-	-	0,5	1	1,8	0,3	0,3	0,03
g/l	-	-	-	-	-	-	5	10	18	3	3	0,3

Chelating agent: EDDHSA

### Advantages of application:

- » Applied in autumn/early spring, the number of fertile ears increases
- » the water balance improves and the root system's ability to extract nutrients increases,
- » even organic farmers can get the most out of their grain
- » It can also be perfectly mixed and applied with UAN solutions.

### Directions for use

Area of use	Dose
Arable land	4-5 liters/ha when bushing and/or flowering.



Applied independently or in one pass with plant protection works.



Suitable for drone use



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.

In the case of foliar fertilization, the basic rules of spraying must also be observed.

To be used only in justified cases. Do not exceed the recommended dosage.





## >TURBO MOLYBDENUM

Molybdenum is one of the seven microelements that are considered essential for plants. Its importance in plant physiology lies primarily in the fact that it is an essential metal component of enzymes involved in nitrogen metabolism, but it also helps the accumulation of phosphorus, zinc, manganese and boron in plants. We recommend its use especially on acidic soils and in cultures demanding molybdenum.

It is important to note that our plants require the least amount of molybdenum among the microelements. It can easily be replenished through the leaves, but its movement within the plants is small, so we recommend continuous dosing when applying!

### CULTURES THAT REQUIRE MOLYBDENUM:

cruciferous, rye, oats, butterfly plants, sugar beet, tomatoes, potatoes

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	-	-	-	0,9	0,9
m/v%	-	-	-	-	-	-	-	-	-	-	1	1
g/l	-	-	-	-	-	-	-	-	-	-	10	10

Chelating agent: EDDHSA

### Advantages of its application:

- » Outstanding active ingredient content,
- » the basic element of nitrogen uptake and incorporation,
- » Can be mixed with UAN solutions.

### Directions for use

Area of use	Dose
Arable land,	for foliar fertilization: 1-2 l/ha/occasion,
Horticultural,	for foliar fertilization: 0.1 dl/10 l water)
home garden	for nutrient solution: in a concentration of 0.1-0.2% (1-2 l /1000 l of water)



Treatments can be repeated 1-2 times depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.

To be used only in justified cases. Do not exceed the recommended dosage.



## > MAGMAX

During germination, plants use nutrients and energy reserves stored in the seed. However, due to the rapid growth of the plant, there is a need for an external source of nutrients and energy. FitoHorm MagMAX contains micro- and macronutrients in the right ratio for germinating seeds. This is also supported by laboratory tests. The nutrients applied to the surface of the seeds during germination are used by the plant during germination, which helps in the initial development.

When creating the composition of the soil, we used microelements such as Zinc (Zn), which helps primary rooting, Boron (B) and Manganese (Mn), which play a key role in carbohydrate metabolism, and Molybdenum (Mo), which helps the uptake and integration of Nitrogen and Boron. The dose used accelerates the seedling's clay metabolism, promotes the incorporation of nutrients that can be absorbed from the seed and the soil. Thanks to this, the root mass and stress tolerance increase.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	1	-	2	0,2	0,08
m/v%	-	-	-	-	-	-	-	1,3	-	2,5	0,24	0,1
g/l	-	-	-	-	-	-	-	13	-	25	2,4	1

Chelating agent: EDDHSA

### Advantages of application:

- » It can be perfectly mixed with other seed dressing, increases their adhesion and efficiency,
- » extremely high coloring effect of the product,
- » provides a continuous supply of nutrients a in initial development, even on compacted, airless, alkaline soils, thereby increasing the homogeneity of the sprouted plant stock.

### Directions for use

Area of use	Dose
Seeding	4-5 liters per ton of seed, evenly applied to the surface of the seed with the required amount of water.



It can be applied to the surface of the seed alone or with weeding agents in one pass.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.

To be used only in justified cases. Do not exceed the recommended dosage.



## > CORN PLUS

A special foliar fertilizer specially made for corn, containing a complete line of microelements! The plant protection technology of corn and the dynamics of its development allow for little application. This small number of treatments usually "allows" an application period of 1-3 weeks, so it is important to be able to release as much content as possible for the plants in that 1 treatment.

FitoHorm Corn Plus also contains the nitrogen that necessary for dynamic development, the sulfur that necessary for the utilization of nitrogen, the zinc and copper that are necessary for the differentiation of the tubes. Iron and manganese provide the foundations for dynamic development with the help of stable, well-functioning photosynthesis. Boron helps the developmental processes that are essential for the development of flower organs with normal morphology. FitoHorm Corn Plus can ensure that purchased hybrids with high yield potential can show their inherent potential.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	15	-	-	-	5	-	0,125	0,05	0,005	1,5	0,01	0,0025
m/v%	19	-	-	-	6	-	0,15	0,06	0,006	1,9	0,013	0,003
g/l	190	-	-	-	60	-	1,5	0,6	0,06	19	0,13	0,03

Chelating agent: EDDHSA

### Advantages of application:

- » It contains all the essentials elements that corn needs
- » improves water balance, pollen production and keeping the pistils moist,
- » helps perfect tube differentiation,
- » ensures good fruit set.

### Directions for use

Area of use	Dose
In corn and sweet corn	4-5 litres/ha at the stage of 4-8 leaves and/or at the beginning of crown rot.



Applied independently or in one pass with plant protection works.



Suitable for drone use.

It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.



To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > MAKROSOL

MAKROSOL is a foliar fertilizer containing macroelements, with a favorable composition, specially prepared for plant conditioning. By using the product, it is possible to provide harmonious nutrient supply and improve the condition of plant cultures, ensuring quality while keeping economy in mind.

In those cases when through the foliage the replacement of macroelements is important, in which case MAKROSOL can help.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	6,6	3,3	4,16	-	-	-	-	-	-	-	-	-
m/v%	8	4	5	-	-	-	-	-	-	-	-	-
g/l	80	40	50	-	-	-	-	-	-	-	-	-

Chelating agent: EDDHSA

### Advantages of application:

- » The phosphorus found in the product is an essential constituent of plant cells,
- » strengthens rooting and the formation of flower organs,
- » As an activator of many enzymes, potassium enhances crop safety, frost tolerance, and disease resistance.

### Directions of use

Area of use	Dose
Arable land	for leaf treatment: 5 liters / ha / occasion
Home garden	for leaf treatment: in a concentration of 1-2% (0.05 liters/100 m <sup>2</sup> ), 2-5 times together with the current sprayings, for soil treatment: before sowing or planting seedlings, apply 0.1 liter/100 m <sup>2</sup> into the soil.



Applied independently or in one pass with plant protection works.



Suitable for drone use.



It can usually be used together with plant protection products, but we recommend checking the compatibility beforehand.

To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > MIKROMAX

MIKROMAX is the "Béres Drop" of plants, a real one "microelement bomb" that strengthens the immune system.

In the range of our newly developed products, by omitting the macronutrients (N, P, K), we aimed exclusively at the harmonic micronutrient supply (B, Cu, Fe, Mn, Mo, Zn).

As the name shows, it contains them in the largest possible amount, in the right proportion for the plants.

It can be applied through leaves in fields, in grape and fruit crops.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	2,4	1,0	0,12	0,18	0,2	0,05
m/v%	-	-	-	-	-	-	3	1,32	0,15	0,23	0,26	0,07
g/l	-	-	-	-	-	-	30	13,2	1,5	2,3	2,6	0,7

Chelating agent: EDDHSA

### Advantages of use:

- » For horticultural crops and ornamental plants, it can be used for soil treatment, nutrient solution and foliage fertilization,
- » can also be used before or after seeding and planting,
- » also allowed in organic cultivation,
- » can be used in field crops throughout the growing season,
- » suitable for drone use: the recommended doses can be applied in 10 liters/ha of water.

### Directions for use

Plant culture	Dose	Way of using
Grapes, olives, citrus fruits	2 - 3 l/ha	3 - 4 treatments from berry setting to harvest + 1 treatment after harvest
Fruit,berries,kiwi	2 - 3 l/ha	3 - 4 treatments from fruit setting to harvest + 1 treatment after harvest
Autumn,spring ears, rice	2 - 3 l/ha	1 treatment in the phenological stage between the end of bushing and earing
Vegetables, ornamental plants, ornamental trees, ornamental shrubs		soil treatment only: 3 - 5 ml / m <sup>2</sup> (3 ml / 1 l of water)



Applied independently or in one pass with plant protection works.



Suitable for drone use.

It can usually be used together with plant protection products, but we recommend checking the compatibility beforehand.



To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > OIL PLANT

It is the key to the vitality and good condition of our oil plants, which, thanks to its complex composition, can be used in all phases of plant development. Its use significantly improves the effect and efficiency of applied plant protection products. Among the members of the FITOHORM product family, FitoHorm Oil Plant is specially designed to meet the nutritional needs of oil plants (rapeseed, sunflower)..

Its high boron and sulfur content ensures proper bonding, enhances oil synthesis and oil extractability. Boron has the most significant effect on flower and fruit formation, and sulfur has the most significant effect on the quantity and quality of the fruit. Applied independently or in one pass with plant protection works.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	15	-	-	-	5	-	-	-	-	-	3	0,03
m/v%	18	-	-	-	6	-	-	-	-	-	4	0,04
g/l	180	-	-	-	60	-	-	-	-	-	40	0,4

Chelating agent: EDDHSA

### Advantages of use:

- » Plant-specific composition,
- » the nutrients in the product increase oil synthesis and oil extractability,
- » its high magnesium content plays an important role in the regulation of carbohydrate metabolism,
- » can be applied in one pass with plant protection works.

### Direction for use

Area of use	Dose
Sunflower	5 l/ha in the stage of 4-6 leaves and/or in the stage of star buds 3 liters at flowering
Rape	5 l/ha 5 l/ha from shoot formation to flowering virágzásig
Other oil plants	5 liters/ha at the beginning of flowering



Applied independently or in one pass with plant protection works.



Suitable for drone use.

It can usually be used together with plant protection products, but we recommend checking the compatibility beforehand.



To be used only in justified cases. Do not exceed the recommended dosage.





## > SOY

The product contains the microelements necessary for the development of soy, peas, and beans in the right proportion. In the case of soy and peas, special attention must be paid to the supply of P, K, Mg, S and microelements. An excessive level of nitrogen supply can reduce the formation of root nodules of symbiotic bacteria. It is important to replace Nitrogen in the initial period until the symbiotic relationship is working.

The lack of molybdenum, the insufficient N-fixation of root tuber bacteria and the resulting N-deficiency symptoms in many cases mask all other symptoms resulting from Mo-deficiency.

Uncharacteristic symptoms include weaker growth, early flowering, reduced seed yield and death of whole plant parts.

In leguminous, the insufficient N-fixation of root tuber bacteria and the resulting N-deficiency symptoms can be caused by molybdenum deficiency. Molybdenum deficiency can be responsible for weaker growth, early flowering and the resulting reduced seed yield. The leaves show a pale green color typical of nitrogen deficiency.

In cabbages, molybdenum deficiency results in leaf and flower distortions.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	0,3	0,4	0,4	1,25	0,4	0,25
m/v%	-	-	-	-	-	-	0,4	0,5	0,5	1,5	0,5	0,3
g/l	-	-	-	-	-	-	4	5	5	15	5	3

Chelating agent: EDDHSA

### Advantages of use:

- » It contains essential elements for the establishment of symbiosis between leguminous plants and root tuber bacteria,
- » provides for the development of a strong shoot system enough nutrients,
- » Applied together with UAN solutions has particularly good efficiency.

### Direction for use

Area of use	Dose
Soy	3 liters/ha 2-3 times during the growing season.



Applied independently or in one pass with plant protection works..



Suitable for drone use.

It can usually be used together with plant protection products, but we recommend checking the compatibility beforehand.



In the case of foliar fertilization, the basic rules of spraying must also be observed.

Do not exceed the recommended dosage.



## > GRAPES-FRUITS

It contains microelements in ideal proportions and quantities for grapes and fruit.

The most common microelement deficiency diseases can be prevented and remedied in all cultures with the continuous use of the product.

FitoHorm Grape Fruit supports the development and intensive shoot growth of young plantings

Thanks to its high boron content, it improves the fertilization and binding of flowers and reduces the frequency of flower drop. The iron in the preparation is present in an ideal form for the plants, since iron can be absorbed by the plant in the fastest and largest amount in the chelated form.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	2,6	0,26	0,125	0,125	0,25	0,025
m/v%	-	-	-	-	-	-	3,2	0,32	0,15	0,15	0,31	0,03
g/l	-	-	-	-	-	-	32	3,2	1,5	1,5	3,1	0,3

Chelating agent: EDDHSA

### Advantages of use:

- » It has all the important microelements necessary for healthy fruit, which are needed in the plantation,
- » has an effective iron content, which can be picked up the fastest way,
- » thanks to its high boron content, it improves the fertilization and binding of flowers, as well as reduces the frequency of flower drop,
- » It can also be perfectly mixed with UAN solutions and their utilization can be increased,
- » It can also be used in organic farming.

### Directions for use

Area of use	Dose
Grapes and other fruits	For leaf treatment: 3-5 l/ha/occasion. During the period of intensive shoot growth, spray on the foliage at a concentration of 1-2% and repeat every 2-3 weeks in conjunction with plant protection works.
Apple	For leaf treatment: 3-5 l/ha/occasion. After flowering until green maturity, sprayed on the foliage at a concentration of 1-2%, repeated every 2-3 weeks in conjunction with plant protection works.



Applied independently or in one pass with plant protection works..



Suitable for drone use..

It can be used together with plant protection products, but we recommend checking the compatibility beforehand



In the case of foliar fertilization, the basic rules of spraying must also be observed.

To be used only in justified cases. Do not exceed the recommended dosage.



## > VEGETABLE

The special composition of the preparation brings vegetable plants into shape. Its microelement content stimulates strong hair root growth and, in the plants typical for this, the formation of tubers. When used with plant protection products with an absorbable effect, it helps them get into the plant and transport them within the plant.

It primarily strengthens the vigor of vegetables. By using FitoHorm Vegetables, we can ensure leaf conditioning, balanced development and high quality for vegetables.

After application, it strengthens the plant's photosynthesis and the transport of assimilates, which also strengthens the root system. The macro elements in it help the vegetables absorb the nutrients nitrogen, phosphorus and potassium in the soil. The microelements in the product contribute to the incorporation of large amounts of nutrients absorbed from the soil. As a result, the treated plants grow healthier and faster.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	14,4	-	-	4	10,8	-	-	0,16	-	-	0,16	0,003
m/v%	18	-	-	5	13,5	-	-	0,2	-	-	0,2	0,004
g/l	180	-	-	50	135	-	-	2	-	-	2	0,04

Chelating agent: EDDHSA

### Advantages of use:

- » After application, it strengthens the plant's photosynthesis and the transport of assimilates, as a result of which the root system is also strengthened,
- » the microelements found in the product contribute to the incorporation of large amounts of nutrients taken from the soil,
- » thus the treated plants grow healthier and faster.

### Directions for use

Area of use	Dose
Arable land	for leaf treatment: 3 - 5 l/ha/occasion
Home garden	for leaf treatment: in a concentration of 1-2% (0.05 liters/100 m <sup>2</sup> ), 2-5 times together with the current sprays. for soil treatment: apply 0.1 liter/100 m <sup>2</sup> to the soil before sowing or planting



Applied independently or in one pass with plant protection works.



Suitable for drone use.



In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > POLYBORON 140

It is one of the symbols of leaf fertilization in Hungary, which has maintained its defining role for many years thanks to its reliable and safe operation. The polyborate complex found in Polyboron 140 stimulates the generative processes, the growth and development of the pollen tube, increases the stability of the cell wall, and is therefore absolutely necessary for the life of plants.

Being an essential microelement, its presence is vital for all crops, especially oil crops, grape and fruit crops, and some vegetables.

**BORON DEMANDING CULTURES:** rape, sunflower, sugar beet, apple, cherry, sour cherry, peaches, cabbages.

### Composition

	B
m/m%	10,8
m/v%	14
g/l	140

### Advantages of use:

- » Its intake is most intensive at the beginning of vegetation
- » greatly improves winter resistance,
- » in its absence, fertilization is reduced and binding is hindered

### Directions for use

Plant culture	Dose	Directions for use
Autumn coleseed	2 – 3 l/ha	In autumn and from stem initiation to the beginning of flowering
Sunflower	2 – 3 l/ha	From the stage of 4-6 leaves, in the stage of star buds until the beginning of flowering
Sugar beet	2 – 3 l/ha	4-6 leveles állapottól, gyökérnövekedéskor is koronaerősödéskor
Leguminous	2 – 3 l/ha	From the 3-leaf stage to the beginning of flowering
Poppy	2 – 3 l/ha	From the "hook stick" state to the beginning of flowering
Grape	1 – 2 l/ha	1 week before flowering and at maturity
Fruit	1 – 2 l/ha	Repeated 2-3 times every 2-3 weeks
Melon,Cucumber	1 – 2 l/ha	Repeated 3 times every 2-3 weeks
Paprika, Tomato	1 – 2 l/ha	For the treatment of plant stock
Tobacco	2 – 3 l/ha	For the treatment of plant stock



Applied independently or in one pass with plant protection works.



Suitable for drone use.



In the case of foliar fertilization, the basic rules of spraying must also be observed.

The foliar fertilizer Polyboron 140 can be mixed perfectly with plant protection agents, it is a highly soluble solution fertilizer, it is recommended to make a mixing test before application.



## > POLYBORON PLUS

In a special complex, the foliar fertilizer contains high amounts of boron and all microelements (molybdenum, manganese and copper) that are necessary for rapid integration.

It is important to know that boron is mostly used by plants in an organic bond through the leaves. Its intake is most intensive at the beginning of vegetation.

The effect of Polyboron Plus on flowering is enhanced and complex. When applied during the period of development of the flower organs, it stimulates their differentiation and forms well-developed flower formulas.

When applied before flowering, they have a very positive effect on the formation of pollen and improve fertility.

It helps the pollen adhere and provides energy to drive the pollen hose, thus ensuring perfect binding. Copper and zinc significantly influence the formation and development of generative organs through enzymatic processes. With the manganese in the product, we can prevent or inhibit the degradation of chlorophyll, thereby providing the energy needed for fertilization.

**BORON DEMANDING CULTURES:** rape, sunflower, sugar beet, apple, cherry, sour cherry, peaches, cabbages.

### Composition

	Cu	Zn	B	Mo
m/m%	0,1	0,1	9,6	0,02
m/v%	0,15	0,15	12,5	0,03
g/l	1,5	1,5	125	0,3

### Advantages for use:

- » When applied before flowering, it has a very positive effect on the formation of pollen, improves pollen fertility,
- » the molybdenum in it keeps the seed wet for a long time even in unfavorable conditions,
- » the copper and manganese in it significantly influence the formation and development of the generative organs through enzymatic processes.

### Directions for use

Plant culture	Dose	Directions for use
Autumn coleseed	2 - 3 l/ha	In autumn and from stem initiation to the beginning of flowering
Sunflower	2 - 3 l/ha	from the stage of 4-6 leaves, in the stage of star buds until the beginning of flowering
Sugar beet	2 - 3 l/ha	from the 4-6 leaf stage, also during root growth and crown strengthenin
Leguminous	2 - 3 l/ha	from the stage of 3 leaves until the beginning of flowering
Grape	1 - 2 l/ha	from the "Hookstick" stage until the beginning of flowering
Fruit	1 - 2 l/ha	1 week before flowering and at maturity
Paprika, Tomato	1 - 2 l/ha	Repeated 2-3 times every 2-3 weeks



Applied independently or in one pass with plant protection works..



Suitable for drone use.



In the case of foliar fertilization, the basic rules of spraying must also be observed. The foliar fertilizer PolyboronPlus can be mixed perfectly with plant protection agents, it is a highly soluble solution fertilizer, it is recommended to make a mixing test before application.



## > TURBO ZINC

FitoHorm Turbo Zinc ensures the normal growth of plants with its active ingredient. If the phosphorus content of the soil is high, it reduces the uptake of zinc.

By using the appropriate formulation, we can provide microelement replacement through the leaf. The zinc requirement of plants is usually minimal, but in certain cultures its use is very important.

It helps the tuber differentiation and rooting of corn.

In orchards and vineyards, it contributes to the normal development of shoots and leaves, improves woody growth, reduces sensitivity to frost and "winter branch death".

In soyand beans, the shedding of flowers and older leaves due to zinc deficiency can be reduced or eliminated.

**ZINC DEMANDING CULTURES:** corn, soy, grape, apricot, pear, cabbages

### Compositio

	Zn
m/m%	8
m/v%	10
g/l	100

### Advantages of use:

- » It helps the tuber differentiation and rooting of corn,
- » in orchards and vineyards, it contributes to the normal development of ,shoots and leaves
- » improves tree growth, reduces sensitivity to frost and "winter branch death",
- » zinc regulates nitrogen metabolism,
- » the high active ingredient content in FitoHorm Turbo Zinc is the maximum, which can be given to plants for Zn supplementation.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 2-3 l/ha/occasion
Horticultural, home garden	for foliar fertilization: in a concentration of 1-2 % (1 - 2 dl/10 l water) for nutrient solution: in a concentration of 0.05-0.2 % (0.5 - 2 l /1000 l water)



Applied independently or in one pass with plant protection works.



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.

It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.



To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.





## > TURBO CALCIUM

FitoHorm Turbo Calcium is a calcium fertilizer with a new philosophy developed in the spirit of cooperation. It contains calcium, magnesium and potassium in the most favorable ratio for plants. The nitrate content and formulation of the product stimulate the faster incorporation of cations into the plant.

Its components stabilize the water balance, enhance photosynthesis, enable the rapid and efficient absorption of nutrients, and basically improve the quality of the crop. In the case of vegetables/fruits, it is the basic nutrient for keeping it on the counter. The product provides a special solution when applied to rape, cabbages and apples at the right time.

**CALCIUM DEMANDING CULTURES:** apple, grapes, tomato, cucumber, melon, cabbages, autumn coleseed.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	9	-	6	2	-	10	-	-	-	-	-	-
m/v%	13,5	-	9	3	-	15	-	-	-	-	-	-
g/l	135	-	90	30	-	150	-	-	-	-	-	-

Chelating agent: EDDHSA

### Advantages of use:

- » The product in the intensive stem growth of rape longitudinal cracking of the stem can be prevented and reduced,
- » with early spring use the degree of spring frost, damage in rape can be reduced
- » the structure of the cell wall is strengthened, thanks to this plants become more resistant,
- » the formation of root hairs and nutrient absorption improves.

### Directions for use

Plant culture	Dose		Directions for use
	ml/10l	l/ha	
Vegetables	300-500	3-5	before flowering, after flowering every 9 - 10 days during the entire growing season
Grapes, Fruits	300-500	3-5	from the end of flowering to coloring every 11 days



Applied independently or in one pass with plant protection works.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.

To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO POTASSIUM

Our preparation with the highest active ingredient content (total: 97%), is the "oasis" of plants, which contains 4% nitrogen, 36% potassium and 57% sulfur.

This special nutrient ratio results extraordinary efficiency. The FitoHorm Turbo Potassium liquid solution fertilizer is used quickly and efficiently through the foliage. Potassium is the guarantee of the quantity and quality of the crop.

Potassium regulates protein synthesis, the functioning of carbohydrates and enzymes, and also plays an important role in breathing and regulating water balance. It enhances the quality, coloring and sugar content of the fruits, and improves the plants' resistance to disease, cold and drought. It is an easily mobilized element, its absence appears on the lower

**POTASSIUM DEMANDING CULTURES:** corny plants, corn, potatoes, sugar beets, sunflowers, grapes, melons, berries, legumes, celery, beets.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	3	-	26	-	41	-	-	-	-	-	-	-
m/v%	4	-	36	-	57	-	-	-	-	-	-	-
g/l	40	-	360	-	570	-	-	-	-	-	-	-

Chelating agent: EDDHSA

### Advantages of use:

- » Increases metabolic processes,
- » helps seed filling, the accumulation of carbohydrates in the seeds
- » it improves the thousand grain weight, and the yield increases with it
- » increases the quality, coloring and sugar content of the crops
- » strongly improves the resistance to cold and drought.

### Direction

Area of use:	Dose
Arable land	for foliar fertilization: 3-5 l/ha/occasion,
Horticultural, Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water)
	for nutrient solution: in a concentration of 0.5-1.0% (5-10 l/1000 l of water).



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand. In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO SULFUR

FitoHorm Turbo Sulfur increases the resistance, physiological performance and development of plants and increases the yield.

It helps the development of excellent food industry parameters and forage quality. Stimulates the amount of vegetable oils formed in the aroma channels and their species-specific content.

**The proper means of real sulfur supplementation is through leaves.**

In case of sulfur deficiency, protein synthesis is disturbed (protein content decreases), in addition to weak growth, the widening of the leaf blades remains inhibited (assimilation, growth inhibition), nitrogen utilization also decreases.

**CULTURES DEMANDING SULFUR:** rape, sugar beet, sunflower, peas, onion.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	15	-	-	-	46	-	-	-	-	-	-	-
m/v%	20	-	-	-	60	-	-	-	-	-	-	-
g/l	200	-	-	-	600	-	-	-	-	-	-	-

Chelating agent : EDDHSA

### Advantages of use:

- » It has an extra high absorbable sulfur content,
- » in addition to the quality of the crop, it also has a positive effect on the quantity,
- » increases the dry matter content of plants and moderates drought damage,,
- » increases protein and oil production.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 2-3 l/ha/occasion
Horticultural, Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand. In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO MAGNESIUM

FitoHorm Turbo Magnesium is a product with a special effect and excellent uptake by our cultivated plants. All this is thanks to its exceptionally pure raw material and careful formulation. Magnesium, which is among its active ingredients, can be absorbed by plants with unique efficiency. The phosphorus content of FitoHorm Turbo Magnesium strengthens rooting and the formation of flower organs, thus the development of generative organs.

FitoHorm Turbo Magnesium makes plant metabolism and transport processes more efficient and faster. In grapes, it is a remedy for cluster peduncle paralysis. In the case of fruit and vegetable plants, it is important to apply before the full load period, thus avoiding periodic weakening of the plants.

**CULTURES DEMANDING MAGNESIUM:** rape, sunflower, potato, melon, tobacco, grapes, paprika, tomato, cucumber, cabbages.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	3	26	-	7,5	-	-	-	-	-	-	-	-
m/v%	4	35	-	10	-	-	-	-	-	-	-	-
g/l	40	350	-	100	-	-	-	-	-	-	-	-

Chelating agent : EDDHSA

### Advantages of use:

- » It increases the metabolism of the plant, thereby helping its optimal growth
- » the greening force (responsible for the deep green color in the flora),
- » strengthens rooting and the formation of flower organs, as well as the healthy development of the germ within the seed
- » The tank mixture has a concentration of 0.1-0.5% can also be used for water softening.

### Direction for use

Area of use:	Dose
Arable land	or foliar fertilization: 2-3 l/ha/occasion, for soil fertilization: 5-10 l/ha/occasion.
Horticultural, Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for soil fertilization: 5-10 l/ha/occasion for nutrient solution: in a concentration of 0.1-0.5% (1-5 l /1000 l of water)



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand..

In the case of foliar fertilization, the basic rules of spraying must also be observed.

It is important that FitoHorm Turbo Magnesium is the first component when putting together the tank mixture, and then add the other components after mixing it!



## > TURBO MANGANESE

Like magnesium, iron and some heavy metals, manganese participates as an enzyme activator in plants' metabolic processes.

It plays a fundamental role in protein synthesis, the citric acid cycle and photosynthesis. Strong drying of the soil can lead to dehydration of various manganese salts.

Dehydration reduces the solubility of compounds, so it can result in a relative manganese deficiency. In addition to the manganese content in the product, it also contains a significant amount of highly absorbable molybdenum, which favorably affects nitrogen metabolism processes.

**CULTURES DEMANDING MANGANESE:** corny plant, rape, soy, sugar beet.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	6,6	-	-	-	0,4
m/v%	-	-	-	-	-	-	-	8	-	-	-	0,5
g/l	-	-	-	-	-	-	-	80	-	-	-	50

Chelating agent : EDDHSA

### Advantages of use:

- » Its use improves flower and crop formation.
- » the microelements found in the product contribute to the incorporation of large amounts of nutrients
- » thus the treated plants grow healthier and faster,
- » strengthens the plant's photosynthesis and transport of assimilates

### Direction for use

Area of use:	Dose
Arable land	for foliar fertilization: 3-5 l/ha/occasion (with 250-350 l/ha water volume), for soil fertilization: 4 l/ha/occasion.
Horticultural, Home Garden	for foliar fertilization: 1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l /1000 l of water)



Treatments can be repeated every 2-3 weeks during the breeding season



.Suitable for drone use



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.  
To be used only in justified cases. Do not exceed the recommended dosage

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO NITROGEN

The product is the "energy drink" of our plants. Thanks to the urea formaldehyde contained in the product, a continuous supply of nitrogen is ensured for the plant.

After application, nitrogen absorption is guaranteed by the form of urea, which results in a gradual and uniform supply of nutrients over several weeks. Its effectiveness and effect stand out compared to solid fertilizers applied in dry weather in the spring..

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	24	-	-	2,3	5,3	-	-	-	0,008	-	-	-
m/v%	30	-	-	3	6,5	-	-	-	0,01	-	-	-
g/l	300	-	-	30	65	-	-	-	0,1	-	-	-

Chelating agent : EDDHSA

### Advantages of use:

- » Thanks to the urea-formaldehyde complex form there is no risk of leaf scorching,
- » continuously feeds the plant during its discovery,
- » thus does not cause chronic tissue elongation/thinning,
- » is a liquid nitrogen fertilizer that gives our plants a chance even in drought

### Directions for use

Plant culture	Suggested quantity [l/ha]	Required amount of water [l/ha]	Way of use
Rape	10-15	100-250	4-6 leaf stage, between budding and flowering
Corny plants	10-15	100-250	From the beginning of bushiness to the appearance of the ear
Sunflower	10-15	100-250	From the 4-leaf stage to the star bud stage
Corn	10-15	100-250	4-6 leaf stage and after 15-20 days
Sugar beet	10-15	100-250	4-6 leaf state and 1 month later
Grape-Fruit	5-10	300-750	1-1 times: before flowering, after flowering and after harvest, before leaf fall



In addition, the treatments can be repeated 2-6 times according to the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand..

To be used only in justified cases. Do not exceed the recommended dosage

In the case of foliar fertilization, the basic rules of spraying must also be observed.





## > TURBO COPPER

Plants absorb copper in ion or chelate form, in complex form. The replacement of copper can be done entirely through the plant leaves.

In the case of eared grains, copper deficiency may occur due to inhibited transport processes. In case of deficiency, the cell wall and transport beams develop abnormally, so the plants quickly fall over (harvest loss).

Thanks to the special and stable formulation in FitoHorm Turbo Copper, we have the possibility of very high copper replacement.

It is also particularly effective when mixed with UAN solutions.

**COPPER DEMANDING CULTURES:** corny plants, apple, plums, peaches, citrus fruits.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	15	-	-	-	8,6	-	-	-	6	-	-	-
m/v%	20	-	-	-	11,5	-	-	-	8	-	-	-
g/l	200	-	-	-	115	-	-	-	80	-	-	-

Chelating agent : EDDHSA

### Advantages of use:

- » Its use improves the plant's drought tolerance,
- » helps the formation of the bushy knot, stimulates the differentiation of the ear
- » it protects chlorophyll from premature breakdown, so it grows assimilation performance,
- » photosynthesis and metabolic processes improve.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 2-3 l/ha/occasion
Horticulture Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.05-0.25% (0.5-2.5 l/1000 l of water)



Treatments can be repeated 2-6 times during the growing season, depending on the degree of nutrient deficiency.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.  
To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO START

Over the past years, FitoHorm Kft. has set itself the goal of developing a foliar fertilizer that can not only be used through leaves, but can also be perfectly mixed with UAN solution for plants with a smaller green surface, can also be used through the soil, and helps the plants to have an explosive initial development.

When used in an early phenological state, as a foliar fertilizer, it has a special effect on rooting even when applied to a small leaf area.

We do not have any economic plant where the intensity of initial development does not decisively influence the subsequent success of cultivation.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	9	19	-	-	-	-	0,02	-	0,0025	0,25	0,014	0,001
m/v%	11	23	-	-	-	-	0,025	-	0,003	0,3	0,017	0,0014
g/l	110	230	-	-	-	-	0,25	-	0,03	3	0,17	0,014

Chelating agent : EDDHSA

### Advantages of use:

- » It increases the metabolism of the plant, and it helps optimal growth,
- » the greening force (responsible for the deep green color in the flora),
- » increases the activity of photosynthesis,
- » strengthens rooting and the formation of flower organs, as well as the healthy development of the germ within the seed.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 3-5 l/ha/occasion
Home garden	for foliar fertilization: 1-2 dl/10 l of water) for soil fertilization: 4 l/ha/occasion for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)



Treatments can be repeated every 2-3 weeks during the breeding season.



Suitable for drone use.



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand.

To be used only in justified cases. Do not exceed the recommended dosage.

In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > TURBO MAKRO

FitoHorm Turbo Makro is a liquid complex foliar fertilizer that is recommended for remedying development problems caused by extreme weather conditions and other stress. The macroelement composition (10-10-10 NPK) found in the leaf fertilizer restarts the slowed down or stopped metabolic processes by adding the special form of phosphorus, and starts the defense mechanism of the plants.

It helps the development of plants at every stage of development, improves the content and color of the crops, and helps the development of better-quality, tastier, juicier, easy-to-transport and long-lasting, well-storable crops.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	8	8	8	-	-	-	-	-	-	-	-	-
m/v%	10	10	10	-	-	-	-	-	-	-	-	-
g/l	100	100	100	-	-	-	-	-	-	-	-	-

Chelating agent : EDDHSA

### Advantages of use:

- » Thanks to the harmonic composition improves the quality and quantity parameters of the crop
- » initiates rooting,
- » fast absorption through foliage is guaranteed
- » increases the utilization of most plant protection agents.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 3-4 l/ha/occasion
Horticultural, Home garden	for foliar fertilization: 1-2 dl/10 l of water) for soil fertilization: 4 l/ha/occasion for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)



Treatments can be repeated every 2-3 weeks during the breeding season.



Suitable for drone use



It can also be used together with plant protection agents, but we recommend checking the compatibility beforehand

To be used only in justified cases. Do not exceed the recommended dosage. In the case of foliar fertilization, the basic rules of spraying must also be observed.



## > FITOHORM 10 B

FitoHorm 10 B is a boron-containing fertilizer solution, with a chelating agent, which can be used as a foliar fertilizer and nutrient solution in all plant cultures to supply nutrients or to prevent and cure deficiency diseases.

Boron stimulates the generative processes, the growth and development of the pollen tube, increases the stability of the cell wall, and is therefore absolutely necessary for the life of plants. In its absence, fertilization is reduced and binding is hindered. Being an essential microelement, its presence is vital for all plant cultures, especially for grape and fruit, oil plants and some vegetables.

### Directions for use

Area of use	Dose
Arable land	Dose for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) or nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	-	-	-	2,2	-
m/v%	-	-	-	-	-	-	-	-	-	-	2,5	-
g/l	-	-	-	-	-	-	-	-	-	-	25	-
Chelating agent : EDDHSA												

## > FITOHORM 14 N

In its absence, the leaves are pale, turn yellow, and remain small. The yellowing of the leaves starts from the top of the leaves, the shoots become stiff and close to the stem.

Photosynthesis is inhibited, growth is retarded, the taste intervals are shortened, the development of the flower parts is delayed, and early fruit drop occurs. Frost tolerance of plants decreases. Since root formation is also inhibited, nutrient uptake is also hindered.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5-10 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	27	-	-	-	-	-	-	-	-	-	-	-
m/v%	32	-	-	-	-	-	-	-	-	-	-	-
g/l	320	-	-	-	-	-	-	-	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 30 P

It is a mobile element that is well mobilized in the plant and is directed to the fruit after fertilization following flowering. In its absence, the development of the root system is limited (reduced nutrient uptake), less branched, weak shoots develop, and in severe cases the plant may become bald.

The undersides of the leaves are dark green, blue-green, and later red. Flowering is weak, binding is poor, and the fruit can often be kicked out... **FitoHorm 30 P**, which is a solution fertilizer that can be applied through the foliage together with plant protection, provides a suitable solution for ensuring the phosphorus supply of plants.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	6,4	16,4	-	-	-	-	-	-	-	-	-	-
m/v%	7	18	-	-	-	-	-	-	-	-	-	-
g/l	70	180	-	-	-	-	-	-	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 24 Mg

The magnesium content of our soils is generally satisfactory, but its deficiency still occurs. This is mostly due to the preponderance of so-called antagonistic nutrients (potassium, copper, manganese, ammonium ions) in the soil.

Its deficiency first appears on the older leaves, the leaves lighten and then turn yellow, and chlorophyll remains only in the leaf veins. Damaged leaves drop early, causing fruit trees to go bald.

### Directions for use

Area of use	Dózis
Arable land	Dose for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	5,28	9	-	-	-	-	-	-	-
m/v%	-	-	-	6,6	10,6	-	-	-	-	-	-	-
g/l	-	-	-	66	106	-	-	-	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 39 K

NPK 3-6-9 chlorine-free fertilizer solution with chelating agent, which can be used as a foliar fertilizer and nutrient solution in all plant cultures to supply nutrients or to prevent and cure deficiency diseases. It enhances the quality, coloring and sugar content of the crops, and improves the plants' resistance to disease, cold and drought.

It is an easily mobilized element, its absence appears on the lower leaves. The most common deficiency symptom is that there is a disturbance in the turgor regulation of the plant. The growth of the plant is inhibited (rosette plant), and stunted foliage develops. Necrosis spreading inwards from the edge of the leaf, light brown coloration along the leaf tip and edge is common.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	2,5	5	7,5	-	-	-	-	-	-	-	-	-
m/v%	3	6	9	-	-	-	-	-	-	-	-	-
g/l	30	60	90	-	-	-	-	-	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 40 Ca

Among the nutrients that determine fruit quality, one of the most important is calcium, which has a known, general effect of slowing down and delaying fruit ripening processes. Fruits with a good supply of calcium have a lower respiration intensity, usually have a harder flesh, so they can be stored better and are less susceptible to diseases of physiological origin.

The ability to absorb, transport and integrate calcium within the plant is very special, which makes it difficult for the fruit to reach the appropriate amount during the growing season. Continuous calcium supply through the foliage is essential.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	8,57	-	-	-	-	15	-	-	-	-	-	-
m/v%	12	-	-	-	-	21	-	-	-	-	-	-
g/l	120	-	-	-	-	210	-	-	-	-	-	-
Chelating agent: EDDHSA												



## > FITOHORM 40 Ca NITROGEN FREE

Among the nutrients that determine fruit quality, one of the most important is calcium, which has a known, general effect of slowing down and delaying fruit ripening processes. Fruits with a good supply of calcium have a lower respiration intensity, usually have a harder flesh, so they can be stored better and are less susceptible to diseases of physiological origin.

The ability to absorb, transport and integrate calcium within the plant is very special, which makes it difficult for the fruit to reach the appropriate amount during the growing season. The danger of low calcium content cannot therefore be explained only by the low level of absorbable calcium content in the soil. Continuous calcium supply through the foliage is indispensable. Using it before the fruit ripens helps to achieve perfect coloring and has a positive effect on the shelf life.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	8,57	-	-	-	-	15	-	-	-	-	-	-
m/v%	12	-	-	-	-	21	-	-	-	-	-	-
g/l	120	-	-	-	-	210	-	-	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 54 Mn

Manganese uptake by plants is inhibited on alkaline soil. In most cases, long-lasting, persistent drought, soil compaction, flooding and the period after liming also cause manganese deficiency.

Maize plants are particularly sensitive to the stability of manganese supply. In their case, an important criterion is that the culture suffering from manganese deficiency becomes particularly sensitive to the cold.

Its deficiency can be detected mainly in wheat, barley and oats. The most obvious deficiency symptom is the marbling of the leaves (lightening between the leaf veins), dry spots. Manganese is also a yield-determining factor for root and tuberous plants (sugar beets, potatoes, root vegetables) and legumes (peas, beans, soys, lentils), so manganese fertilization brings positive quality results for these crops.

### Directions for use

Area of use	Dózis
Arable land	for foliar fertilization: 3-5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	3,2	-	-	-	-
m/v%	-	-	-	-	-	-	-	4	-	-	-	-
g/l	-	-	-	-	-	-	-	40	-	-	-	-
Chelating agent : EDDHSA												

## > FITOHORM 55 Fe

A particularly effective formula for the treatment and prevention of iron deficiency. Iron plays an important role in the synthesis of chlorophyll and protein, it is an enzyme creator, it mainly regulates respiration and metabolism. It is difficult to move in the plant, it is difficult to mobilize. Its deficiency occurs most often in grape and fruit cultures.

A relative lack of iron can occur on compacted, airless, alkaline or cool soil, first the veins, later the veins are white, the leaves turn bright yellow (yellowing of the leaves). The symptom is more pronounced in cool, wet weather. Its uptake is inhibited by calcium ions

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	3,2	-	-	-	-
m/v%	-	-	-	-	-	-	-	4	-	-	-	-
g/l	-	-	-	-	-	-	-	40	-	-	-	-

Chelating agent : EDDHSA

## > FITOHORM 63 Cu

A **FitoHorm 63 Cu** copper solution is a liquid, easy-to-handle preparation. Its chelated copper content ensures the effective absorption of copper through the leaves and its incorporation into the plant, enabling the prevention of nutrient deficiency and its quick and effective remedy.

A lack of copper causes the so-called "whiteness of the ears" of the ears (oats, barley, wheat), when the leaves and, in more severe cases, the ears also turn white and dry up. All of this can be attributed to obstructed water transport caused by insufficient copper supply. In the absence of copper, plant tissues weaken, which increases the risk of tipping over. Its absorption from limed and nitrogen-rich soils is particularly difficult.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	-	3,2	-	-	-
m/v%	-	-	-	-	-	-	-	-	4	-	-	-
g/l	-	-	-	-	-	-	-	-	40	-	-	-

Chelating agent : EDDHSA

## > FITOHORM 65 Zn

Today, the soils of our country are increasingly deficient in zinc. The following crops are most sensitive to its deficiency: corn, wheat, apples, cherries, sour cherries, peaches, plums, roses, berries, peppers. In case of zinc deficiency, it is parallel to the vein of the leaf chlorotic striations appear, the growth of the plant is retarded, the

taste spaces are shortened (dwarfism in fruit crops), the development of the flower parts becomes delayed, the grains (corn) and fruits are deformed. The growth and development of the root system is also retarded, as a result, the plant is less anchored in the soil and the absorption of nutrients through the roots is also hindered.

### Directions for use

Area of use	Dose
Arable land	for foliar fertilization: 3-5 l/ha/occasion
Horticultural Home garden	for foliar fertilization: in a concentration of 1-2% (1-2 dl/10 l of water) for nutrient solution: in a concentration of 0.1-0.5% (1-5 l/1000 l of water)

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	-	-	-	3,2	-	-
m/v%	-	-	-	-	-	-	-	-	-	4	-	-
g/l	-	-	-	-	-	-	-	-	-	40	-	-
Chelating agent : EDDHSA												

## > FITOFERR T3

Iron-containing fertilizer solution with chelating agent, which can be used to prevent and cure

iron deficiency in arable and horticultural crops, on alkaline, calcareous soils, primarily in the form of soil treatment.

### Directions for use

Area of use	Dose
Grapes, Fruits	at installation 10-15 ml / vine in growing grapes: 50-120 ml / vine
Berries	25-100 ml / vine
Ornamentals	ornamental shrubs: 5-25 ml / stem ornamental trees: 120-250 ml / stem rose: 10-25 ml / stem
Foil cultivation	for nutrient solution: 0.5-1 l / m <sup>3</sup> of water

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	-	-	-	-	-	-	2,4	-	-	-	-	-
m/v%	-	-	-	-	-	-	3	-	-	-	-	-
g/l	-	-	-	-	-	-	30	-	-	-	-	-
Chelating agent : EDDHSA												

## > COMPLETE PLUS

We recommend it for nutrient supplementation of garden, balcony and pot ornamental plants, as well as vegetable plants. FitoHorm Complete Plus, as its name suggests, is a complete, solid irrigation fertilizer that contains large quantities of the most important macro- and microelements. Due to its composition, it can be used for any houseplant, garden or flowering ornamental plant, both through foliage and soil.

It dissolves extremely quickly, and thanks to its high nutrient content, it is a very effective and economical preparation, which, in addition to preventing and curing nutrient deficiencies, also has a positive effect on flowering and improving the quality of the crop.

### Composition

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	CaO	Fe	Mn	Cu	Zn	B	Mo
m/m%	14	7	21	-	22	-	0,165	0,032	0,017	0,02	0,01	0,002
Chelating agent : EDDHSA												

### Directions for use

Area of use	Dose
Ornamental plants	As a foliar fertilizer: sprayed on leaves in a concentration of 0.2-0.5%. Applied to the soil as a nutrient solution: 10 g / 10 l of water (1 measuring spoon)
Geranium	As a foliar fertilizer: sprayed on leaves in a concentration of 0.2-0.5%. Applied to the soil as a nutrient solution: 20 g / 10 l of water (2 measuring spoons)
Vegetables	As a foliar fertilizer: sprayed on leaves in a concentration of 0.2-0.5%. Applied to the soil as a nutrient solution: 10-20 g / 10 l of water (1-2 measuring spoons)

**NEW!**



1 kg of FitoHorm Complete Plus is enough for 1000 liters of water!



The nutrient solution is carried out weekly and followed by wash-in irrigation.  
To be used only in justified cases. Do not exceed the recommended dosage.

*FitoHorm*





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