



PRODUCT CATALOGUE

GENEZIS

INTRODUCTION

THE DOMINANT MEMBERS OF THE HUNGARIAN FERTILISER MARKET ARE NITROGÉNműVEK ZRT., BIGE HOLDING KFT. AND PÉTI NITROKOMPLEX KFT. NITROGÉNműVEK ZRT. HAS BEEN A MEMBER OF THE BIGE HOLDING GROUP SINCE 2002.

The factory was established in 1931 and today it is the only Hungarian nitrogen fertiliser producing company with ammonia and fertiliser production capabilities. Due to its several decades of professional experience and agricultural commitment, the company has been a market leader for years in the field of fertiliser distribution in Hungary. Currently, the share of Nitrogénművek Zrt. accounts for more than 60% of the Hungarian fertiliser market. The company addresses the challenges of our time by continuously developing its products, investing in production plants and reinvesting a major part of its profits. As always, throughout the entire investment project, which now exceeds EUR 460 million, the protection of the environment was of paramount importance for each commissioned plant. It is supported through compliance with strict safety standards and the use of cutting-edge technologies. In 2003, the company united its fertiliser products under the Genezis brand. The company's primary objective is to fully meet the agricultural demand for fertilisers, with special emphasis on its world-class nitrogen products, in the Hungarian and ever-growing export markets. In order to provide the broadest range of services possible to its partners, it has expanded to include the Seed, Crop Trade, Pesticide and Horticulture Business Units, and now also provides advisory services. The company's own truck logistics fleet is used to deliver all goods smoothly.

The scope of activity of Bige Holding Kft. was expanded in 2004 with the production and packaging of compact NPK fertilisers. The fertilisers are distributed by Nitrogénművek Zrt. The Szolnok plant uses cutting-edge technology and is able to produce complex fertilisers of any composition. In addition to its environmentally friendly technology, the plant also has favourable specific energy consumption.

Péti Nitrokomplex Kft. has been manufacturing, marketing and developing fertilisers containing macro-, mezo- and microelements since 1991. In addition to the production and distribution of special, horticultural, liquid and solid fertilisers, it also makes and distributes small packaging units of the basal dressings for hobby gardens, produced by Nitrogénművek Zrt. and Bige Holding Kft. The company also supplies basal dressings to farmers and its micronutrient preparations can also be used in organic farming.

The goal of the Bige Holding Group is to satisfy customer needs with high quality and a flexible service. To this end, it performs its activities in accordance with the requirements of the MSZ EN ISO 9001:2015 quality management standard. The operation of Nitrogénművek Zrt. also complies with the requirements of the MSZ EN ISO 14001:2015 standard. The company considers environmental protection to be a core value of its production and corporate culture. The Genezis Partner Network was established in 2009, in order to offer better services to end users. In addition to the existing distribution network, this direct sales team offers farmers the full range of Genezis fertilisers. Nitrogen and complex NPK fertilisers, solid and liquid preparations, as well as irrigation and foliar fertilisers make up the broad range of Genezis products. This comprehensive selection of fertilisers, combined with expert advice, helps make farming as cost-effective as possible.

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GENEZIS NITROGEN FERTILISERS

GENEZIS PÉTISÓ 27% N + 7% CaO + 5% MgO

Pétisó (calcium ammonium nitrate), i.e. 'CAN' is a market-leading solid lime ammonium nitrate (MAS, CAN) fertiliser manufactured since 1931. What makes it different from other preparations is that instead of lime (CaCO₃), finely ground dolomite, which is the double salt of calcium carbonate (CaCO₃) and magnesium carbonate (MgCO₃), is mixed into the product. It has a nitrogen content of 27%, but including its 7% CaO and 5% MgO content, its total active ingredient content is 39%.

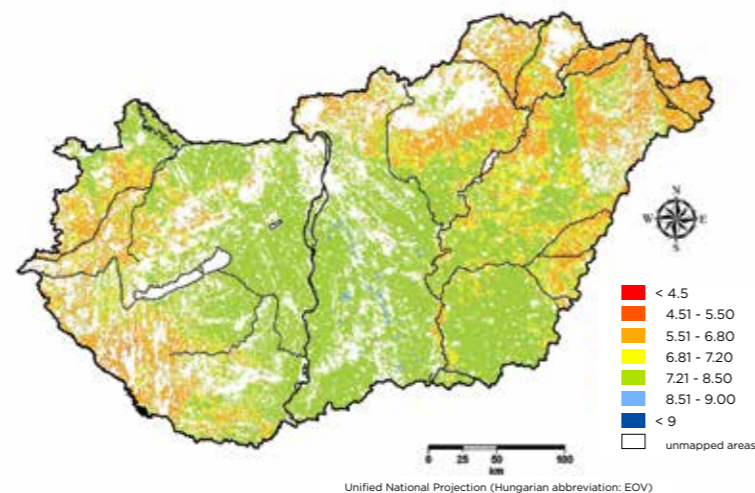
Each 1 tonne of Pétisó contains 228 kg of soil improver (dolomite).

CaCO₃ and MgCO₃ are insoluble in water, but when combined with various acids (carbonic acid, soil acids, root acids and nitric acid) they become water-soluble compounds and can thus be absorbed by plants. To make this process easier, the dolomite is mixed into the fertiliser in a finely ground form. The average particle size of dolomite powder is 40 micrometres. Due to its dolomite content, it is especially effective in acidic soils and through its calcium and magnesium content it improves the soil structure. It is especially recommended for fertilising magnesium-intensive crops - potatoes, sugar beet, perennial leguminous plants, maize, rapeseed, oats, horticultural plants and herbs!

The dolomite in Pétisó increases the calcium content and pH of the soil, so it has a neutralizing effect.

This is important, because soil acidification is the most extensive degradation process in Hungary. In Hungary, the agricultural area in need of improvement is approx. 2.8 million hectares, of which approx. 2.2 million hectares are affected by soil acidity.

Figure 1: The pH of the soils of our country



In Hungary, almost 70% of soils are threatened by soil acidification. 43% of Hungarian soils are slightly acidic, while 13% are heavily acidic, and this proportion is continuously increasing (Figure 1).

Such soils are mostly in the western and southern half of Transdanubia, in the Northern Central Mountains, in the tributaries of the River Tisza and its water system, and in the in alluvial areas of the Rába, etc. A soil is said to be acidic when its pH is below 6.8.

There are many reasons for the development of soil acidity: climatic factors, soil-forming rock, topographic and hydrological conditions of the landscape,

biological effects and last, but not least, anthropogenic effects. Man acidifies the soil with industrial pollution, calcium extracted with the crop and, particularly, inadequate, unreasonable fertilisation.

Although high yields cannot be achieved without high-dose fertilisation, most fertilisers directly or indirectly acidify the soil. Of those, nitrogen fertilisers acidify most intensively.

The acidifying effect of fertilisers is shown by the lime index, which shows how many kilogrammes of calcium carbonate can neutralize the acidifying effect of 100 kg of fertiliser. The lower the lime index, the less acidification is caused by the given fertiliser (Table 1).

Table 1: Lime index of various nitrogen fertilisers

Fertiliser:	Lime Index
Ammonium sulphate 20.5%	100
Urea 46%	80
Ammonium nitrate 34%	60
Nitrosol 30	40
Pétisó 27%	10
Pétimészó	-30

GENEZIS NITROGEN FERTILISERS

It can be clearly seen from Table 1, that ammonium nitrate acidifies the soil six times more than Pétisó. Pétisó has a very low lime index so, with its regular use, sustainable nitrogen fertilisation may be achieved. It is advantageous that the dolomite, which is a component of Pétisó, is local to the immediate vicinity of the resulting root acid, and that its fine particle size allows a rapid reaction. As a result, the structure of the soil improves, its ability to supply nitrogen and phosphorus and its supply of micronutrients increase, and soil life intensifies. Thus a higher yield and better yield quality can be achieved. On acidic soils, 100 kg of Pétisó has a better effect than 100 kg of ammonium nitrate, despite the fact that the latter contains 7 kg more nitrogen!

The nitrogen in Pétisó contains the same proportion of slower-acting ammonium nitrogen and fast-acting nitrate nitrogen, so it can be used as a basal, starter and top dressing on all soil types and crops.

Pétisó is granulated in two ways. One process is granulation (granulated Pétisó), while the other is prilling (prilled Pétisó). The typical particle size of the granulated Pétisó is 2.5-6 mm,

that of the prilled one is 1-4 mm. The granular Pétisó has a good temperature tolerance and an ideal particle size distribution. Due to its particle strength and size, it is also excellent for application with more modern, larger working width fertiliser spreaders.

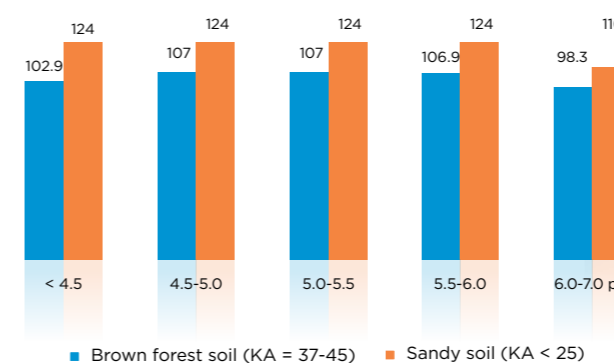
The slower water uptake and dissolution of granular Pétisó provides a continuous nitrogen supply, therefore it is recommended primarily for basal and additional fertilisation. The water uptake rate of prilled Pétisó is higher than that of the granulated version - initially equal to that of ammonium nitrate. This property makes it suitable for solubilisation as efficiently as ammonium nitrate when applied as a top dressing.

Due to the smaller particle size of the prilled Pétisó, more tiny particles reach the area per m² during application, which can result in better active ingredient distribution.

According to our experimental experience, up to a spreading width of 24 m, the prilled Pétisó also gives suitable dispersion; for machines with a larger working width, granular Pétisó should be used.

In our small-parcel R&D experiments (university experiments) and in our semi-industrial field experiments, we have been using Pétisó exclusively for years to ensure nitrogen supply replenishment, with excellent results.

Figure 2: Utilisation of Pétisó relative to ammonium nitrate [%] (Komplolt 1999; Pétisó / AN%; AN = 100%)



GENEZIS NITROGEN FERTILISERS

GENEZIS PÉTIMÉSZÓ 15.9% N + 16.1% CaO + 11.6% MgO

Soils with a pH_{KCl} below 6.0 are considered to be acidic, in need of lime fertilisation or chemical soil improvement; approx. half of Hungary's arable land falls into that category. Soil acidity is caused by acidic, non-carbonate soil-forming rock, acidifying substances from the decomposition of plant residues with acidic effect, increased leaching due to heavy rainfall and poor soil water retention capacity, atmospheric acid deposition, air pollution, the disposal of acidic waste and the application of fertilisers. Of the above reasons, it is mostly the ill-considered fertilisation concept of recent decades that we can and must change. It takes only a decade or two (not centuries) to acidify a good productive soil with acidifying fertilisers (Figure 3).

Soil acidity has a detrimental effect on nutrient uptake. The soil is depleted in nutrients and significant amounts of calcium are also leached. In extreme cases, the uptake of elements toxic to plants (aluminium, manganese, iron and heavy metals) increases, while the uptake of phosphorus decreases.

The structure of the soil, and thus its water management properties, also deteriorates. The soil will be more prone to compaction, its air management will be poor, and no permanent crumbs will form.

The soil will not be able to absorb and drain the increased amount of precipitation. Soil acidity has a detrimental effect on microbial activity (especially, nitrification is pushed into the background) and thus on nutrient uptake.

With sustainable agricultural production in mind, we need to stop the acidification process that has been caused through the excessive use of acidifying fertilisers and the failure to replace calcium.

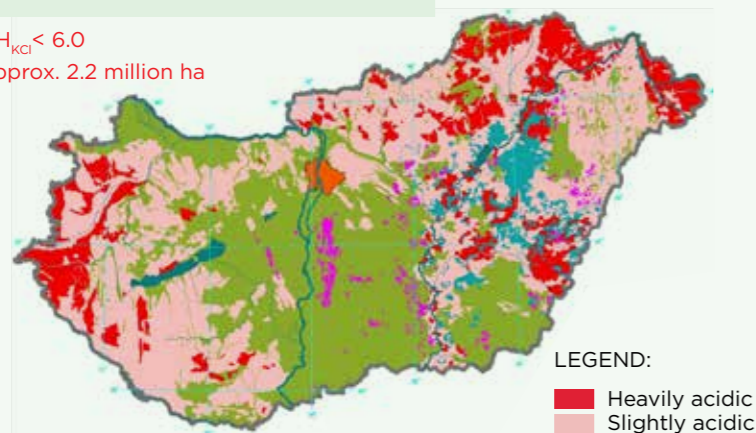
The beneficial effects of improving (liming) acidic soils include an increase in the number of calcium ions in the soil, the reduction of acidity (increase pH), phytotoxicity and crusting, improvement in soil structure, revitalised soil life, improved utilisation of fertilisers and improvement in the quality of generated organic matter.

It should be noted that, without high-dose fertilisation, high yields are no longer achievable these days. However, most fertilisers have a direct or indirect acidifying effect to a greater or lesser extent. Genezis Pétimészó is a new, innovative soil improving and conditioning preparation that reduces soil acidity and contains calcium, magnesium and, last but not least, nitrogen, which is a solution not



Figure 3: Hungary's acidic soils

$pH_{KCl} < 6.0$
approx. 2.2 million ha



GENEZIS NITROGEN FERTILISERS

only for stopping soil acidity, but also for chemically improving acidic soils. Moreover, it also supplies the plant with nitrogen and magnesium!

Part of the amount of the conditioner in GENEZIS PÉTIMÉSZÓ counterbalances the acidifying effect of the nitrogen content of the product, while another part raises the pH of the soil towards of the favourable, neutral range.

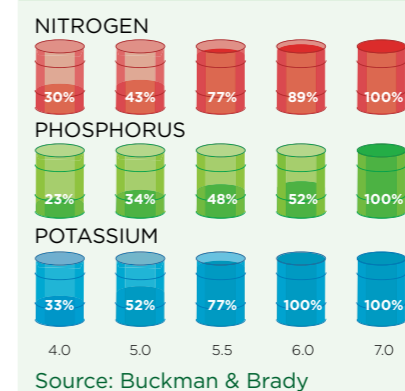
576 kg of $CaCO_3$ equivalent soil improver, 159 kg of nitrogen and 116 kg of MgO is added to the soil with the application of each tonne of GENEZIS PÉTIMÉSZÓ. Various acids (carbonic acid, soil acids, root acids and nitric acid) convert its calcium and magnesium content into water-soluble compounds which can be absorbed by plants. This can also remedy one of the common problems of acidic sandy soils: magnesium deficiency. On the other hand, the amount of calcium and magnesium in GENEZIS PÉTIMÉSZÓ covers the need for 10 t/ha of maize or 4 t/ha of sunflower or 4 t/ha of rapeseed or 9 t/ha of wheat. Due to its calcium and magnesium content, it is an excellent solution, especially for magnesium-intensive crops such as potatoes, sugar beet, perennial leguminous plants, maize, rapeseed, cereals (oats), horticultural plants and herbs, and on acidic sandy soils. GENEZIS PÉTIMÉSZÓ, as a preparation that also contains magnesium, improves the supply of magnesium to the plant, has a beneficial effect on the body of animals during feeding and ultimately on the human body through the consumption of animal-based food.

The soil improving active ingredient in the product is alkaline, so it is very effective in increasing the pH of acidic soils. The soil improvement component used in the

production of GENEZIS PÉTIMÉSZÓ has a small grain size (20-40 μm) so, due to its huge specific surface area, it can be quickly absorbed in acidic soils and can quickly exert a pH-raising effect.

The product improves the structure of the soil, increases its ability to supply nitrogen and phosphorus, and revives soil life. The amount of phosphorus that can be absorbed into the soil can increase by up to 20%! Thus a higher yield and better yield quality can be achieved.

Figure 4: Relationship between utilisation of each nutrient [%] and soil pH



An experiment was set up on acidic sandy soil ($pH_{KCl} = 4.23$; $pH_{water} = 5.43$) to examine the effect of a GENEZIS PÉTIMÉSZÓ dose equivalent to 109 kg/ha of nitrogen active ingredient and 400 kg/ha of calcium carbonate, ammonium nitrate control and the effect of two commercially available soil improvers (for which the nitrogen source was ammonium nitrate). The two commercial soil improvers could not at all or only partially offset the soil acidifying effect of nitrogen from 109 kg/ha of ammonium nitrate (Figure 1). In contrast, GENEZIS PÉTIMÉSZÓ not only offset it, but also raised the pH of the soil and reduced its latent acidity. This is clear evidence of the product's effective and rapid soil improvement.

Figure 5: Soil acidification effect of ammonium nitrate and its compensation with soil improvers (with 109 kg/ha nitrogen active ingredient and 400 kg/ha $CaCO_3$ equivalent)

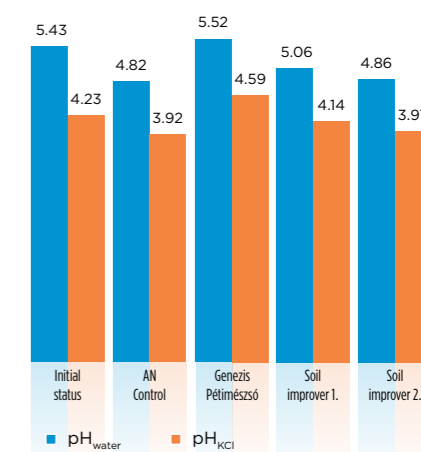
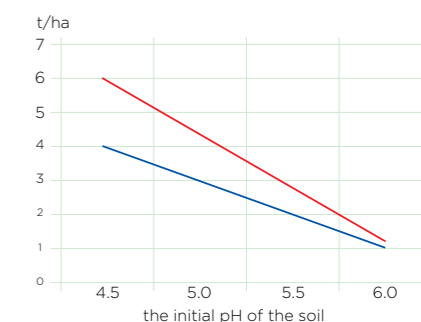


Figure 6: The Pétimészó dose required to improve the pH_{KCl} of the soil to 6.5, expressed as t/ha



GENEZIS PÉTIMÉSZÓ is a granular product with a grain size of 2.5-6.3 mm. Its grain solidity is high, its grain size is uniform; its grains are almost completely spherical, so it can be spread with a uniform dispersion even when applied on a large working width. Due to the spherical shape, it is less abrasive to metal parts of the spreader.

GENEZIS NITROGEN FERTILISERS



GENEZIS PÉTISÓ+S FOR NITROGEN REPLACEMENT AND TREATMENT OF SULPHUR DEFICIENCY

Sulphur is an essential nutrient for living organisms and is the fourth largest component, by volume, of plant organisms after nitrogen, phosphorus and potassium. It is a building block of sulphur-containing amino acids, peptides, proteins, enzymes and vitamins (B1, Biotin, Thiamine). Sulphur is best known for its role in the synthesis of fatty acids, making it particularly relevant for the cultivation of oilseed crops (rapeseed, sunflower). It increases the green mass and chlorophyll content in appropriate amounts, stimulates the vegetative growth of plants, improves the digestibility and palatability of feed crops. It affects the frost tolerance of plants. In cereals, properly applied sulphur fertilisation increases their value in the baked goods industry. Sulphur enhances the resistance of plants to pests and pathogens, thus improving crop safety.

Sulphur and signs of its absence

Sulphur deficiency occurs more and more frequently in plants. Its symptoms are similar to nitrogen deficiency, but it first appears on younger leaves. In the absence of sulphur, the amount of soluble nitrogen compounds increases, the protein content and enzyme functions decrease, i.e. the growth of plants becomes increasingly delayed. The leaves (it appears on young leaves) will turn light green, yellow, reddish (leaf veins and petioles), and the plant will become rigid. At the edges of the leaves, a pale green and then a yellowish discolouration begins and it moves inwards until eventually the leaf dies. Initially, on the faded light green leaves, the leaf veins are yellow. The stem is thin, the stock has elongated. Chlorosis caused by sulphur deficiency is very similar to that caused by nitrogen deficiency. The difference is that yellowing due to sulphur deficiency extends to the entire plant. Severe sulphur deficiency causes brown lesions and necrotic symptoms on the petiole. The death of the leaf begins at its base, reddish discolouration is observed in the dead parts, root formation is abundant, and many branches are present. In this case, the leaves are stiff, brittle, and curl upwards. Cereals are characterized by leaf chlorosis, weak bushing, delayed ear and flower formation. In cruciferous plants, stunting and the formation of long narrow leaf plates are typical symptoms of sulphur deficiency. Rape will form smaller, yellow, harder leaves and the stem will be thin, hard and stiff. Scattered yellowing occurs on young leaves, sometimes marbled. The leaves are spoon shaped, curled upwards and brittle. There are few flowers and they turn white. Sulphur can also be important in the cultivation of onions and mustards, because due to its role in the structure of essential oils, the characteristic flavours are also damaged in its absence.

When added in a favourable ratio, nitrogen and sulphur strengthen each other's effects, helping each other to integrate into the plant. If you confuse sulphur deficiency with nitrogen deficiency and try to remedy it by adding more nitrogen, you may increase the problem, the relative sulphur deficiency, which will result in an increase in the susceptibility of plants to diseases in addition to the above. Adequate sulphur supply is of paramount importance for the production of oleaginous plants, failing which both yield and oil content are significantly reduced.

Sulphur deficiency in Europe was only observed by Danish, German and Dutch researchers on cruciferous plants and fruit trees in the late 1980s and early 1990s. In recent years, it has already been reported in Austria that it also appeared on rapeseed and in tobacco plantations in southern Europe. In Hungary, sulphur



Yellowing caused by sulphur deficiency in wheat and maize. Photo: K+S

GENEZIS NITROGEN FERTILISERS



Sulphur-deficient rapeseed flowers turn white and the leaves curl. Photo: K+S



In sulphur-deficient sunflowers, the youngest leaves turn yellow, curl and twist upwards and become brittle. The colours of the flowers will be fainter. Photo: K+S

deficiency was first encountered in maize around Szolnok, but it has also occurred, e.g., in rapeseed and wheat in Western Hungary since the early 2000s.

Deficiency symptoms in crop production can be attributed to four main reasons:

- ▶ increased use of sulphur-free fertilisers,
- ▶ reduced use of sulphur as a plant protection agent,
- ▶ reduction of the concentration of sulphur compounds in the atmosphere,
- ▶ intensive or unilateral nitrogen fertilisation (N - S ratio).

Due to the decrease in the sulphur supply capacity of the soil and the atmosphere, a decrease in yield and a deterioration of the quality of the yield must be expected in relation to some cultivated crops (e.g., a decrease in the oil content of rapeseed, a deterioration in the baking quality of bread wheat).

Pétisó+S

Sulphur deficiency in Hungary today is mainly due to the fact that sulphur trioxide (SO_2) emission has greatly decreased. Therefore, Nitrogénművek Zrt. has also started the production of Pétisó, in which it mixes sulphur-containing mineral grit instead of dolomite. This is Pétisó+S. Plants can absorb sulphur in the form of sulphate ion (SO_4^{2-}), so a mineral that contains sulphur in the form of calcium sulphate (CaSO_4) is mixed into the product. Calcium sulphate's solubility in water is relatively poor, which is an advantage in agricultural use because it makes it a slow-acting fertiliser component. A further advantage of the active ingredient calcium sulphate, is that, in addition to sulphur, it contains calcium, which is also a nutrient for plants. Calcium is also essential for normal root growth as, with adequate root mass, plants are more drought and stress resistant and can absorb more water and nutrients. The integration of calcium sulphate also significantly improves the physical properties

of the fertiliser; increases the strength and bulk density of the particles and reduces their adhesion.

The need for Pétisó+S

Sulphur-containing Pétisó is produced in two compositions. One is Pétisó+S 24-12 (24% N + 12% SO_3 + 9% CaO) the other is Pétisó+S 27-9 (27% N + 9% SO_3 + 7% CaO). The Pétisó with sulphur content (27% N + 9% SO_3 + 7% CaO) can compensate for early sulphur deficiency in all cultures. Sulphate is similar to nitrate nitrogen in that it is washed away under the young roots by snow and winter precipitation, so early top dressing with sulphur-containing fertilisers is necessary. Increasingly extreme weather and an unbalanced rainfall supply also intensifies sulphur leaching. Later, even oilseed crops are able to absorb sufficient amounts from the lower layer of the soil, the mineralization of organic matter.

What environmental and cultivation technology parameters influence the method of sulphur fertilisation and its dose per hectare?

Plant:

The sulphur demand of the cultivated plant and the purpose of cultivation (e.g., utilisation of winter wheat for milling or fodder purposes, high-oleic sunflower).

Soil:

Soil binding, organic matter content (sulphate ion binding on organic and inorganic colloids).

Weather conditions:

In rainy vintages, there is a higher risk of sulphate leaching.

Cultivation method:

- ▶ Frequency of crops with high sulphur demand in crop rotation, intensity of cultivation.

GENEZIS NITROGEN FERTILISERS

- ▶ Nutrient sources used, sulphur content of fertilisers applied.
- ▶ Intensive or one-sided nitrogen fertilisation (the optimal N:S ratio is modified).

If justified by the above factors, it is strongly recommended to plan sulphur fertilisation for crops with high sulphur needs, where the following must be taken into account:

Date of application and dynamics of sulphur requirements of the cultivated plant:

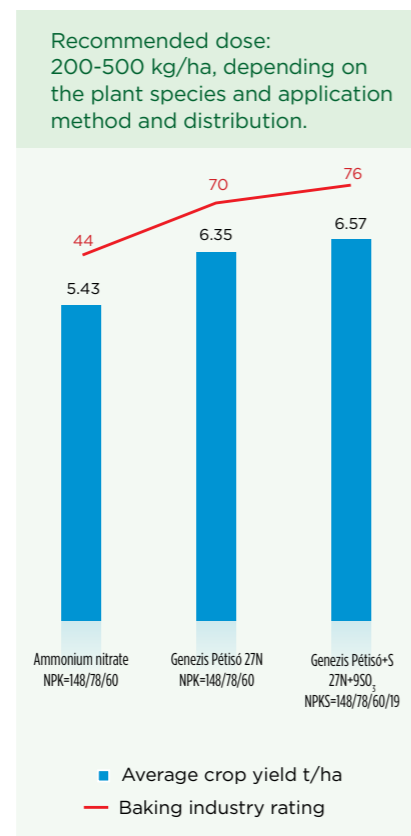
- ▶ It is very important to consider sulphur compounds as nitrogen compounds, because their movement in the soil and in the plant, as well as the sulphur uptake dynamics of plants, are very similar.
- ▶ With autumn basal fertilisation it is enough to apply 8-10 kg/ha of sulphur even in the case of rapeseed and winter wheat, as the sulphur uptake of young plants is low, and a lot of sulphur can be washed out of the soil by winter precipitation.
- ▶ In the case of top dressing, in parallel with the spring application of nitrogen, for crops with high sulphur demand, sulphur should be added in proportion to the nitrogen.

Plants, soil types, fertilisation periods

Most Hungarian soils are not deficient in sulphur, so early spring top dressing (10 kg S/ha or 25 kg SO₂/ha) is sufficient. Pétişó+S works well on all crops and all soil types. In fact, on sulphur-deficient soils, it can also be used for the early fertilisation of crops with high sulphur needs e.g. rapeseed, sunflower (they also need a lot of calcium). In the next growing season, the utilisation of sulphur is questionable as it washes into the lower layers due to precipitation.

Why choose it?

Pétişó+S granular fertiliser. It has an even grain size (2-5 mm), can be stored well, has good spreading properties (dispersion, can be sprayed evenly over longer distances). It has been developed specifically for Hungarian soils, where it is definitely recommended to replace the sulphur, but only in smaller quantities. Pétişó+S combines nearly 90 years of expertise with state-of-the-art technology to provide a customised solution for those who want to achieve guaranteed crop yields.



GENEZIS AMMONIUM NITRATE 34% N

Recommended for calcium-rich, neutral or slightly alkaline soils. Suitable both for basal dressing and top dressing. Dissolves rapidly in water.

GENEZIS UREA 46% N

An excellent basal dressing, ideal for airy soils with intense microbiology and rich in calcium. Its amide-nitrogen provides a longer effect, so it is also suitable for early top dressing. Due to the inhibitory effect on germination, application should be made 10-12 days before sowing, and it must be worked into the soil.



GENEZIS NITROGEN FERTILISERS

GENEZIS NS FERTILISERS GENEZIS NS 21:24

A fertiliser suitable for special needs with sulphur. Popular composition. Due to its high sulphur content it is recommended primarily for winter swede rape for early spring top dressing, as well as for sunflower as basal or side dressing.

GENEZIS NITROSOL PRODUCT LINE

Nitrosol is a factory-produced urea ammonium nitrate solution (UAN) with a density of 1.3 g/cm³ (NITROSOL 30% N). All members of the product line (Table 2) also contain nitrogen in the form of amide, nitrate and ammonium, which are also effective through the leaves. Suitable for basal and starter fertilisation, and top dressing (foliar fertilisation). It does not drain out. It is also excellent as an irrigation fertiliser.



Also available with boron and magnesium supplementation!

Benefits of using Nitrosol:

- ▶ Uniform dispersion, homogeneous active ingredient distribution, evenly growing crops.
- ▶ It requires less thorough irrigation to take effect.
- ▶ It also exerts its effect via leaves and soil.
- ▶ It can also be used as basal and top dressing.
- ▶ It can be supplemented with micronutrients.
- ▶ Its use as a foliar fertiliser in wheat improves quality.

Nitrosol application conditions:

- ▶ A field spreader with a nitrosol nozzle is required.

Product	Active ingredient
Nitrosol 30% N	30 kg N/100 kg
Nitrosol 30+Zn+Cu	30 kg N + Cu+Zn/100 kg
Nitrosol 20+4S	20 kg N + 4 kg S/100 kg
Nitrosol 16+6S	16 kg N + 6 kg S/100 kg

- ▶ Do not apply in the early morning or during the midday heat.
- ▶ Its use is recommended after 6 pm, in cloudy and calm weather.
- ▶ The addition of a wetting agent is prohibited.
- ▶ It can be mixed with most herbicides and stem hardeners, but a mixing test is always required.

Technical recommendation:

- ▶ Products containing sulphur are mainly recommended for fertilising oilseed crops or for sulphur-deficient crops.
- ▶ For cereals and rapeseed, a dose of 300-400 kg/ha can be applied without dilution until the end of tillering (late winter, early spring).
- ▶ At the start of stalk growth (cereals and rapeseed), the recommended dose is 100-150 kg/ha with 1:1 dilution.
- ▶ In mid-April, 80-150 kg/ha may be applied with a dilution of 2-3:1, depending on heat and light conditions.
- ▶ Temporary scorching of 2-3 mm. may occur in cereals, however, this is outgrown by the crop in approx. one week, after which the crop becomes greener and more developed.
- ▶ In maize and sunflower, it may only be applied with a nutrient cultivator at a dose that meets the current nitrogen requirements of the crop.
- ▶ The operating pressure of the spreader must be reduced to 1.5-2.0 bar.

GENEZIS MIKRAMID 45% N

Also a fertiliser that is easily absorbed through the leaves of the plants, and can be used in the form of a soil, top and foliar fertiliser.

The amide-bound nitrogen absorbed via the roots and foliage directly integrates in the amino acids that play an important role in growth. Not only a source of nitrogen but also of micronutrients. It dissolves quickly and perfectly in water. Due to its micronutrient content, chlorophyll formation is stimulated. It can be spread together with plant protection treatments, in a single application. It is also suitable for feed solution application.



GENEZIS NITROGEN FERTILISERS

Our nitrogen fertilisation recommendation is shown in Table 3, while the recommended machinery settings for the two most common fertiliser spreaders are summarised in Tables 4 and 5.

Fertiliser quantities in the table are for information purposes only! Exact recommended composition and quantities are determined on the basis of expert advice and soil test results!

Table 3: Nitrogen fertilisation recommendation for major arable crops

Plant	Active ingredients required for the crop *			Autumn nitrogen basal dressing, if the use of a complex fertiliser is not recommended	Spring nitrogen basal and top dressing	Fertiliser requirement (kg/ha) Depending on the nutrient supply of the soil
	Crop (t/ha)	N	P ₂ O ₅			
 Rapeseed	4-5	170	60	80	In autumn, a maximum of 35-40 kg/ha of nitrogen may be applied as a basal dressing to avoid over-development.	Genezis Pétişó 27N+7CaO+5MgO 300-600 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 500-1000 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 300-600 Genezis NS 21:24 250-400 Genezis Ammonium nitrate 34N 300-500 Genezis Nitrosol 30N 300-550 Genezis Nitrosol 20N +4S 450-800 Genezis Nitrosol 16N +6S 450-800
 Autumn wheat	8-9	150	70	40	Maximum one third of the total nitrogen demand	Genezis Pétişó 27N+7CaO+5MgO 300-500 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 500-850 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 300-500 Genezis Ammonium nitrate 34N 250-400 Genezis Karbamid 46N 200-350 Genezis NS 21:24 100-250 Genezis Nitrosol 30N 250-500 Genezis Nitrosol 20N +4S 400-750 Genezis Nitrosol 16N +6S 400-750
 Autumn barley	7-8	120	60	60	Maximum one third of the total nitrogen demand	Genezis Pétişó 27N+7CaO+5MgO 250-400 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 425-680 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 250-400 Genezis Ammonium nitrate 34N 250-350 Genezis Karbamid 46N 150-200 Genezis Nitrosol 30N 200-350 Genezis Pétişó 27N+7CaO+5MgO 250-550
 Triticale	7-9	150	70	40	One third of total nitrogen demand	Genezis Pétişó 27N+7CaO+5MgO 425-900 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 250-550 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 250-550 Genezis Ammonium nitrate 34N 250-400 Genezis Nitrosol 30N 250-350 Genezis Pétişó 27N+7CaO+5MgO 350-550
 Maize and sweet corn	10-12/ 20-24	150	60	70	Only in spring	Genezis Pétişó 27N+7CaO+5MgO 600-850 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 350-550 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 300-450 Genezis Ammonium nitrate 34N 250-350 Genezis Karbamid 46N 300-550 Genezis Nitrosol 30N 200-300 Genezis Pétişó 27N+7CaO+5MgO 200-300 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 350-500
 Sunflower	4-5	85	50	70	Only in spring	Genezis Ammonium nitrate 34N 150-250 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 200-300 Genezis Karbamid 46N 100-180 Genezis Nitrosol 30N 150-280
 Spring barley	6-7	100	60	60	Only in spring	Genezis Pétişó 27N+7CaO+5MgO 200-370 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 450-600 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 200-370 Genezis Ammonium nitrate 34N 150-250 Genezis Karbamid 46N 100-180 Genezis Nitrosol 30N 150-280
 Sugar beet	40-60	100	90	160	Only in spring	Genezis Pétişó 27N+7CaO+5MgO 250-370 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 500-600 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 250-370 Genezis Ammonium nitrate 34N 200-250 Genezis Pétişó 27N+7CaO+5MgO 300-500
 Potato	40-60	140	60	150	Only in spring	Genezis Pétişó 27N+7CaO+5MgO 550-880 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 300-500 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 250-400 Genezis Ammonium nitrate 34N 200-300 Genezis Pétişó 27N+7CaO+5MgO 200-300
 Soy	3.5-4	80	60	80	Only in spring	Genezis Pétişó 27N+7CaO+5MgO 350-500 Genezis Pétişó 15.9N+16.1 CaO+11.6 MgO 200-300 Genezis Pétişó+S 27N+9SO ₃ / Genezis Pétişó+S 24N+12SO ₃ 200-300 Genezis Ammonium nitrate 34N 200-250

* with a medium or higher nutrient supply

GENEZIS NITROGEN FERTILISERS

Table 4: Pre-programming Amazone fertiliser spreaders for Genezis nitrogen fertilisers

Name of Genezis fertiliser	Progress speed	Work width 18 m				Work width 24 m			
		Spade position	Bolt position for setting the quantity			Spade position	Bolt position for setting the quantity		
			300 kg/ha	350 kg/ha	400 kg/ha		300 kg/ha	350 kg/ha	400 kg/ha
		Spraying disk OM 18-24				Spraying disk OM 18-24			
Granulated Pétişó/ Pétişó+S	10 km/h	24/47	35	37.5	39	24/48	39.5	42.5	45
	12 km/h		38	40.5	43		43	46.5	49.5
	14 km/h		40.5	43.5	46.5		46.5	50	54
Prilled Pétişó	10 km/h	17/46	31.5	33.5	35.5	18/49	35.5	37.5	40
	12 km/h		34	36	38		38	41	43.5
	14 km/h		36	39.5	41		41	43.5	46.5
Ammonium nitrate	10 km/h	23/43	31.5	33.5	35.5	27/43	35.5	37.5	40
	12 km/h		34	36	38		38	41	43.5
	14 km/h		36	38.5	41		41	43.5	46.5
		Spraying disk OM 18-24				Spreading disk OM 24-36			
Urea	10 km/h	16/45	35.5	38	40	15/48	40	43	46
	12 km/h		38.5	41	43.5		43.5	47	50.5
	14 km/h		41	44	47		47	51	55

Table 5: Pre-programming Sulky fertiliser spreaders for Genezis nitrogen fertilisers

Name of Genezis fertiliser	Progress speed	Sulky DPX24/PRIMA/70ANS/605/805/1155				
		Spraying blade 18-24	Sulky DPX28 /DX30/DX30+			Spraying blade 12-28 / 18-28
			Spreading width 18 m			
		Set value of spraying width	Set value of spraying quantity			Set value of spraying width
			300 kg/ha	350 kg/ha	400 kg/ha	
Prilled Pétişó	8 km/h	117	20	21	23	115
	10 km/h		22	24	26	
	12 km/h		25	27	30	
Granulated Pétişó/ Pétişó+S	8 km/h	121	21	23	25	119
	10 km/h		24	26	28	
	12 km/h		27	29	32	

GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

THE MOST EFFECTIVE FERTILISATION

WITH THE NPK FROM SZOLNOK

The predecessor of Bige Holding Kft., Tiszamenti Vegyiművek, started its operations in 1951, and soon became the dominant chemical industry centre of Hungary's Great Plain region. The factory underwent an extensive transformation in 2004. Following the greenfield investment, a new fertiliser plant began operation. Hungary's state-of-the-art NPK fertiliser factory has been producing compacted NPK products from the Genezis fertiliser product line since March 2004, thanks to the new, environmentally-friendly technology widely used in Western Europe, allowing the factory to reliably produce high-quality Genezis NPK, NP and PK fertilisers

at a capacity of 140,000 tonnes per year. The fertiliser factory can produce virtually any composition for any order over 100 tonnes, which shows a unique flexibility in the market.

Fertilisers made with compaction technology are popular for their advantageous properties. Currently, this technology is spreading in Western Europe as well, as compacted NPK fertilisers are more modern and effective preparations compared to traditional granular fertilisers! The essence of the compaction technology is that after the homogenisation and milling of the various NPK active ingredients, the mixture is pressed at high pressure, i.e. without a chemical reaction or drying process. The press cake produced in an environmentally friendly manner is then shredded, graded and made into a product with a particle size of 2-5 mm, which is surface treated

to prevent sticking. As a result of the process, all the granules of the compacted Genezis NPK fertiliser from Szolnok are homogeneous, have the same active ingredient composition, and the physical properties of the granules are the same.

Benefits of using Genezis NPK:

High quality raw production materials!

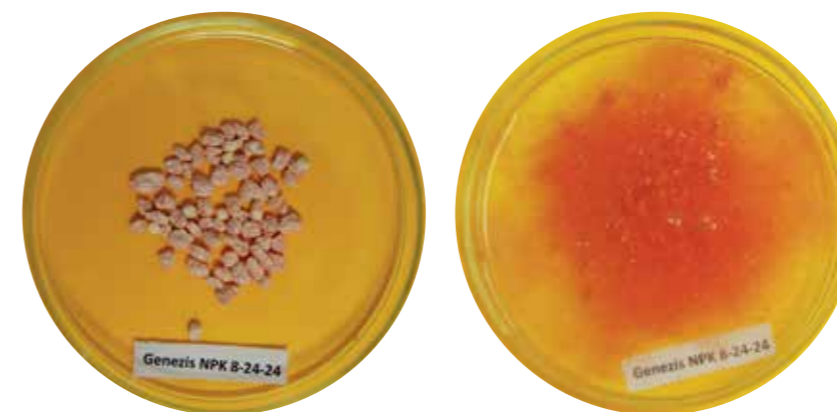
Excellent solubility!

- ▶ Due to the manufacturing technology, Genezis NPK fertilisers are much more soluble than conventional granular NPK preparations, even with lower levels of soil moisture.

A major advantage of Genezis compacted fertilisers over conventional granular NPK fertilisers is that the technology produces very finely granulated materials smaller than 100 micrometers. As a result, a physical



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS



Before dissolution

change takes place, due to which the specific surface area of the raw materials will be significantly larger and the fertiliser particles containing them will dissolve much faster, the necessary active ingredients can be absorbed by the plants completely and at the right time, increasing their effectiveness. 95% water-soluble phosphorus, 100% water-soluble nitrogen and potassium content.

The speed of the dissolution of Genezis NPK fertilisers into water compared to hot granular fertilisers is clearly visible even when sprinkled into a glass of water! Excellent solubility even with less soil moisture, making it also ideal for spring use.

Precise applicability!

- ▶ Uniform transverse dispersion ensuring that plants receive the same ratio and amount of active ingredient per square meter of arable land. Based on our own measurements, the transverse spread unevenness (CV%) of the physically mixed fertilisers was in all cases worse than the transverse spread unevenness of analogue Genezis NPK complex fertilisers, and also differed significantly from the dose originally set by calibration.

Dissolution after 30 minutes

The accepted EU standard is max. 15%. Spread unevenness (CV) greater than this results in a measurable reduction in crop yield.

No fractionation!

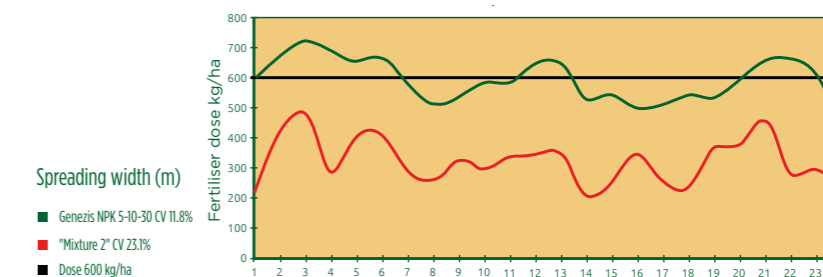
- ▶ Use Genezis compact NPK fertiliser with confidence, as this fertiliser rules out the possibility of the extremely detrimental phenomenon whereby one granule contains only one active ingredient and another granule contains only the other active ingredient. All particles are guaranteed to have the same composition, making nutrient distribution even and homogeneous! In the case of physically mixed NPK fertilisers, separation of the particles during transport, storage and use is

common, i.e. particles of larger size and density travel to the bottom of the bag and the fertiliser mass in the fertiliser spreader tank. Therefore, the uniform application of the active ingredients is not feasible. With a centrifugal spreader, the fertiliser application distance depends on the particle size and weight, therefore, even nutrient distribution is excluded based on the above. (Figure 3).

Figure 4 illustrates well the general defects of physically mixed fertilisers. According to the inscription on the bag of the product purchased, it was PK 10-30 fertiliser. According to the active ingredient amounts actually measured, it was PK 7.8-36.9. The buyer purchased a 3:1 K:P ratio fertiliser and received a 4.7:1 K:P ratio fertiliser. When the product is spread, these ratios vary transversely, from one meter to the next, as shown in the figure, from 3.57:1 to 7.62:1.

Figure 3: Dispersion of compacted complex and physically mixed fertilisers

Comparison of dispersions



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

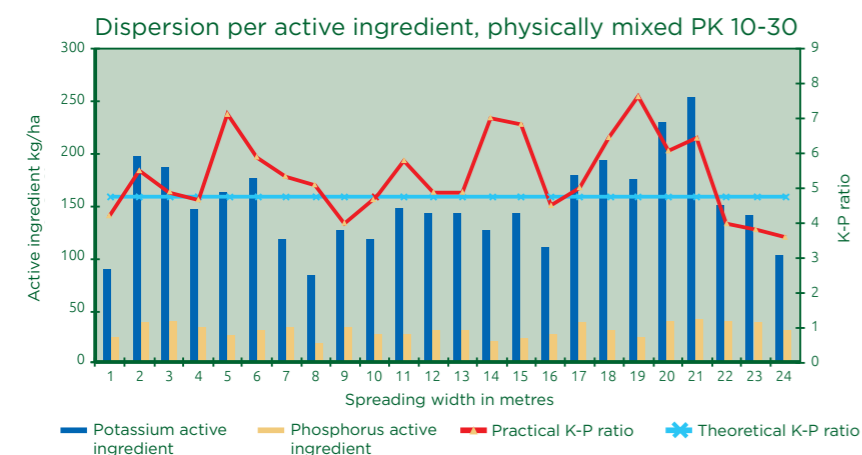
Physically mixed fertilisers undergo objectively measurable significant segregation during fertiliser application and the original active ingredient compositions may show significant differences at different points of the plot, with a significant divergences in the ratios of the original active ingredient. The transverse dispersion clearly deteriorates and the adjusted doses need serious correction despite careful calibration.

with meso- and micronutrients. Due to all this, the NPK product range is extremely broad. Currently the Szolnok fertiliser factory offers 23 ready-made products but, due to the rapid transition between the compositions, almost any combination of active ingredients can be produced in addition to these products. It is often the case that, depending

Genezis PK 10:20 + 14.2 CaO + 9.9 MgO

A compacted fertiliser with excellent water solubility, a popular composition due to its significant calcium and magnesium content. Its use helps to prevent calcium and magnesium deficiency. In autumn it can be used without restriction as a basal dressing under any crop. Considered a classic preparation for areas in the AE target programme or nitrate sensitive areas. Highly recommended for crops with a high potassium need and low-potassium soils.

Figure 4: Active ingredient fractionation of a physically mixed fertiliser



Flexibly variable compositions with excellent physical properties

- ▶ The advantage of compacted fertilisers is that their grain size and solidity meet current European quality standards, while their environmental impact and dust content are minimal. When spread, any dust that may be present comes from a very fine, powdery surface treatment material on the granules.

Maximum flexibility in compositions

- ▶ In Genezis NPK fertilisers, the NPK active ingredient content can be varied according to the individual needs of farmers, and it can even be enriched

on the crop and the nutrient supply of the soil, farmers require a unique composition, which may mean different nutrient ratios or the addition of different micronutrients to products with an existing composition.



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S

A compacted fertiliser with high potassium content and excellent water solubility. A popular composition among farmers. Mainly used as a basal dressing in autumn, but if the weather does not allow it to be applied in autumn, it is also suitable for early spring application. Mainly recommended for autumn application under maize, sunflower, sugar beet and potatoes, but can also be used as a basal dressing for starting cereals and winter swede rape.

Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO

Only Genezis has a value-for-money soil fertiliser available on the market. It is a preparation that meets the new market requirements and meets special requirements. It was developed to meet a broader range of maize fertiliser needs. We recommend it for all arable and horticultural crops, but primarily under maize, sunflower, sugar beet, soybean and potato as an autumn basal dressing. Due to its excellent water solubility, its active ingredients are also well utilised in spring.

Genezis NPK 8:12:25 + 4.9 CaO + 3.4 MgO + 3.8 S

A product with an ideal composition, developed primarily for the basal dressing of winter swede rape, but can also be applied to cereals in the autumn. Solid soil fertiliser with excellent spreadability, which contributes to the preservation of the soil structure through its calcium and magnesium content, improving and helping the uptake of other nutrients. The micronutrient supplemented version helps prevent deficiency symptoms.

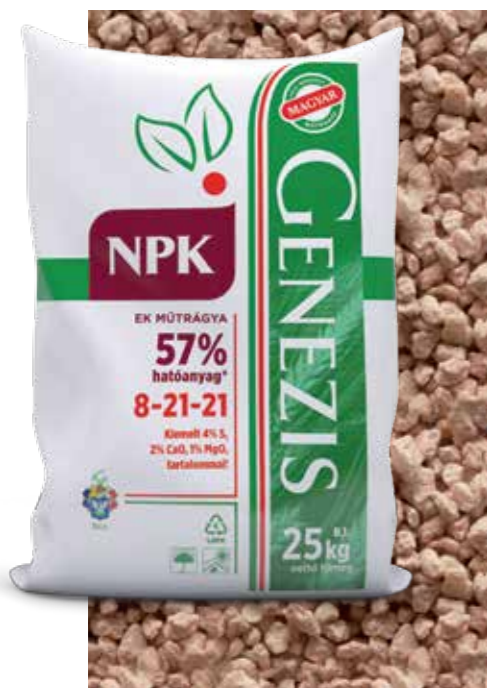


GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Genezis NPK

8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S

A compacted fertiliser with excellent water solubility and high phosphorus content. It contains all 6 macronutrients that now have to be supplemented. It is recommended as a basal dressing for autumn crops, but if the weather does not allow for autumn application, it is also suitable for early spring basal dressing. Recommended for all arable and horticultural crops, mainly as autumn basal dressing under autumn cereals and rapeseed or for phosphorus-deficient soils under spring crops (e.g.: maize, sweet corn, soybean, peas, sunflowers).



Genezis NPK

8:15:15 + 7 CaO + 6.8 MgO + 2.4 S + 0.05 B

Recommended for all arable and horticultural crops as autumn and spring basal dressing. It contains all six macronutrients that plants need during vegetation. Its active ingredients dissolve well in water, ensuring excellent utilisation.

Genezis NPK

8:20:30 + 2.0 CaO

Recommended primarily as autumn basal dressing in crops with high phosphorus and potassium demand. It is the core element of Genezis technology for maize, sweetcorn, soybean, rapeseed, wheat, sunflower, mainly in soils with medium or less phosphorus content. Owing to its rapid water solubility, it is also suitable for early spring application.



Genezis NPK

8:24:24 + 2.5 CaO

A soil fertiliser with excellent water solubility. It is recommended for all arable and horticultural crops, as general spring primarily as spring basal dressing. It is an excellent basal dressing primarily for crops with a high phosphorus demand such as winter wheat, but also for winter swede rape, sunflower, maize and soybean in areas with lower than average phosphorus content.



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Genezis NPK

10:20:5 + 11.25 CaO + 7.9 MgO + 2.5 S

A complex fertiliser with high Ca and Mg content developed especially for acidic soils with good potassium, but low phosphorus supply. An excellent basal dressing for autumn and spring sowing crops.



GENEZIS NPK

8:10:25 + 2.6 CaO + 2.0 MgO + 14.2 S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn

Packaging: 25 kg bag, 700 kg Big Bag.

Characteristics: Developed primarily for potassium-sensitive horticultural crops (including, but not limited to: apples, pears, plums, courgettes, peppers, beans, onions, tobacco, cherries, beet, strawberries, redcurrants, gooseberries, raspberries, asparagus, potatoes, etc.), by using potassium sulphate instead of chloride, therefore it also acts as a suitable basal

Active ingredient content %

N	P ₂ O ₅	K ₂ O	S	B	Mn	Zn	Fe
8	10	25	14.2	0.05	0.1	0.02	0.05

Genezis NPK

10:20:10 + 5.8 CaO + 4.0 MgO + 6.1 S

Compact soil fertiliser with excellent water solubility. A product dominated by phosphorus, developed primarily for winter wheat basal fertilisation, but can also be applied to other cereals as autumn basal dressing. Its potassium content contributes to the increase of stem strength, winter hardiness and drought tolerance. A standard cereal basal dressing in Genezis Technology.



dressing for the well-known chloride-sensitive crops.

Advantages: Can be used immediately before sowing or planting, as its chloride-free composition eliminates the negative effects of chlorine on germination. Due to its high potassium content, it can be used to grow fruit and vegetables with excellent nutrient content and a long shelf life.

Recommended use: Suitable for both basal fertilisation and top dressing.

In horticultural crops: Application of 250-500 kg/ha (25-50 dkg/10 m²) according to the recommended soil test results.

Genezis NPK

16:27:7 + 6.2 S + 0.1 Zn

Recommended for all arable crops, especially on soils with poor phosphorus supply. Basal dressing for cereals and crops with a high phosphorus demand. Its high nitrogen content allows basal fertilisation under autumn grains in one pass.



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Genezis Premium NPK
8:12:25 + 3.1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn

Premium quality fertiliser supplemented with micronutrients with excellent water solubility, developed primarily for the basal dressing of winter swede rape. It can also be applied under cereals in autumn, and thanks to its micronutrient content, it helps prevent deficiency symptoms.

Genezis Premium NPK
8:24:24 + 2.8 S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn

Recommended for all arable and horticultural crops, primarily as an autumn basal dressing. An excellent basal dressing primarily for crops with high phosphorus needs, such as winter wheat, but also for winter swede rape, sunflower and maize in areas with a less than average phosphorus content. Due to its good water solubility, also recommended for early spring application.

Genezis NP
15:25 + 2.1 CaO + 10.8 S + 0.1 B + 0.02 Cu + 0.02 Fe

A solid sulphur and boron fertiliser. It is used for crops with a high sulphur need, in autumn it is recommended as a basal dressing for wheat, and in spring as a starter under sunflowers. Its significant sulphur content contributes to better oil production. Due to its supplementation of boron, iron and copper, it helps prevent micronutrient deficiency symptoms.



GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Table 6: Pre-programming Amazone fertiliser spreaders for Genezis NPK fertilisers

Name of Genezis fertiliser	Progress speed	Work width 18 m				Work width 24 m			
		Spade position	Bolt position for setting the quantity			Spade position	Bolt position for setting the quantity		
			300 kg/ha	350 kg/ha	400 kg/ha		300 kg/ha	350 kg/ha	400 kg/ha
Spraying disk OM 18-24									
NPK 10-20-10	12 km/h	15/41	38.5	41	43.5	18/42	43.5	47	50
	13 km/h		39.5	42.5	45		45	48.5	52.5
	14 km/h		41	44	47		47	50.5	54.5
NPK 0-10-20	10 km/h	12/38	35	37	39	16/45	39	42	44.5
	12 km/h		37.5	40	42.5		42.5	45.5	48.5
	14 km/h		40	43	45.5		45.5	49	53
NPK 8-15-15	12 km/h	15/41	38	40.5	43	18/42	43	46.5	49.5
	13 km/h		39	42	44.5		44.5	48	51.5
	14 km/h		40.5	43.5	46.5		46.5	50	54
NPK 8-21-21	10 km/h	12/38	35.5	38	40	16/45	40	43	45.5
	12 km/h		38.5	41	43.5		43.5	47	50
	14 km/h		41	44	47		47	50.5	54.5
NS 21-24	10 km/h	15/42	35	37	39	16/48	39	42	44.5
	12 km/h		37.5	40	42.5		42.5	45.5	48.5
	14 km/h		40	43	45.5		45.5	49	53

Table 7: Pre-programming Sulky fertiliser spreaders for Genezis NPK fertilisers

Name of Genezis fertiliser	Progress speed	Sulky DPX24/PRIMA/70ANS/605/805/1155					
		Spraying blade 18-24	Spreading width 18 m			Spraying blade 12-28 / 18-28	
			Set value of spraying width	Set value of spraying quantity			
				300 kg/ha	350 kg/ha		400 kg/ha
NPK 8-20-30	8 km/h	109	23	25	28	108	
	10 km/h		27	29	32		
	12 km/h		30	33	37		
NPK 0-10-20	8 km/h	106	22	24	26	104	
	10 km/h		25	28	30		
	12 km/h		28	31	34		
NPK 8-15-15	8 km/h	105	23	25	27	104	
	10 km/h		26	29	32		
	12 km/h		30	33	36		
NPK 5-10-30	8 km/h	101	23	26	28	100	
	10 km/h		27	30	33		
	12 km/h		30	34	37		
NPK 8-21-21	8 km/h	107	23	25	27	106	
	10 km/h		26	29	31		
	12 km/h		29	32	36		

GENEZIS NPK, PK, NP AND MICROGRANULAR FERTILISERS

Genezis NP GOLD STARTER MICROGRANULATE FERTILISER, NP 10:48 + 0.1 B + 0.3 Fe + 1.0 Zn

Advantages of using Genezis NP Gold Starter Microgranulate fertiliser:

Accelerate initial development!

▶ This product can be used to accelerate the initial development of germinating plants. When applied, the nutrient is placed directly alongside the seed, i.e. in the root zone of the germinating plant! With targeted fertiliser, you feed the plants directly, not the weeds between the rows.

Effective root formation!

▶ Nitrogen and phosphorus absorbed after sprouting promote efficient root formation, which is also promoted by the micronutrient content of the fertiliser (B, Zn, Fe).

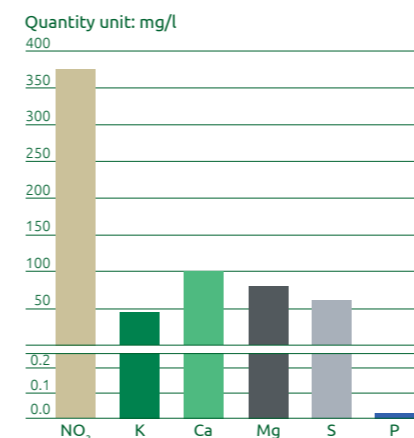
Improved water and nutrient uptake!

▶ With stronger and more developed roots, the water and nutrient uptake of plants will be improved, improving and intensifying their growth.

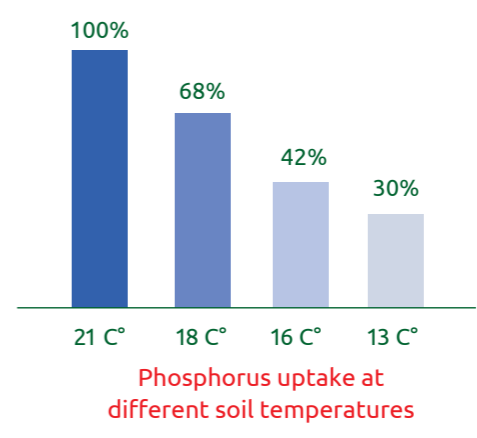
Increased stress tolerance!

▶ With a stronger root system, plants are more resistant to environmental stress, temperature fluctuations and lack of precipitation. The nutrient needs of modern, intensive, high-yield maize and sunflower hybrids significantly exceed those of the semi-intensive hybrids and varieties that were generally grown in the past. For these hybrids, the main breeding goal is early sowing and rapid early development vigour. Due to cool spring weather and low soil temperature, the nutrient supply capacity of the soil is limited (requiring a large amount of nitrogen and phosphorus that can be easily absorbed from the soil), resulting in delayed germination and slower initial development. In this case, the phosphorus supply capacity of the soil is low (there is already little phosphorus in the soil solution and at low temperatures, only a little phosphorus can be taken up from the soil by the plants), which is also indicated by maize plants showing anthocyanin discoloration on their leaves. Due to the relative lack of phosphorus, the plant cannot take advantage of its initial rapid developmental vigour, and even

the more sensitive, initial developmental stages are prolonged, causing stress to the plant and a significant decrease in yield. Therefore, it is important to protect sunflowers and maize from variations in weather conditions, such as sudden cooling or rapid warming. The solution is microgranular starter fertilisation, which seeks to ensure strong root growth as well as rapid and even sprouting for the germinating plan, without adding clays that inhibit root formation in the immediate vicinity of the root. The Genezis Gold Starter NP microgranulate contains nutrients with excellent water solubility that plants can easily absorb. The recommended dose of Genezis Gold Starter NP microgranulate for application during sowing is 15-25 kg/ha. It can be used to accelerate the initial development of germinating plants. The nutrient is then placed directly alongside the seed, i.e. in the root zone of the germinating plant! With the targeted fertiliser, you feed the plants directly, not the weeds between the rows. Nitrogen and phosphorus absorbed after germination promote efficient root formation, which results in improved nutrient and water uptake by plants! We recommend its use on cold soils, in the case of early sowing or of cool weather after sowing.



Macronutrient concentration of the soil solution



Phosphorus uptake at different soil temperatures

The recommended machine settings for the two most common fertiliser spreaders are given in Tables 6-7, while our recommendation for NPK fertilisation is summarised in Table 8 (pages 28-29).



GENEZIS

NPK SUSPENSION FERTILISERS

Genezis suspension fertilisers are typically made by floating solid substances with a particle size of between 500 nm and 2 mm, which are applied during liquid fertilisation or by injection onto or into the soil.

They are manufactured in a closed system with computer control. The sedimentation of the ingredients is slowed by frequent stirring and adding bentonite gel to the Genezis suspension.

Genezis suspension fertilisers are prepared in a number of compositions.

We are able to flexibly change the composition to suit individual needs.

Safe application is important while using suspension fertilisers, i.e. use it as soon as possible after delivery! The great advantage of the liquid formula is that no moisture is needed to dissolve the fertiliser particles, resulting in better utilisation in drier weather conditions.

Another great advantage is that with proper calibration of the application equipment (spraying, injection) an even dispersion can be achieved, which is a great advantage in dense row cultures with a small growing area per plant.

The best types of application equipment are those equipped with a piston or gear pump and 40 stop plate nozzles.

Application can be combined with ground work and it is advisable to work the suspension into the soil immediately after application.

When application immediately after delivery is not possible, it can be stored for 3 to 5 days, but then it must be stirred every day.



GENEZIS

NPK SUSPENSION FERTILISERS

GENEZIS NPK SUSPENSIONS

Genezis NPK 7-21-7

A liquid fertiliser with high phosphorus content, at least 95% of which is absorbed by the soil. It is an excellent basal dressing for soils with a lower than average phosphorus content and for wheat and other autumn cereals. Due to the suspension formula, it is also suitable for spring application (spring cereals) on soils well supplied with potassium.



Genezis NPK 10-10-12

A preparation with a balanced content of active ingredients. Recommended for all field crops, primarily as a general autumn basal dressing. In spring application, it is a basal dressing for sunflower and spring cereals.



Genezis NPK 6-10-15

A suspension high in potassium, it is an excellent basal dressing for soy, maize and sunflower. We recommend it mainly for spring application, but you can also use it under rapeseed in autumn.



Genezis NPK 14-7-14

An autumn basal dressing for soils with good or very good phosphorus content. Recommended for spring application under maize and sunflower. Its high nitrogen content transferred into the aqueous phase makes excellent use of it, even in drier weather conditions.



GENEZIS NPK SUSPENSION FERTILISERS

GENEZIS NPK SUSPENSIONS

Genezis NPK 18-7-7

Due to its high nitrogen content, it is a basal dressing for soils with good phosphorus and potassium content. It is recommended for all field crops, primarily as an autumn basal dressing for autumn cereals and rapeseed. In drier weather conditions, spring application is also worth considering.



Genezis NPK 4-12-20

A potassium-dominant suspension fertiliser high in active ingredients which, due to its composition, is an excellent autumn basal dressing for maize, sunflower and rapeseed. Its active ingredient content is very effective even when applied in drier springs.



Genezis NPK 14-13-5 + 2 S

A high quality liquid NP preparation with sulphur supplementation. It is a good choice for both basal and starter fertilisation, especially on soils with good or very good potassium supply. It can also be applied to the seed bed with suitable equipment.



Genezis NPK 5.5-11-16.5 + 3 S

A potassium-dominant suspension with significant amounts of phosphorus and sulphur. An excellent basal dressing for soybean, maize and sunflowers. We recommend it mainly for spring application, but it can also be used under rapeseed in autumn.









GENEZIS NPK TECHNOLOGIES



GENEZIS NPK TECHNOLOGIES

Table 8.: Recommended NPK fertilisation for major arable crops

Plant	Active ingredients required for the crop *			Fertiliser need (kg/ha) Depending on the soil nutrient levels	Spring NPK basal dressing	Starter fertiliser	Recommended starter dose (kg/ha)
	Crop (t/ha)	N	P ₂ O ₅				
	4-5	170	60	80	Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis Premium NPK 8:24:24 + 2.8 S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis NPK 8:20:30+2.0 CaO		
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
					Genezis NPK 8:15:15 + 0.05 B + 9.7 CaO + 6.8 MgO + 2.4 S		
	8-9	150	70	40	Genezis NPK 10:20:10 + 5.8 CaO + 4.0 MgO + 6.1 S	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S		
					Genezis NPK 8:15:15 + 0.05 B + 9.7 CaO + 6.8 MgO + 2.4 S		
					Genezis NP 15:25 + 2.1 CaO + 10.8 S + 0.1 B + 0.02 Cu + 0.02 Fe		
					Genezis NPK 10:20:5 + 11.25 CaO + 7.9 MgO + 2.5 S		
					Genezis NPK 16:27:7 + 6.2 S + 0.1 Zn		
	7-8	120	60	60	Genezis NPK 10:20:10 + 5.8 CaO + 4.0 MgO + 6.1 S	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S		
					Genezis NP 15:25 + 2.1 CaO + 10.8 S + 0.1 B + 0.02 Cu + 0.02 Fe		
					Genezis NPK 16:27:7 + 6.2 S + 0.1 Zn		
					Genezis Suspension NPK 9:18:9		
					Genezis Suspension NPK 7-21-7		
	7-9	150	70	40	Genezis NPK 10:20:10 + 5.8 CaO + 4.0 MgO + 6.1 S	Genezis NP 15:25 + 2.1 CaO + 10.8 S + 0.1 B + 0.02 Cu + 0.02 Fe	200-250
					Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S		
					Genezis Suspension NPK 9:18:9		
					Genezis Suspension NPK 7-21-7		
					Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn		
					Genezis NPK 8:20:30+2.0 CaO		
	10-12/20-24	150	60	70	Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S		
					Genezis PK 10:20 + 14.20 CaO + 9.90 MgO		
					Genezis Suspension NPK 4-12-20		
	4-5	85	50	70	Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 8:20:30+2.0 CaO		
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis Premium NPK 8:24:24 + 3S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn		
					Genezis Suspension NPK 4-12-20		

GENEZIS NPK TECHNOLOGIES

Table 8.: Recommended NPK fertilisation for major arable crops (continued)

Plant	Active ingredients required for the crop *			Fertiliser need (kg/ha) Depending on the soil nutrient levels	Spring NPK basal dressing	Starter fertiliser	Recommended starter dose (kg/ha)
	Crop (t/ha)	N	P ₂ O ₅				
	6-7	100	60	60	Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis PK 10:20 + 14.20 CaO + 9.90 MgO		
					Genezis NPK 10:20:5 + 11.25 CaO + 7.9 MgO + 2.5 S		
					Genezis NPK 8:15:15 + 0.05 B + 9.7 CaO + 6.8 MgO + 2.4 S		
					Genezis Suspension NPK 7-21-7		
					Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn		
	40-60	120	90	160	Genezis Premium NPK 7:10:52 + 1 CaO + 1 MgO + 6 S + 0.1 B + 0.1 Mn + 0.05 Zn + 0.05 Fe	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis PK 10:20 + 14.20 CaO + 9.90 MgO		
					Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn		
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
	40-60	140	60	150	Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis PK 10:20 + 14.20 CaO + 9.90 MgO		
					Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn		
					Genezis NPK 5:10:30 + 5.4 CaO + 3.76 MgO + 3.1 S		
	35-4	80	60	80	Genezis Premium NPK 8:24:24 + 3S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn	Genezis Gold NP Starter Microgranulate NP 10:48 + 1Zn+0.1B+0.3Fe	15-25
					Genezis Premium NPK 8:12:25 3:1 CaO + 2.2 MgO + 6.0 S + 0.05 B + 0.1 Fe + 0.2 Mn + 0.02 Zn		
					Genezis NPK 4:17:30 + 5.2 CaO + 3.6 MgO		
					Genezis NPK 8:20:30+2.0 CaO		
					Genezis NPK 8:21:21 + 2.9 CaO + 2.0 MgO + 3.6 S		
					Genezis PK 10:20 + 14.20 CaO + 9.90 MgO		

* with moderate or better PK supply

The fertiliser quantities in the table are for information only! The exact proposed composition and quantities are determined on the basis of expert advice, based on soil test results!

GENEZIS CEREAL FOLIAR FERTILISERS

Intensive arable crop production, increasing yields, declining organic fertilisation, unilateral and high-dose NPK fertilisation of soils, have also drawn attention to the need for foliar fertilisation on arable land. In our experience, in large maize-growing areas of the country, zinc has simply become depleted in a significant proportion of soils, but sulphur is also depleting in intensively grown oilseed crops, especially rapeseed and, in general, magnesium and manganese are also decreasing almost everywhere. In addition, when zinc-depleted maize fields are used to grow wheat, sunflower, rapeseed, and other species which also require zinc, the underlying zinc deficiency must also be remedied. (even if no deficiency symptoms appear). Recent years have been brought significant development in this area. Today, the use of plant-specific foliar fertilisers has also become part of intensive field technologies. The choice is extremely broad. Even for micronutrient-containing materials, there is a wide choice of products containing simple saline solutions, suspension solutions and products containing mono- and polymetallic chelates. Our company is committed to using the most advanced chelating agents. Our experiments prove that we are on the right track. The micronutrient uptake-promoting formula, the EDTA chelating

agent, presents the microelements in the form that is most easily absorbed by plants. Our foliar fertilisers harmonise perfectly with the plant and landscape-specific Genezis plant feeding technologies. They are chloride-free, take effect instantly and can be applied together with pesticides. They can be applied together with plant protection work.

Genezis Cereals foliar fertiliser

A preparation with a high active ingredient content and micronutrients specially developed for cereals. Recommended for the foliar fertilisation of arable crops, especially cereals, from bushing to earing. Its application ensures greater crop safety. Its nitrogen content is easily absorbed and results in immediate utilisation. Its micronutrient



content improves quality and promotes the natural resilience of plants. Through its application, nutrient uptake from the soil can be increased. With its application, nutrient-deficiency diseases of plants can easily be prevented and cured. It increases plant resistance to pathogens. It provides a rapid supply of nutrients during the growing season.

Recommended use: Can be applied 2-3 times during the growing season at a concentration of 0.5-2% (applied at a dose of 4-6 l/ha).

Genezis Maize foliar fertiliser

A compound solution fertiliser containing nitrogen and zinc chelate as active ingredients. For foliar fertilisation of arable crops and mainly maize. It can be used for both fodder and sweetcorn foliar fertilisation. The nitrogen and zinc content can be easily absorbed and utilised by maize. Zinc is an important micronutrient for maize, as its absence causes poor growth and decreased yields. Because most of our soils are virtually depleted of zinc. Its use can lead to higher yield. Zinc supplementation must be an integral part of intensive maize cultivation technology!



GENEZIS CEREAL FOLIAR FERTILISERS

Recommended use: Can be applied 2-3 times during the growing season at a concentration of 0.5-2% (applied at a dose of 4-6 l/ha).

Genezis oilseed crops foliar fertiliser

It is a composite preparation with high active ingredient content. It is recommended for the foliar fertilisation of oilseed crops, especially sunflower and rapeseed, as well as for nutrient replenishment of nitrogen and boron-intensive crops and brassicas. Its nitrogen content is easy to absorb and results in immediate utilisation, its boron content ensures proper binding and oil content. Its use can lead to higher yield and higher oil content. It promotes improvement in the plant's natural resistance. By using it, nutrient-deficiency diseases can easily be prevented and cured. It increases plant resistance to pathogens.

Recommended use: Can be applied 2-3 times during the growing season at a concentration of 0.5-2% (applied at a dose of 4-6 l/ha).

Genezis Nitrokén foliar fertiliser

Genezis Nitrokén is an effective solution for the foliar fertilisation of sulphur and nitrogen-intensive arable and horticultural crops. Foliar fertilisers generally have high nitrogen and sulphur content. It improves plant condition and resistance to diseases. It boosts yield and improves quality. Its sulphur content improves nitrogen uptake efficiency, and promotes protein and oil formation. By applying it, the nutrient uptake from the soil can be increased.



Genezis Cereals foliar fertilisers						
Active ingredient content %	N	SO ₃	Cu	Zn	Mn	B
Genezis Cereals foliar fertiliser	15	5	1.5	0.2	0.2	-
Genezis Maize foliar fertiliser	15	-	-	1.7	0.3	-
Genezis oilseed crops foliar fertiliser	15	5	-	-	-	2
Genezis Nitrokén	15	53	-	-	-	-



GENEZIS CEREAL FOLIAR FERTILISERS

Genezis Nitrospeed

A nitrogen-dominant liquid fertiliser solution. Multiple nitrogen formulations (amide nitrate ammonia) promote even, rapid plant growth. No washing in precipitation is required. It provides nitrogen supply even during dry periods. Its meso-nutrient content helps maintain nutrient harmony, resulting in better utilisation of the nitrogen form. It is excellent for promoting the favourable development of plant growth processes. It helps to overcome environmental stress and to increase plant resilience. It can also be used as an additional top dressing and, to a lesser extent, as a foliar fertiliser. Its quickly absorbable nitrogen and meso-nutrient content improves plant condition and resistance to diseases. It boosts yield and improves quality. Its sulphur content improves nitrogen uptake efficiency, and promotes protein and oil formation. Magnesium is a component of chlorophyll. It also affects plant hormones and enzymes. It can be applied alone or mixed with pesticides simultaneously. It has an excellent adjuvant effect and enhances the absorption and effectiveness of plant protection products. It is recommended to always carry out a mixing test. In addition to the above state of development, it is

Active ingredient content %		0
Genezis Nitrospeed		
Nitrogen (N):		23%
of which ammonia-nitrogen:		1%
amide-nitrogen		20%
Nitrate-nitrogen:		2%
Sulphur trioxide (SO ₃):		5.3%
Magnesium (MgO):		3%
Genezis Nitrospeed BS		
Nitrogen (N):		20%
of which ammonia-nitrogen:		0.8%
amide-nitrogen		16.3%
nitrate-nitrogen		1.7%
Sulphur trioxide (SO ₃):		4.4%
Magnesium (MgO):		2.5%
Total amino acid content:		7 %

recommended to apply as a foliar fertiliser in all crops at a dose of 4-5 l/ha with a volume of 250-300 liters of water.



Mikromix product line

MIKROMIX preparations can prevent and cure plant diseases caused by micronutrient deficiency. The MIKROMIX micronutrient concentrate contains the nutrients in a special, chelated form, as a result of which the plants can utilise the applied micronutrients almost immediately and completely. The chelating molecule that increases biochemical efficiency is included to ensure maximum supply to plants.

Benefits of use: Micronutrient deficiency diseases are eliminated quickly and effectively because the ingredients are chelated in the form that is most easily absorbed by the plants. The nutrient ratio of the plant-specific forms is tailored to the micronutrient requirements of each plant species. They increase yield volume and improve its quality. Their use increases the resistance of plants to diseases and improves their condition. Its application also allows for more efficient water utilisation and increased drought tolerance.

Recommended use: With foliar fertilisation, it can be applied 2-3 times during the growing season at a dose of 2-6 l/ha. In the case of arable crops, it can be applied at a dose of 10-15 l/ha as a soil fertiliser at a depth of 10-25 cm.

GENEZIS CEREAL FOLIAR FERTILISERS

MIKROMIX-A preparations		B	Cu	Fe	Zn	Mn	Mo	Mg	SO ₃
MIKROMIX	A - iron-magnesium			3			5		10
MIKROMIX	A - copper		5						
MIKROMIX	A - zinc				5				5.5
MIKROMIX	A - manganese					5			6.6
MIKROMIX	A - grapes / fruit	0.6	0.1	3	0.4	0.5	0.05		
MIKROMIX	A - vegetables / ornamentals	0.6	0.1	1.5	0.6	0.5	0.05		
MIKROMIX	A - cereals	0.4	2	0.5	0.3	0.2			
MIKROMIX	A - potatoes	0.4	0.2	0.3	0.4	0.9			
MIKROMIX	A - maize	0.2	0.3		2.2	0.2			
MIKROMIX	A - oilseed crops	1.2	0.4	1	0.6	0.2			
MIKROMIX	A - sugar beets	1.5	0.4	0.8	0.4	0.4			
MIKROMIX	A - leguminous crops	0.5	0.5		1	1			



Pétibór Extra

Boron is one of the most important micronutrients. Without it, the growth of shoots stops, and the growing tips die. A boron-deficient plant displays poor binding, flower dropping and deformed leaves. Pétibór Extra is a modern boron fertiliser, produced on the basis of the latest research, which contains the boron nutrient in the form of a solution, as an organic compound. It is an agent that increases biochemical efficiency and meets environmental requirements. It can also be used safely in ecological and organic farming. Agricultural trials performed by using this preparation demonstrate its efficiency, even in small doses, due to its high

efficiency. It contains at least 10% elemental boron, corresponding to a 135 g/litre boron, i.e. 772 g boron acid/litre concentration. Frost resistance is guaranteed to -10 °C. Any extraction of the active ingredient at a lower temperature is automatically resolved by re-heating. This feature increases storage security, even in a poorly insulated space. A clear, slightly yellowish, odourless liquid, possibly with an odour bearing a slight resemblance to ammonia. The pH of the concentrated solution is 6.9-7.0 which varies to 7.8-8.0 depending on the dilution in the spray liquid. It promotes the fertilisation of flowers and increases binding. It increases sugar beet yield, sugar content and sugar extractability (reduces harmful N and Na content, while

increasing K content without any potassium fertilisation intervention). It adheres well to the foliage and does not dry out for a long time, thus improving its efficiency. The boron is in the form that is most easily absorbed by plants. Its use is effective even in small doses. To improve cost-effectiveness, it can be applied at the same time as crop protection. Symptoms of boron deficiency can be quickly eliminated during the growing season.

Nutrient content: 10% (135 g/l)
Boron, active ingredient: boron-ethanol-amine



Recommended use of Genezis Nitrospeed

Crop	Recommended dosage as supplementary top dressing	Recommended dosage as foliar fertiliser	Recommended application
Cereals	20-25 l/ha	5 l/ha	From the beginning of bushing
			When the flag leaf expands
Rapeseed	20-25 l/ha	5 l/ha	In rosette stage
			Hidden yellow bud stage
Maize	20-25 l/ha	5 l/ha	4-6 leaves
			At the beginning of tasseling
Sunflower	20-25 l/ha	5 l/ha	5-6 leaves
			Until starbud stage
Sugar beet	20-25 l/ha	5 l/ha	4-6 leaves
			5-7 l/ha

Recommended use as a foliar fertiliser:

	Dose	Application
Sugar beet	3-5 l/ha	From 4 to 6 leaves until the end of August
Sunflower	3-5 l/ha	From 3- to 4-leaf stage until one week before flowering, and after flowering
Winter swede rape	3-5 l/ha	In autumn to increase winter hardiness, in spring from staking to flowering
Wheat	2-4 l/ha	From the emergence of the flag leaf until the end of earing
Maize	2-4 l/ha	At the 3-leaf stage, then for one week before flowering
Soy	3-5 l/ha	Before pod bonding

GENEZIS BIOSTIMULANT FOLIAR FERTILISERS

Genesis Cereals BS

Plant conditioner product

A composite preparation with high active ingredient content for foliar fertilisation of arable crops and cereals, from bushing to earing. It improves the stress resistance of plants. It has a positive effect on the natural life processes of the plant. Its application has a positive effect on the quantity and quality of the crop. Chloride-free, instant-acting foliar fertiliser. When applied in the autumn, it enhances winter hardiness, helping to regenerate weakened crops in early spring. Improves drought tolerance.

Composition: Nitrogen (N): 10.7%, Sulphur trioxide (SO₃): 3.5%, Copper (Cu): 1.1%, total amino acids: 14%, Zinc (Zn): 0.1%, Manganese (Mn): 0.1%.

Recommended use: Can be applied 2-3 times during the growing season at a concentration of 0.5-2% (applied at a dose of 4-6 l/ha).



Wheat foliar fertiliser experiment, Heves 2019

Stress caused by water shortage, with adequate nutrient supply (in our case: NPK = 135/36/36), the use of foliar fertilisers and especially biostimulators pays off, allowing economical production. In our experiment, used alongside amounts of 1.71 and 1.87 of foliar fertiliser, the bio stimulator resulted in an additional yield of 2.23 t/ha compared to the control treatment without foliar fertilisation. Rational product selection that adapts to the place of production and technology, in this case the bio stimulator, is the most profitable investment even in dry years.

Treatments (5 April and 12 May) and results

- | | |
|--|-----------|
| 1. Control (without foliar fertiliser, NPK only) | 4.45 t/ha |
| 2. Genesis Cereal 5 l/ha + Genesis Cereal 5 l/ha | 6.16 t/ha |
| 3. Genesis Nitrospeed 5 l/ha + Genesis MIKROMIX A Cereals 5 l/ha | 6.32 t/ha |
| 4. Genesis Cereals BS 5 l/ha + Genesis Cereals BS 5 l/ha | 6.68 t/ha |

Genesis Mikromix BS

Plant conditioner product

A high active ingredient preparation for foliar fertilisation of maize and other zinc-intensive plants. These amino acid products replenish the amino acid reserves of plant cells, making protein synthesis faster and more efficient. It improves the stress tolerance of plants. It has a positive effect on their natural life processes. Its application has a positive effect on the quantity and quality of the crop. It is a chloride-free, instant effect foliar fertiliser.

Composition: Zinc (Zn): 3.5%, Sulphur trioxide (SO₃): 4.2%, Nitrogen (N): 1.3%, total amino acids: 14%.

Recommended use: Can be applied 2-3 times during the growing season at a concentration of 0.5-2% (applied at a dose of 2-6 l/ha). It improves nitrogen uptake efficiency, and promotes protein and oil formation. Application can increase nutrient uptake from the soil.



GENEZIS BIOSTIMULANT FOLIAR FERTILISERS

Genezis Oilseed crops BS

Composition: N: 10%, Sulphur trioxide (SO₃): 3.0%, Boron (B): 1.3%, total amino acids: 14%.

Use of Genezis Oilseed crop BS:

Crops with a high boron need, recommended for the treatment of, e.g., rapeseed and sunflower. As a foliar fertiliser in a dose of 4-6 litres/ha, mixed with 250-300 litres of water. Recommended for feed solution application at a concentration of 0.05%.



Genezis Nitrospeed BS

A liquid fertiliser solution with a high nitrogen content, including sulphur, magnesium and amino acids.

Most of the nitrogen content can be taken up immediately through the leaf, with a smaller portion thereof being a slower-acting form of nitrogen.

Genezis Nitrospeed BS	
Nitrogen (N):	20%
Of which ammonia-nitrogen:	1%
Amide-nitrogen	16%
Nitrate-nitrogen	2%
Amino acid nitrogen:	1%
Sulphur trioxide (SO₃):	4.4%
Magnesium (MgO):	2.5%
Total amino acid content:	7%

Crop	Recommended dosage as supplementary top dressing	Recommended dosage as foliar fertiliser	Recommended application
Cereals	20-25 l/ha	5 l/ha	From the start of tillering
			At full emergence of the flag leaf
Rapeseed	20-25 l/ha	5 l/ha	At the rosette stage
			At the hidden yellow bud stage
Maize	20-25 l/ha	5 l/ha	At the 4-6 leaf stage
			At the beginning of tassel emergence
Sunflower	20-25 l/ha	5 l/ha	At the 5-6 leaf stage
			Until the growing of the bud is complete
Sugar beet	20-25 l/ha	5 l/ha	At the 4-6 leaf stage
			At root formation

Recommended water amount: 250-350 l/ha



GENEZIS HORTICULTURAL FERTILISERS

Genezis Mikromix-A grapes / fruit

Packaging: Plastic carboy 10 l, plastic container (IBC) 1,000 l, plastic bottle 1 l.

Characteristics: Use on grapes, fruit, vegetables and ornamentals to prevent and cure micronutrient deficiency diseases. Chloride-free, quick effect soil and foliar fertilisers. Can be used to cure micronutrient deficiency diseases quickly and effectively and to establish the optimum micro-element levels in the developing leaves and crop. The uptake, transport and incorporation of micronutrients within the plant is very complex, which makes it difficult for the appropriate amount to reach the place of use. During the growing season, it is essential to replenish micronutrients via the foliage on a continuous basis.

Recommended use:

Grapes / fruit: Mikromix micronutrient concentrate quickly and effectively eliminates micronutrient deficiency diseases, improves yield quantities, quality and disease resistance.

10-15 l/ha as soil fertiliser, 2-6 l/ha as foliar fertiliser (0.2-0.6 V/V% concentration).

Active ingredient content %						
B	Cu	Fe	Zn	Mn	Mo	
0.6	0.1	3	0.4	0.5	0.05	

Genezis Mikromix - vegetables / ornamentals

Packaging: Plastic carboy 10 l, plastic container (IBC) 1,000 l. Characteristics: Use primarily on vegetable and ornamental plant crops to prevent and cure micronutrient deficiency diseases.

Recommended use:

Vegetables:

As soil fertiliser: 5-10 l/ha

As foliar fertiliser: 2-6 l/ha (0.2-0.6 V/V% concentration)

Ornamental plants:

As soil fertiliser:

0.25-1.25 dl/10 l water/plant

As foliar fertiliser:

2-6 l/ha (0.2-0.6 V/V% concentration)

2-6 l/ha (0.2-0.6 V/V% concentration)



Active ingredient content %						
B	Cu	Fe	Zn	Mn	Mo	
0.6	0.1	1.5	0.6	0.5	0.05	

Genezis Mikromix-A Potato

Packaging: Plastic carboy 10 l, plastic container (IBC) 1,000 l. Characteristics: complex preparation with a high content of active ingredients for the prevention and treatment of deficiencies in vegetables, especially potatoes. Chloride-free, fast-acting soil and foliar fertilisers. The adequate micronutrient supply has a positive effect on the physiological processes that take place within many plants, enhancing stress resistance (protection against frost, drought, diseases, pests, etc.).

Recommended use: 10-15 l/ha as soil fertiliser, 2-6 l/ha as foliar fertiliser (0.2-0.6 V/V% concentration)



Active ingredient content %					
B	Cu	Fe	Zn	Mn	
0.4	0.2	0.3	0.4	0.9	



GENEZIS HORTICULTURAL FERTILISERS

GENEZIS with sulphate (chloride free)

**NPK 8:10:25 + 14.2% S + 2.6% CaO + 2% MgO + ME
(0.05% B, 0.1% Mn, 0.02% Zn, 0.05% Fe)**

Packaging: 25 kg bag, 700 kg Big Bag.

Characteristics: The product was developed with chloride-sensitive horticultural crops (including, but not limited to: apples, pears, plums, courgettes, peppers, beans, onions, tobacco, cherries, beet, strawberries, redcurrants, gooseberries, raspberries, asparagus, potatoes, etc.) in mind, by using potassium sulphate instead of chloride, therefore it also acts as a suitable basal dressing for the well-known chlorine-sensitive crops.

Advantages: Can be used immediately before sowing or planting, as its chloride-free composition eliminates the negative

effects of chlorine on germination. Due to its high potassium content, it can be used to grow fruit and vegetables with excellent nutrient content and a long shelf life.

Recommended use: Suitable for both basal and top dressing.

In horticultural crops: Application of 250-500 kg/ha (25-50 dkg/10 m²) according to the recommended soil test results.

Active ingredient content %

N	P ₂ O	K ₂ O	S	B	Mn	Zn	Fe
8	10	25	14.2	0.05	0.1	0.02	0.05

Genezis with sulphate

NPK 11:11:18 + 16.2 S + 0.05 B + 0.05 Fe + 0.1 Mn + 0.02 Zn

Packaging: 25 kg bag, 700 kg Big Bag.

Characteristics: It was developed with chloride-sensitive horticultural crops (including, but not limited to: apples, pears, plums, courgettes, peppers, beans, onions, tobacco, cherries, beet, strawberries, redcurrants, gooseberries, raspberries) in mind, with the use of potassium sulphate instead of potassium chloride.

Advantages: Can be used immediately before sowing or planting, as its chloride-free composition eliminates the negative effects of chlorine on germination.

Recommended use: Suitable for both basal and top dressing.

In horticultural crops: Application of 250-500 kg/ha (25-50 dkg/10 m²) is recommended.

Active ingredient content %

N	P ₂ O	K ₂ O	S	B	Mn	Zn	Fe
11	11	18	16.2	0.05	0.1	0.02	0.05



GENEZIS HORTICULTURAL FERTILISERS

Genezis Pétisol

The **GENEZIS-PÉTISOL** product line is a chloride-free, liquid foliar and soil fertiliser containing nitrogen, phosphorus and potassium, including micronutrients (iron, copper, zinc, manganese, boron, molybdenum).

From the **GENEZIS-PÉTISOL** product line, we recommend the use of the Genesis Pétisol phosphorus and potassium-rich product to prevent or rapidly eliminate temporary phosphorus and potassium deficiencies. It provides a harmonious supply of nutrients due to its high active ingredient content. It can be used during the growing season to establish an

adequate supply of nutrients via foliage. Suitable for foliar fertilisation of arable crops in case of phosphorus and potassium deficiency. It is especially suitable for eliminating temporary phosphorus deficiency during cool periods. Boron supplementation can be used effectively to 'cure' poorly wintered, poorly developed rapeseed and cereals in early spring.

Recommended use: Can be applied 2-3 times during the growing season at a dose of 5-10 l/ha through the leaves.

Genezis-Pétisol phosphorus and boron solution fertiliser

Packaging: Plastic carboy 10 l, plastic container 1,000 l.

Characteristics: Perfectly water-soluble, chloride-free liquid complex foliar and soil fertiliser that also contains chelated micronutrients, which help the nutrient uptake of plants.

Recommended use: Can be used in case of phosphorus and boron deficiency. Its regular use ensures healthy and vigorous growth in plants and their balanced nutrient supply.

It can be used for foliar fertilisation 2 to 3 times during the growing season, in a 1-2 V/V% concentration (5-10 l/ha spread in 500-1000 l/ha water). For small farmers 1-2 dl. of the preparation/10 l. water/100 m².

For nutrient irrigation, it is recommended to use it in a dilution of 0.05-0.1 V/V% (0.5-1 dl of the preparation per 100 l of water) with repetition according to the needs of the plant.

Active ingredient content %	N	P ₂ O ₅	K ₂ O	B	ME.
Nitrogen rich Genezis Pétisol	14	7	9	-	0.1
Phosphorus and potassium rich Genezis Pétisol	6	10	13	-	0.1
Genezis Pétisol Phosphorus and Boron	8	20	-	1	-
Genezis Pétisol Tobacco	5	7.5	10	-	0.1



GENEZIS HORTICULTURAL FERTILISERS

GENEZIS NUTRITIVE SOLUTIONS AND NUTRITIVE SALTS

Genезis-Pétisol product line (small pack)



Active ingredient content %	N	P ₂ O ₅	K ₂ O	ME.
Genезis-Pétisol General	5	5	5	0.1
Genезis-Pétisol Geranium	5.5	5.5	5.5	0.1
Genезis-Pétisol Annual Flower	6	4.5	6	0.1
Genезis-Pétisol Lawn	9	3	4	0.1
Genезis-Pétisol Evergreen	8	3	4	0.1
Genезis-Pétisol House plant	7	4	5	0.1
Genезis-Pétisol Vegetable	6	4.5	6	0.1
Genезis-Pétisol Citrus	5	3.5	7	0.1
Genезis-Pétisol Rose and Ornamental Shrub	5	3.5	7	0.1
Genезis-Pétisol Orchid and Bromelia	3.5	5	7	0.1

Main characteristics:

- ▶ Modern foliar fertilisers developed for special crops.
- ▶ Their composition is adapted to the nutrient needs of the given plant.
- ▶ They are chloride-free.
- ▶ Fast acting soil and foliar fertilisers.
- ▶ Ensure rapid and effective elimination of deficiency diseases and the development of the optimal nutrient level of the developing leaves and fruits.

Recommended use: As foliar fertilisation it can be applied 2-3 times during the growing season at a concentration of

1-2% (5-10 l/ha applied in 500-1,000 l/ha of water). In a home garden, 1-2 dl. of the preparation dissolved in 10 litres of water is enough for 100 m². For nutrient irrigation, it is recommended to use it in a dilution of



Active ingredient content %	N	P ₂ O ₅	K ₂ O	ME.
Genезis nutritive salt Geranium	14	7	21	0.2
Genезis nutritive salt wonderbloom	14	7	21	0.2
Genезis nutritive salt House plant	24	11	11	0.2
Genезis nutritive salt Patio plant	8	16	23	0.2

Main characteristics:

- ▶ Chloride-free, solid fertiliser line.
- ▶ Contains all nutrients, macro- and micronutrients necessary for the balanced development of plants.
- ▶ All their components can be absorbed quickly by the plant.
- ▶ Modern foliar fertilisers developed for crops.
- ▶ Their composition is adapted to the nutrient needs of the given plant.
- ▶ EK fertilisers.

Recommended use:

- ▶ Can be used in growing vegetables, ornamentals and fruit.
- ▶ Foliar fertilisation: 0.3% (30g in 10 litres) every 5-10 days.
- ▶ In a home garden, dissolve 2 tablespoons of salt in 10 l of water and apply at the base of plants.

1-2% (0.5-1 dl of the preparation per 100 l of water) with repetition according to the needs of the plant. Spreading should be followed by thorough irrigation.

Packaging: 1l bottle.

Genезis nutritive salts

**It has everything the plant needs!
Dosing spoon in the bucket!**

Perfectly water-soluble complex fertiliser with micronutrients for gardening and home garden use. All of their components are in salt or chelated form that is easily absorbed by the plant.

GENEZIS HORTICULTURAL FERTILISERS

Treatment is performed once a week, or twice a week for plants with stronger growth.

- ▶ For nutrient irrigation, it is recommended to use it in a dilution of 0.05-0.1% with repetition according to the needs of the plant. Spreading should be followed by further thorough irrigation.

Packaging: 0.5 kg bucket
(16 pcs/carton).

Genезis Péti Mix complex Plus

(The water-soluble irrigation fertiliser product line)

Perfectly water-soluble without residue (100%), for feed solution application and foliar fertilisation of complex fertilisers supplemented with micronutrients.

Main characteristics:

Chloride-free, solid, 100% water-soluble, sediment-free fertiliser line. It contains all nutrients, macro and micronutrients necessary for the balanced development of plants. All their components can be absorbed quickly by the plant. Their micronutrient content is chelated (Chelating), so they do not bind to the soil particles, they are utilised without loss. They can also be used in irrigation fertilisation technologies.

Packaging:

Starter in 25 kg plastic bag, other preparations in 20 kg plastic bag. (1,000 kg/pallet, 40 or 50 bags/pallet).

We recommend Irrigation fertilisers:

Mainly for feed solution application and foliar fertilisation, for ornamental plants and vegetables grown in a polytunnel, for open field ornamental plants and

vegetables, for cereals, potatoes, vineyards and orchards.

May be used: For feed solution application and foliar fertilisation of vegetables and ornamental plants. Recommended amount in a concentration of 0.05-0.1% according to the needs of the plant. It can also be used as a foliar fertiliser in a concentration of 0.5-1%.



Active ingredient content %	Total Nitrogen	NO ₃ -N	NH ₄ -N	NH ₂ -N	P ₂ O ₅	K ₂ O	MgO	ME.
Starter	15	-	6	9	30	15	-	0.2
Péti Complex I	14	-	7.5	6.5	7	21	-	-
Péti Complex II	10	-	6	4	-	25	-	-
Péti Complex III	15	-	1.2	13.8	5	30	-	-

GENEZIS HORTICULTURAL FERTILISERS

GENEZIS NPK 8:21:21

N	P ₂ O ₅	K ₂ O	CaO	MgO
8.0%	21.0%	21.0%	2.9-5.8%	2.0-4.0%

Packaging: 5 kg bag, 10 kg bag

Characteristics: Can be used as a general spring and autumn basal dressing for all horticultural crops. The active ingredients dissolve well in water.

It is primarily recommended for crops with high potassium needs and for soils with low potassium content.

Advantages: Its active ingredients disperse well in water, therefore it can be spread both in the autumn and in springtime.

Recommended use: Fertiliser recommended for autumn and spring basal dressing. Following the soil test, it should be applied at the dose calculated by the ProPlanta expert advice programme (250-500 kg/ha).

Garden multivitamins

Recommended use: Foliar fertilisation: dissolve 1-2 tablespoons (10-20 g) of granules in 10 l of water, stirring constantly, and apply to the foliage of the plant with a handheld or backpack sprayer.

Feed solution application: Dissolve 1 tablespoon (10 g) of granules in 10 l of water and water the base of the plant. Never fertilise foliage in sunny weather, choose the morning and early evening hours instead.

Packaging: 100 gram package.

GENEZIS NPK 0:10:20 (PK)

P ₂ O ₅	K ₂ O	CaO	MgO
10.0%	20.0%	14.2%	9.9%

Packaging: 5 kg bag, 10 kg bag

Characteristics: Can be used as a general spring and autumn basal dressing for all horticultural crops.

Advantages: Its active ingredients disperse well in water, therefore it can be spread both in the autumn and in springtime.

Recommended use: Primarily for crops with a high potassium demand where N application is not justified, or is recommended for soils with low potassium content. Fertiliser recommended for autumn and spring basal dressing. Following the soil test, it should be applied at the dose calculated by the ProPlanta expert advice programme (250-500 kg/ha depending on the crop and soil type).

We recommend the product:

For ornamental crops, since most ornamentals are very sensitive to micronutrient deficiency, which reduces their ornamental value. For vegetables crops, it ensures adequate iron supply. Use in vineyards and orchards, for growing and maintaining a healthy, abundant crop.

Active ingredient content %	B	Cu	Fe	Zn	Mn	Mo
Greening vitamin (Savastrene Fe)	-	-	13	-	-	-

GENEZIS NPK 8:15:15

N	P ₂ O ₅	K ₂ O	CaO	MgO
8.0%	15.0%	15.0%	7.4-7.9%	5.2-6.8%

Packaging: 5 kg bag, 10 kg bag

Characteristics: A complex fertiliser that can be used as a general spring and autumn basal dressing for all horticultural crops (for chloride-sensitive crops, it must be applied no later than 2 weeks before planting). The active ingredients dissolve well in water. It is primarily recommended for crops with high potassium needs and for soils with low potassium content.

Advantages: Its active ingredients disperse well in water, therefore it can be spread both in the autumn and in springtime. Moderate N and high P and K content.

Recommended use: It is mostly recommended for autumn basal dressing. Following the soil test, it should be applied at the dose calculated by the ProPlanta expert advice programme (250-500 kg/ha).



GENEZIS HORTICULTURAL FERTILISERS

Genezis Savastrene Fe (Granular Iron Chelate)

Packaging: Plastic bucket 3 kg, plastic bag 10 kg, plastic box 0.6 kg.

Characteristics: The chelating agent - EDTA - makes the iron more usable for the plant. Apply to prevent iron deficiency diseases and cure already present deficiency diseases in crops. The micro-granule format preparation should be dissolved in water while stirring constantly, then spread on the plant or area to be treated. It can be continuously fed via an irrigation system, e.g., by drip irrigation. It can be mixed with other fertilisers in a fertiliser solution.

Recommended use:

Ornamental plants: Due to its special chelate form, it remains stable and effective, even at extreme pH ranges.

Vegetables: For prevention: 15-25 g/m². To remedy iron deficiency: 25-40 g/m² dissolved in 4-6 litres/m² of irrigation water.

Grapes / fruit: 35-75 g/vine, depending on the age of the vine and the extent of the iron deficiency, dissolved in 8 to 10 litres of water, irrigated in around the vine.

Roses: 10-25 g/plant, dissolved in 5 to 10 litres of water per plant and irrigated in.

Active ingredient content %	
Fe	SO ₃
6.0	-



Genezis Savastrene Fe (Solution)

A fertiliser solution with organically bound iron chelate.

Packaging: 10 litre carboy. Contains stable iron chelate. It is particularly suitable for the prevention of iron deficiency diseases and for the elimination of already established deficiency diseases.

The preparation is suitable for both foliar or soil application.

Due to its special chelating form, it remains stable and effective for a long time even in extreme pH ranges, thus providing long-range protection from iron deficiency.

Savastrene Fe provides good shoot growth and healthy, fresh foliage. By applying it, a 10-30% yield surplus can be achieved.

Iron as a structural component is important in photosynthesis, respiration, oxidation and reduction processes.

Active ingredient content %	
Fe	SO ₃
3.0	-



GENEZIS HORTICULTURAL FERTILISERS

GENEZIS HORTICULTURAL NPK PRODUCTS (SMALL PACK)

Genezis special garden vegetable NPK fertiliser

Active ingredient content %						
N	P ₂ O ₅	K ₂ O	CaO	MgO	SO ₃	Fe
10.0	5.0	10.0	8.5	6	25.4	1.0

Packaging: Plastic bag 10 kg.
1 t/pallet (100 bags).

Characteristics: With its balanced composition and micronutrient content, the Genezis Special Garden Vegetable NPK fertiliser provides an excellent, harmonious supply of nutrients to plants throughout the vegetation period.

It increases yield volume and the period of durability and improves quality and nutritional values. The composition of the special micro-, meso- and macronutrients stimulates the growth and development of plants. The preparation can be used from the early spring until



the end of summer, both for pre-planting nutrient replenishment and for nutrient replenishment during vegetation.

Benefits: Its main active ingredients are nitrogen, potassium, phosphorus, and it also contains iron, calcium and magnesium, which nourish the plants, make them more resistant to environmental influences and make them grow stronger, bloom and provide a more plentiful crop. Our plants can take up nutrients as they need, without excessive nitrate storage in the plant. Due to its calcium and magnesium content, it increases cell solidity, the occurrence of physiological disturbances become less frequent, and thus the produce stores better.

Recommended use: Its main active ingredients feed the plants and make them more resilient against environmental effects, make growth and flowering more vigorous and give a more plentiful yield. As the most intensive growth period is in the spring, the best effect can be achieved when we use this preparation 2 or 3 times in this period and during the growing season. The preparation is applied to the roots of the plants, evenly distributed. To achieve the optimal effect, we recommend evenly spreading 5 kg of fertiliser on 150-200 m² and 10 kg of fertiliser on 300-400 m². After using this fertiliser, mixing or watering in is necessary (with a min. of 10 l/m²).



GENEZIS HORTICULTURAL FERTILISERS

Genezis Special flower garden NPK

Active ingredient content %						
N	P ₂ O ₅	K ₂ O	CaO	MgO	SO ₃	Fe
10.0	5.0	10.0	8.5	6	25.4	1.0

Packaging: Plastic bag 5 kg.
800 kg/pallet (160 bags).

Characteristics: Due to its balanced composition and micronutrient content, Genezis Special Flower Garden NPK fertiliser provides excellent and balanced nutrition to plants during the entire growing season. It improves yield volume, shelf life, quality and nutritional values.

The appropriate micro-, meso- and macronutrients stimulate the growth and development of plants.

This preparation can be used from early spring until the end of summer, both for nutrient refill before planting and for nutrient replenishment during the growing season.

Benefits: Its main active ingredients are nitrogen, potassium, phosphorus, and it also contains iron, calcium and magnesium, which nourish the plants, making grow stronger, bloom and provide a more plentiful crop, and also more resistant to environmental influences. Plants can take up nutrients as they need, without excessive nitrate storage in the plant.

Due to its calcium and magnesium content, it increases cell solidity, the occurrence of physiological disturbances become less frequent, and thus the produce stores better.

Recommended use: Its main active ingredients feed the plants and make them more resilient against environmental effects, make growth and flowering more vigorous and give a more plentiful yield. As the most intensive growth period is in the spring, the best effect can be achieved when we use this preparation 2 or 3 times in this period and during the growing season. The preparation is applied to the roots of the plants, evenly distributed. To achieve the optimal effect, we recommend evenly spreading 5 kg of fertiliser on 150-200 m² and 10 kg of fertiliser on 300-400 m². After using this fertiliser, mixing or watering in is necessary (with a min. of 10 l/m²).



GENEZIS HORTICULTURAL FERTILISERS

Genezis Special lawn NPK fertiliser

Active ingredient content %

N	P ₂ O ₅	K ₂ O	CaO	MgO	SO ₃	Fe
10.0	5.0	10.0	8.5	6	25.4	1.0

Packaging: Plastic bag 5 kg.
800 kg/pallet (160 bags).

Characteristics: Due to its balanced composition and micronutrient content, Genezis Special NPK Lawn Fertiliser ensures an excellent, healthy green lawn throughout the growing season. The appropriate micro-, meso- and macronutrients stimulate the growth and development of the plant. It provides a healthy and fresh-looking green surface.

Benefits of its use: Its main active ingredients are nitrogen, potassium, phosphorus, in addition to iron, calcium and magnesium, which nourish the grass, make it more resistant to environmental influences and render its green colour more vivid. Its nitrogen content makes the grass grow and regenerate quicker.

Recommended use: Its main active ingredients nourish plants, make them more resistant to environmental influences, and enhance growth.

It is excellent for ensuring a healthy green cover in lawns, grasses, football pitches and golf courses.

As the most intensive growth period of grass is in the spring, the best effect can be achieved when using this preparation 2 or 3 times in this period and during the growing season. The preparation should be scattered evenly on the lawn after dry and dead plants have been removed.

This preparation can be used from early spring until the end of summer, both for nutrient refill before planting and for nutrient replenishment during the growing season. To achieve the optimal effect, we recommend the even application of 5 kg of fertiliser on 150-200 m². After application, it is advisable to water the lawn surface (with a min. water amount of 10 l/m²).



GENEZIS HORTICULTURAL FERTILISERS

Péti Lawn Fertiliser for mossy lawns

Active ingredient content %

N	Cu	SO ₃	Fe
7.0	0.25	8.5	1.0

Having problems with the appearance of moss in your yard or on your lawn?

Packaging: Plastic bag 3 kg.
600 kg/pallet (200 bags).

Characteristics: The preparation contains ferrous sulphate, which kills moss species quickly and effectively. We also recommend ventilating the lawn.

Recommended use: Can be used in the amount of 150-250 g/m² (20 m²/bag) for nutrient replenishment of mossy lawns and greens.

As the most intensive growth period of grass is in the spring, the best effect can be achieved when we use this preparation 2 or 3 times in this period and during the growing season.

The treatment should be carried out post-emergence, in the intensive growth state of the moss species, after mowing the lawn.

The preparation should be scattered evenly on the lawn after dry and dead plants have been removed. Thorough watering of the treated surface is recommended 2-3 days after application (with a min. water amount of 10 l/m²). The effect of the preparation is visible immediately after watering (10 mm.), in the reddish-brown and black discolouration of the moss. The soil conditioning agent takes effect very quickly. Experiments have shown that the moss-killing effect of the preparation is very effective.



HANDLING AND STORAGE GUIDE

The following storage conditions apply to all Genezis fertilisers.

Never store ammonium nitrate fertiliser (AN 34%) in bulk!

Do not store fertiliser in bulk outdoors!

Recommendations for indoor storage:



The storage facility should be a closed and secure building made of non-combustible material (concrete, brick); weatherproof, with an indoor temperature between 5-30 °C; dry, free of dust and dirt, its substrate should be a dry and smooth surface; the surfaces in contact with the fertiliser should be well insulated; the building should be well ventilated.

The fertiliser storage area must be protected from unauthorised access!

Never allow smoking or the use of open flame within the fertiliser storage area!

Recommendations for outdoor storage:

Avoid storing fertiliser outdoors. Protect the fertiliser from direct sunlight, hot objects and surfaces, do not allow the temperature within the storage area to rise above 32 °C.



To prevent the infiltration of moisture and other contaminants, the fertiliser bags should be covered with a properly secured, clear, waterproof cover.

Stacking of packaged goods:

Pallet product:

- ▶ The stack should be no more than 2 rows high.
- ▶ The middle foot of the pallets in the top row should not be placed between two pallets of the row



beneath; it should always be fully supported by the row below it.

Big-Bag products:

- ▶ The bags may be stacked in a maximum of 3 rows.
- ▶ Big-Bags placed on pallets should not be stacked higher than 2 rows.
- ▶ For the lifting of Big-Bags, use only the tools designed for that purpose.
- ▶ Never move the bags with a forklift or other lifting devices.

HANDLING AND STORAGE GUIDE



Environmental regulations:

Handling products with damaged packaging:
Clean up spilled fertiliser as soon as possible and place it in a clean, labelled, closed bag/container. Store separately on a separate pallet. Contaminated fertiliser must be disposed of in accordance with the regulations for hazardous waste.

Safety regulations:

- ▶ The storage instructions should be easily accessible.
- ▶ Always keep the warehouse clean and tidy.
- ▶ Keep traffic routes (Section 193 of the NFSC) and the preparation area for fire fighters (Section 66 of the NFSC) clear and accessible.
- ▶ Fertilisers containing ammonium nitrate (AN 34% and Pétisó) may only be stored in places where the water pressure specified in Table 1 of Annex 8 to the NFSC for extinguishing fire is always available.
- ▶ Ammonium nitrate-based fertilisers (AN 34% and Pétisó) belong to the 'moderately flammable' fire hazard class. Urea is 'non-flammable'.

Regulations regarding fertiliser products

- ▶ Regulation (EC) No 2003/2003 of the European Parliament and of the Council (13 October 2003) on Fertilisers
- ▶ Decree of the Ministry of Agriculture and Rural Development 36/2006 (18 May) FVM on the Authorization, Storage, Marketing and Utilisation of Yield Increasing Materials
- ▶ Decree of the Ministry of Agriculture and Rural Development 37/2006 (18 May) FVM on the Placing on the Market and Control of Fertilisers Marked as EC Fertilisers
- ▶ Government Decree 219/2011 (20 October) on Protection Against Major Accidents Related to Dangerous Substances
- ▶ Decree of the Minister of Interior 54/2014 (5 December) BM on the National Fire Safety Code (NFSC)
- ▶ Act CLXXXV of 2012 on Wastes

Click on the link below for more information:
www.genezispartner.com

For the storing of AN fertiliser (AN 34% N)

- ▶ Specifications for fertiliser products pursuant to Government Decree 219/2011



NOTES

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NOTES

We don't just provide products, we provide complex Genezis Technology!



Seed

- Own profile
- Market-leading products
- Outstanding value for money
- Excellent quality



Plant protection

- Fast fulfilment of customer needs
- Market-leading and substitute products
- Alternative solutions, complex protection
- Crop safety
- Cost-effective farming: Greater profit!



Gardening

- National coverage
- Excellent quality Hungarian products
- Cost-effective technologies proved by farmers
- Solutions for grape, fruit and vegetable crops



Consultancy

- A network of large-scale, small-plot and horticultural experiments
- More than 10 years of experience
- State-of-the-art nutrient replenishment technologies
- Soil sampling, leaf analysis and crop inspection services



Fertiliser

- 85 years of professional experience
- Latest production technology, reliable product quality
- A product range to meet every need
- Competitive prices
- Own vehicle fleet, flexible service



Crop trade

- Safety
- Flexibility
- Competitive price
- Everyday contact
- Quick payment



CONTACT THE GENEZIS PARTNER NETWORK SALES REPRESENTATIVES FOR MORE INFORMATION!

www.genezispartner.com





Contact details of the
Genezis Partner Network:
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