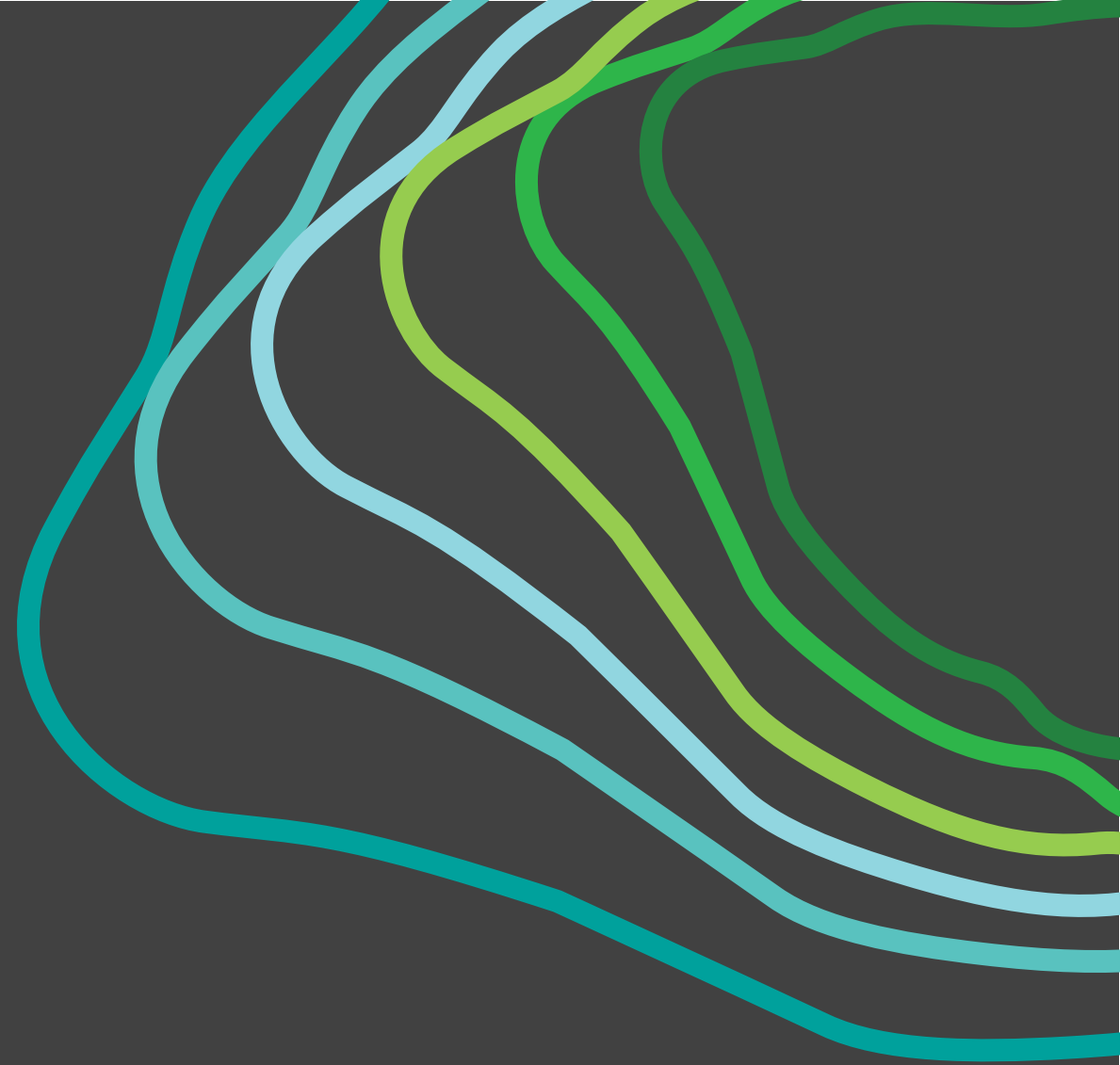




AgroMag

By Brucite⁺



Recommendations

AgroMag[®] granular

Description and application

AgroMag® granular is a new environmentally friendly granular magnesium fertilizer with a high content of active component (61 % MgO).

It is recommended to be used in the soil, under pre-sowing cultivation or during sowing, both as part of mechanical fertilizer mixtures and as an independent magnesium fertilizer.

It has a granular form with the color from light gray to brown. The product is produced by grinding and granulating of the natural mineral brucite (magnesium hydroxide). It is environmentally friendly in recommended doses and suitable for use in organic production.

Magnesium is the main atom of chlorophyll molecule and part of ribosomes and is directly involved in photosynthesis and many other physiological processes in plants.

Magnesium deficiency causes weakening of plants (especially during periods of drought), disrupts their growth and development, reduces yield, and affects the quality of products. For example, fruit trees can cause shedding of ovaries and fruits.



How does AgroMag® AktiMax work?

Magnesium hydroxide is classified as a poorly soluble substance in water, but getting into the soil with an acidic reaction the AgroMag® product begins to gradually dissolve with the release of magnesium ions, which are easily absorbed by the roots of the plant.

Due to the limited solubility, the AgroMag® product gradually supplies the plant with magnesium throughout the season.

It cannot be washed out from the soil and does not require additional application during the season, unlike water-soluble magnesium sulfate.

The increase in the availability of AgroMag® (including in soils with a pH close to neutral) is also facilitated by the root secretions (organic acids) of vegetative plants, which convert magnesium hydroxide into Mg^{2+} ions, which are easily absorbed by the roots of the plant.

Application

AgroMag® granular can be used in two ways:

- as a component for fertilizers mixtures production
- as an independent fertilizer for crops

When used as a component of fertilizer mixtures, AgroMag® granular is mechanically mixed in the required proportion with other simple or complex fertilizers. Varying the composition of fertilizer mixtures, one can choose the best option for any regions and cultures.

Since the selection of fertilizer mixtures is based on agrochemical analysis of the soil, their application is one of the most cost-effective solutions to the mineral nutrition of plants, which allows one to add as much nitrogen, phosphorus, potassium, magnesium and other nutrients to the soil as needed to obtain good results.

The content of the AgroMag® product in fertilizer mixtures is mainly determined by the targeted crop and the content of mobile magnesium in the soil.

In the case of using AgroMag® granular as an independent magnesium fertilizer for soil nutrition of plants, it is recommended to use it in the main tillage, during pre-sowing cultivation or sowing, as well as additional nutrition for perennial berry and fruit crops.

AgroMag® product application rates depend on:

- Demand of crop for magnesium.
- Provision of soil with forms of magnesium available to plants.
- Magnesium balance states in the soil-plant system of a specific crop rotation.
- Purpose of use: as a magnesium fertilizer or ameliorant.

Regardless of the method of application (as a component of fertilizer mixtures or a separate magnesium fertilizer), it is worth use the following application guidelines presented below in Table 1.



Application

Table 1. Recommended doses of AgroMag® granular in agricultural production

Crop type	Dosage (kg/hectare) per year	Way and period of application
Cereal crops	40-325	Main tillage, during pre-sowing cultivation
Legumes	40-150	
Soy	50-250	
Potato	80-325	
Maize, sunflower	60-250	
Sugar beet, red (table) beet, fodder beet	80-250	
Field vegetables and vegetables in protected soil	60-200	Main tillage, during pre-sowing cultivation
Strawberry	40-80	Main tillage, during pre-sowing cultivation, additional nutrition
Fruit and berry crops, grapes	45-100	Main tillage, during pre-sowing cultivation, additional nutrition

Application

Table 2. Recommended doses of AgroMag® AktiMax for personal use

Crop type	Dosage	Way and period of application
Edible roots, potato	6–30 g/m ²	Application in autumn or spring during soil preparation (plowing, digging, loosening)
	6–30 g/m ² or 2–10 g/plant	Application when sowing/planting
Field vegetables and vegetables in protected soil	6–20 g/m ²	Application in autumn or spring during soil preparation (plowing, digging, loosening)
	6–20 g/m ² or 2–7 g/plant	Application when sowing/planting
Strawberry	4–8 g/m ²	Application in autumn or spring during soil preparation (plowing, digging, loosening)
	4–8 g/m ²	Soil nutrition in the spring at the beginning of the resumption of vegetation and after harvest
Fruit and berry crops, decorative crops	8–16 g/plant	Application when planting
	4–8 g/m ²	Soil nutrition in the spring at the beginning of the resumption of vegetation and after harvest

When planning a fertilizer system for crops (as well as in the preparation of fertilizer mixtures) you need to keep in mind that the use of potash fertilizers in doses of more than 140–180 kg/ha causes antagonism between the ions of K^+ and Mg^{2+} , which decreases the absorption of magnesium. The ratio of $K^+ : Mg^{2+}$ should be from 0.8 to 2.

The AgroMag® granular also acts as an ameliorant for soils with high acidity and low saturation of the soil absorption complex with magnesium, soils of light particle size distribution, ensuring reproduction and maintenance of soil fertility.

The use of calcium forms of lime fertilizers leads to a disbalance of the ratio of calcium and magnesium. In this case, it is necessary to combine the calcium forms of lime fertilizers with AgroMag® granular so that the $Ca^{2+} : Mg^{2+}$ ratio in the soil remains from 8 to 4.

Application

AgroMag[®] granular advantages

- It has the highest magnesium content compared to other magnesium fertilizers.
- It is a long-term fertilizer, combines high bioavailability (due to the micron particle size) and high stability in mechanical mixtures of fertilizers.
- It is not washable out from the soil and has an advantage over well-soluble forms (magnesium sulfate), especially in conditions of excessive moisture, heavy rainfall and irrigation.
- It is convenient in dosing, transportation and use — granules with a size of 2–4 mm are optimal for mechanical spreading, as well as for the preparation of fertilizer mixtures.
- It is well combined with nitrogen (especially nitrate forms) and potash fertilizers, significantly enhancing their effect.
- Has fungicidal properties. Increases the resistance of plants (including winter forms) to adverse environmental conditions.
- Reduces the mobility of aluminum and manganese, increases the availability of nitrogen, potassium and molybdenum to plants.
- Increases the biological activity of the soil. Does not cause the salt burn of seeds and plant roots due to the gradual release of magnesium cations in contrast to water-soluble forms of magnesium fertilizers.
- Since AgroMag[®] granular is a product of grinding raw materials of natural origin, it is environmentally friendly in recommended doses and suitable for use in organic production.
- In case of using AgroMag[®] granular as an ameliorant, there is no release of CO₂ into the atmosphere, contrast to traditional carbonate forms of ameliorants.

By choosing AgroMag® products you ensure best technical support for application of product and receive a possibility to develop a custom solution with individual properties.

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