MAGNESIUM NITRATE

What is Magnisal?

Magnisal fertilizer (Magnesium Nitrate – ($Mg(NO_3)_2$. 6H2O) is a soluble, pure and crystal fertilizer that is very effective for covering magnesium deficiencies in plants. It contains 15% MgO (9.5% Mg) and 11% nitrogen originating from nitrate. As nitrate facilitates absorption of magnesium, Magnisal is a good magnesium transporter. As it is soluble in water, it can be applied via leaves and very suitable for other nutrients. It can be given together with other substances that are given via leaves.

Physical properties of Magnisal are given below:

- Density: 0,67 g/cm^3
- Solubility: 720 grams (in 1 liter of water)
- EC (grams/liter water): 1,0-1,2 (mS/cm)
- Mixtures: May not be mixed with fertilizers with phosphorous content.
- Moisture: Pretty high.
- Storage: May be stored without any limitations for time.

Where is it used?

Magnesium is essential element of chlorophyll that gives the green color of plants; therefore it has utmost importance in production of chlorophyll. Magnesium ions are utilized in protein synthesis, enzymatic reactions and production of vitamins. Magnesium deficiency causes the below given symptoms:
Initial symptoms start with loss of green color in old leaves. This is followed with yellowing seen between veins. In certain plants spots are seen in magnesium deficiency. When there is a high level of magnesium deficiency leaves turn their color to reddish purple. In time green parts get lost. The first symptoms of magnesium deficiency are seen in old leaves.

Magnesium need:

- When magnesium is washed away with heavy rain in sandy soils
- In plants that need to much magnesium
- When pH values are low (acidic)
- With excessive use of ammonium, calcium and potassium fertilizers.

Cabbage, corn, cucumber, eggplant, melon, pepper, potato, tomato, watermelon, bananas, citrus fruits, apples and grapes are more sensitive to magnesium deficiencies

Application method

Magnisal may be applied via soil or leaves. To get fast and effective results from application magnesium fertilizers one should apply via leaves. The below given methods are recommended for application via leaves:

Product	Dosage of application (%)	Recommended development stage
Apple	0,8-1,5	Initially given when fruit start to grow given 2-3 times with 14 day intervals
Citrus	1,0-2,0	2/3 of spring leaves develop
Vineyard	0,5-1,5	Following start of fruit formation
Olive	0,5	3 weeks following flowering
Fruit trees	0,5	After fruits start to be seen
Tomato	0,5-1,0	When fruits start to be seen
Barley, wheat	0,3	When plant starts to grow

When used via soil it may be directly given to the soil in solid form or may be as well be given via watering or sprinklers. Magnesium amounts that plants use in soil are given below :)

Plant	Product in tons/ 1/10 hectares	Magnesium need (MgO) kg/1/10 hectares	Plant	Product in tons/ 1/10 hectares	Magnesium need (MgO) kg/1/10 hectares
Rice	0,9	4	Eggplant	6	3
Corn	0,95	6	Apple	4,5	4
Barley	0,65	4	Pear	2,5	2
Wheat	0,6	4	Peach	4	4
Sugar cane	6	7	Orange	3	4
Potato	6	10	Tangerine	3	3
Soy	1	10	Lemon	3	3
Sunflower	0,35	10	Bananas	4	14
Hazelnut	0,09	3	Strawberry	1	2
Carrot	3	3	Grape	2	4
Cucumber	3	12	Cotton	0,4	6
Lettuce	3	2	Tea	0,1	3
Melon	4	6	Tobacco	0,3	3
Watermelon	8	12	Pepper	4	4

Tomato	10	6	Spinach	3	4
Cabbage	3	1			

Analysis

	%	Micro elements	(ppm)
Mg	9.5	Fe	10
MgO	15.7	Zn	1
N	10.8	Cu	1
Cl	0.05	Ca	150
		SO_4	300