

Liquid Manganese Fertiliser

Manganese Sulfate 170 Solution

Uses:

A manganese sulfate solution used to correct and prevent manganese deficiency in a wide range of agricultural and horticultural crops.

Manganese sulfate solution can be applied to soils or as a foliar application for broadacre farming and horticultural production where manganese deficiency may occur.

Analysis (w/v):

Manganese (Mn) - 170 g/l (as sulfate)
Sulfate (S) - 99 g/l (as sulfate)
pH – 4 to 5
Specific gravity (SG) - 1.41
Colour – a light pink clear aqueous liquid

Directions for Use:

Foliar sprays are the most effective way of applying manganese sulfate solution. If applied directly to the soil the manganese can become “locked up” especially in calcareous high pH soils.

Apply manganese sulfate solution to actively growing plants, early to mid tillering. Reapply as necessary.

Manganese can be applied by boom spray and aerial in broadacre crops. For best results in field crops use 80-100 litres of water per hectare. If using low volume spray equipment avoid application when the temperature exceeds 30 C. Uptake is improved by spraying in the cool of the mornings and evenings. Always use good quality water that is low in salts for foliar spraying.

Manganese deficiency:

Manganese deficiency occurs mainly in high pH soils, sandy soils that are low in organic matter, organic soils (peats) and in over-limed soils. Uptake of manganese decreases with increased soil pH and is adversely affected by high levels of available iron (Fe). Cereal crops, potatoes, vines and fruit crops grown on high pH sandy soils are particularly sensitive to manganese deficiency.

Deficiency Symptoms:

Yellowing of the new growth
Inter-veinal chlorosis
Patchy appearance of the crop
Brittleness of the flag leaves
Premature leaf drop
Delayed maturity (especially in lupins)



CROP	RATE L/Ha	TIMING	WATER L/Ha
Cereals	6-7	Early to mid-tillering	80-100
Canola	6-7	5 to 8 weeks after sowing	80-100
Beans	6-7	5 to 8 weeks after sowing	80-100
Legumes	6-7	When the canopy is sufficient	80-100
Pasture	6-8	When there is sufficient foliage	80-100
Lucerne	6-8	10 to 14 days before flowerin	80-100
Vines	4-6	7 to 14 days before flowering	600-1000
Citrus	6-8	10 to 14 days before flowering	2000-3000
Stone fruits	5	September to October	1000
Soil application	5-10	Prior to sowing and preferably incorporated	

Compatibility with Agricultural Chemicals:

Manganese sulfate solution is compatible with a wide range of agricultural herbicides and pesticides. Check the Compatibility guide as a reference. Always do a small jar test before preparing a full tank mix. The product is also compatible with copper and zinc sulfate solutions manufactured by Wilchem.

Other Details:

Liquid fertilizers can be corrosive to metals, so flush equipment clean after use. Avoid contact with eyes and skin. Avoid inhaling fumes. Wash thoroughly with soap and water after handling. The product is a saturated solution of manganese sulphate. Protect from frost. If the temperature drops below 5 C some crystals of manganese sulphate can precipitate. Do not store for extended periods in direct sunlight. The product is extremely stable and will have a protracted shelf life when kept in good conditions.



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