



RECOMMENDATIONS



TIGER MICRONUTRIENTS® MANGANESE 15% (80%S, 7%CU)

— GRANULAR MICRONUTRIENT TURF FERTILIZER —

PRODUCT DESCRIPTION

TIGER MICRONUTRIENTS® Manganese 15% is a new formulation of granular micronutrients that offers several improved features over conventional micronutrient sources.

- Reduced heavy metal content.
- Improved handling and blending with cleaner (less dust) and uniform sizing.
- New "RCO" Technology allows for quick dispersion and increased performance.
- "Ultra Low" analysis products allows for greater micronutrient distribution and performance.
- Dual nutrient formulations allows for greater value over conventional source.

TIGER MICRONUTRIENTS Manganese 15% is a unique, micronutrient fertilizer that delivers agronomically and economically, and provides excellent handling characteristics.

TIGER MICRONUTRIENTS Manganese 15% provides a cost effective method of correcting manganese deficiencies. Manganese deficiencies in plants occur as a result of a lack of manganese for the activity of many enzymes within the plant. Manganese deficiency will show up on new plant growth, as manganese within the plant is not a mobile nutrient. Deficiencies show up as interveinal chlorosis, grey specs on oat leaves, interveinal brown spots or streaks on barley leaves, stunted plants, short, spindly stems, and a limp or wilted appearance. Cereals low on manganese will also be more susceptible to root-rot diseases. Consult a agronomic consultant regarding zinc deficiencies if unsure of symptoms.

Guaranteed Analysis: 63% Sulphur, 15% Manganese (Mn), 13% Inert Ingredients		
Manganese Actual lbs Required	TIGER® Manganese 15% + S to Apply	Added Value Sulphur (lbs Actual)
1 pound	6.7 pounds	10.5 pounds actual S

GENERAL APPLICATION RECOMMENDATIONS

The best methods of detecting manganese deficiencies are soil testing, tissue testing as well as using visual identifications of symptoms in moderate to severe deficiencies. **TIGER MICRONUTRIENTS Manganese 15%** is a unique low analysis manganese source that ensures optimal root to particle contact for uptake into the plant. **TIGER MICRONUTRIENTS Manganese 15%** can be both banded and broadcast.

CONTACT INFORMATION



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Trigger Levels for Manganese — Based on Soil Test Results

Pounds (Kg) of actual manganese per acre to apply

	Soil Test (Hot Water Extraction)	High Response Crops lbs/ac (kg/ha) to apply	High Response Crops lbs/ac (kg/ha) to apply	Low Response Crops lbs/ac (kg/ha) to apply	Low Response Crops lbs/ac (kg/ha) to apply
Manganese Fertility	ppm	Broadcast	Band	Broadcast	Band
Very Low	0 - 5	5.0 - 10.0 lbs/acre (2.3 - 4.5 kg/ha)	3.0 - 5.0 lbs/acre (1.4 - 2.3 kg/ha)	1.0 lbs/acre (0.45 kg/ha)	0.5 lbs/acre (0.23 kg/ha)
Low	6 - 14	3.0 - 8.0 lbs/acre (1.4 - 3.6 kg/ha)	2.0 - 4.0 lbs/acre (0.91 - 1.8 kg/ha)	1.0 lbs/acre (0.45 kg/ha)	0.5 lbs/acre (0.23 kg/ha)
Medium	15 - 29	2.0 - 4.0 lbs/acre (0.91 - 1.8 kg/ha)	1.0 - 2.0 lbs/acre (0.45 - 0.91 kg/ha)	0	0
High	30 - 49	0 - 2.0 lbs/acre (0 - 0.91 kg/ha)	0 - 1.0 lbs/acre (0 - 0.45 kg/ha)	0	0
Very High	50 or higher	0	0	0	0

Some soils may naturally have higher levels of micronutrients. Very low is the lowest level recommended and may not apply to high input crops. Hidden hunger may still play a role in your crops yield potential.

Manganese is relatively immobile in the plant, meaning deficiencies usually show up first in the younger leaves. When looking to correct manganese deficiencies, **TIGER MICRONUTRIENTS Manganese 15%** is an excellent alternative. General application rates would begin at 2 lbs/ac (0.91 kg/ha) for manganese applied with starter fertilizer. Exercise caution in acid soils < 5.5 pH as Mn toxicity may occur at this pH or lower.

WHERE TO USE TIGER MANGANESE 15%

TIGER MICRONUTRIENTS Manganese 15% granular fertilizers are formulated to provide the most cost-effective micronutrients available on the market. They offer superior blending and handling qualities with minimal dust.

When used as a part of a balanced fertility program, **TIGER MICRONUTRIENTS Manganese 15%** can provide a season-long source of manganese. **TIGER MICRONUTRIENTS Manganese 15%** can be applied alone or blended with granular fertilizers.

Broadcast Applications — should be applied at 2 to 3 times the rate of precision placed rates in order to ensure adequate crop root interception in the first season of application.

Manganese availability does not build up on many soils and this element may require annual soil or foliar applications. Soil test and seek professional agronomic advice for recommendations.

Surface applications of **TIGER MICRONUTRIENTS® fertilizers** allows the **TIGER MICRONUTRIENTS Manganese 15%** granule to disperse onto the soil surface. A light incorporation will assist in even distribution of the micronutrient particles into the soil.

Amount required should be based on agronomic recommendations from soil tests, and tissue analysis.

HANDLING AND STORAGE

TIGER MICRONUTRIENTS fertilizers will blend and store well with other granular fertilizer products. Accepted blending and handling procedures should be followed when using **TIGER MICRONUTRIENTS fertilizers**. Good housekeeping is necessary when handling sulphur based products. TIGER-SUL Products uses a special anti-dust agent to minimize air borne dust. Always use stringent dust control procedures to prevent concentrated flammable dusts from reaching a spark or flame source. **TIGER MICRONUTRIENTS fertilizers** should not be stored with strong oxidizing agents such as ammonium nitrate. Avoid extensive use of augers due to fracturing of the product.

FIRST AID

SKIN CONTACT: Wash with mild soap and water. Seek medical attention if irritation occurs.

EYES: Flush with running water for at least 15 minutes. Seek medical attention if irritation persists longer than 30 minutes.

INGESTION: Irritation may occur, seek medical attention.

INHALATION: Remove to fresh air environment. Seek medical attention.