

# Manganese(Mn)

Manganese containing plant micronutrient for seed treatments, foliar applications and granular fertilizer application

## GUARANTEED ANALYSIS:

Manganese (Mn) .....25.80%

Derived from: Manganese Carbonate

## NOTE:

This product should be used as part of a complete fertilizer program. This fertilizer should be used only as recommended. Product may be harmful if misused.

Information regarding the contents and levels of metals in this product is available on the internet at: <http://www.aapfco.org/metals.htm>

## EMERGENCY TELEPHONE:

Chemtrec U.S.-Canada: 800-424-9300

Chemtrec International: 703-527-3887

- 2.5 gallons (9.46 ℓ)**  
**Net Weight: 34.40 lbs (15.60 kg)**
- 2 X 2.5 gallons (2 x 9.46 ℓ)**  
**Net Weight: 67.72 lbs (30.26 kg)**
- 55 gallons (208.19 ℓ)**  
**Net Weight: 688.00 lbs (312.07 kg)**
- 275 gallons (1040.99 ℓ)**  
**Net Weight: 3,784 lbs (1,716.41 kg)**



## WARNING

### HAZARD STATEMENTS:

Causes damage to organs (respiratory system-inhalation)  
Causes damage to organs (respiratory system, nervous system through prolonged (inhalation)

### PRECAUTIONARY STATEMENTS

#### PREVENTION:

Do not breathe dust  
Wash hands thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use personal protective equipment as required

#### RESPONSE:

If exposed or concerned : Call a POISON CENTER/doctor  
Get medical advice if you feel unwell

#### STORAGE:

Store locked up

#### DISPOSAL:

Dispose of waste materials and container by following the waste disposal requirements of your country, state, or local authorities

#### CAUTION:

READ THE LABEL BEFORE USING.  
KEEP OUT OF REACH OF CHILDREN AND PETS.

#### Guarantee:

Seller's guarantee shall be limited to the terms set out in the label and subject thereto, the buyer assumes all risk to persons or property arising from all use or handling of this product, and accepts the product on that condition.

## Tank Mixing

Read ALL labels carefully and adhere strictly to the instructions for use and advice regarding whether or not product(s) should be co-applied. Many variables can influence the performance of co-applied products and therefore co-application is entirely at the risk of the end-user. It is strongly recommended that a limited application is made initially when using unfamiliar product mixes. Before co-application of products you, or your advisor, must do a jar test.

## Soil Application

### All Crops:

2 quarts/acre to 1 gallon/acre, applied pre-planting or pre-emergence. Water rate: 5 gallons/acre minimum.

## Seed Treatment Application Recommendations

**Dilution:** If necessary dilute 1:0.5-0.75 basis.  
1 liter of AgroFuze® Manganese mixed with 0.5-0.75 liters water.

### Treatment Method:

**Tumbler:** Slowly pour AgroFuze® Manganese, ensuring uniform application. Seeds should be tumbled steadily through application process.

**Spray Application:** Can be used with standard seed treatment application equipment. Ensure uniform application.

**Can be applied in combination with fungicides, pesticides or seed treated pesticides. Compatibility and stability testing recommended.**

*\*For further advice, please consult your HydroGro representative.*

## Impregnation Fertilizer Rate:

Desired %	Application Rates Per Metric Ton	Application Rates Per Metric Ton
0.10%	79.36 oz. (2.34 L)	8.51 lbs. (3.86 kg)
0.20%	1.24 gal. (4.68 L)	17.03 lbs. (7.72 kg)
0.30%	1.86 gal. (7.03 L)	25.54 lbs. (11.59 kg)
0.40%	2.47 gal. (9.37 L)	34.05 lbs. (15.45 kg)
0.50%	3.09 gal. (11.71 L)	42.57 lbs. (19.31 kg)

*\*For further advice, please consult your HydroGro representative*



## Foliar Application Rates

**Alfalfa:** 1 pint/acre when sufficient leaf cover to intercept spray and that flower bud formation. Water rate: 3 to 20 gallons/acre.

**Apples:** 1 pint/acre prior to flowering in the case of severe deficiency. Otherwise commence at petal fall and repeat 10 to 14 days later. On russet sensitive varieties delay applications until 6 weeks after petal fall. Water rate: 50 to 100 gallons/acre. For improved green background color (note specified varieties only): 6 applications of 0.25 pint/acre from June drop to around 4 weeks pre-harvest. Also, 1 pint/acre after harvest before leaf senescence. Water rate: 30 gallons/acre. Applies to varieties: Jonagold, Elstar, Cox, Golden Delicious and Granny Smith.

**Asparagus:** 1 to 2 pints/acre when there is sufficient leaf area to intercept spray and prior to senescence of ferns. Water rate: 3 to 20 gallons/acre.

**Beans:** 1 pint/acre at 4- to 6-leaf stage (for deficiency/yield) and 1 pint/acre at start of flowering and end of flowering (for quality). Water rate: 3 to 20 gallons/acre.

**Black Currants:** 1 to 3 pints/acre at start of flowering. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at start of flowering. Water rate: 5 gallons/acre.

**Canola:** 1 to 3 pints/acre at onset of stem extension. For moderate deficiency, 3 pints/acre at 4- to 6-leaf stage and at onset of stem extension. An extra application can be made 10 to 14 days later for severe deficiency. Avoid flowering.

Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at onset of stem extension. For moderate deficiency, one and a quarter pints per acre at 4- to 6-leaf stage and at onset of stem extension. An extra application can be made 10 to 14 days later for severe deficiency. Avoid flowering. Water rate: 5 gallons/acre.

**Carrots (field grown):** 1 to 3 pints/acre when crop is 6 inches tall. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre when crop is 6 inches tall. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Celery (field grown):** 1 pint/acre at the 4- to 6-leaf stage. Repeat 10 to 14 days later if necessary. Water rate: 3 to 20 gallons/acre.

**Cereals (Barley, Oats, Wheat):** 1 to 3 pints/acre from 2-leaf stage to first node detectable. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre from 4 true leaves. For moderate to severe deficiency, repeat applications should be made at the above rate at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Citrus:** ½ to 1 quart/acre pre-bloom and during autumn flushes. Water rate: 100 gallons/acre.

**Cole Crops (Broccoli, Brussels Sprouts, Cabbage, Calabrese, Cauliflower):** 1 to 3 pints/acre from 4 true leaves. For moderate to severe deficiency, repeat applications should be made at the above rate at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre from 4 true leaves. For moderate to severe deficiency, repeat applications should be made at the above rate at 10- to 14-day intervals. Water rate: 5 gallons per acre.

**Conifers:** 2 applications of 1 pint/acre once there is new season leaf production and again in early autumn. Water rate: 50 to 100 gallons/acre.

**Corn:** 1 to 3 pints/acre at 4- to 6-leaf stage. For moderate to severe deficiency repeat applications at 10- to 14-day intervals.

Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at 4- to 8-leaf stage. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Cotton:** 1 pint/acre applied 21 to 28 days after emergence and 10 to 14 days later. Water rate: 3 to 20 gallons/acre.

**Curcubits (field grown):** 1 pint/acre applied from the 4- to 6-leaf stage onwards. Repeat applications may be necessary for moderate to severe deficiency with a 10- to 14-day interval. Water rate: 3 to 20 gallons/acre.

**Eucalyptus:** 1 to 2 pints/acre applied during spring or autumn flush. Water rate: 2 gallons/acre minimum. **Ginseng:** 1 pint/acre applied once new season growth is well underway. Repeat applications at 10- to 14-day intervals may be necessary for moderate to severe deficiency. Water rate: 50 gallons/acre.

**Grapevines:** 1 pint/acre at flower buds visible, flower buds separated and at fruit set. Water rate: 50 to 100 gallons/acre.

**Groundnuts:** 1 pint/acre applied at the 6-leaf stage and again 10 to 14 days later. Water rate: 3 to 20 gallons/acre.

**Leeks:** 1 to 3 pints/acre two weeks after transplanting, or in the case of direct sown crops, when the crop is 6 inches tall. Repeat applications may be necessary at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre two weeks after transplanting, or in the case of direct sown crops, when the crop is 6 inches tall. Repeat applications may be necessary at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Lettuce (field grown):** 1 to 3 pints/acre 10 to 14 days after transplanting or emergence. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Note: Final application to be made at least one month before harvest. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre 10 to 14 days after transplanting or emergence. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Note: Final application to be made at least one month before harvest. Water rate: 5 gallons/acre.

**Linseed:** 1 pint/acre when crop is 6 inches tall. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 3 to 20 gallons/acre.

**Melons (field grown):** 1 pint/acre applied at the 4- to 6-leaf stage. In cases of moderate or severe deficiency repeat application after a 10- to 14-day interval. Water rate: 5 to 20 gallons/acre.

**Nursery stock/Ornamentals:** 5 pints in 100 gallons of water (0.625% v/v) as soon as there is sufficient leaf area to intercept a spray. Repeat at 10- to 14-day intervals as necessary. Avoid application during flowering. Spray maximum of three applications per crop per annum. Note: Do not apply within one month of picking/marketing. Maximum water rate: 10 to 20 gallons/acre.

**Nuts (deciduous):** 1 pint/acre at bud break in spring. Repeat after 15 days if necessary. Water rate: 50 gallons/acre.

**Onions:** 1 to 3 pints/acre two weeks after transplanting, or in the case of direct sown crops, when the crop is 6 inches tall. Repeat applications at 10- to 14-day intervals.

Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre two weeks after transplanting, or in the case of direct-sown crops, when the crop is 6 inches tall. Repeat applications at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Peanuts:** 8 to 16 ounces/acre applied at the 4 to 6 leaf stage and again 10 to 14 days later. Water rate: 3 to 20 gallons/acre.

**Pears:** 1 pint/acre prior to flowering in the case of severe deficiency. Otherwise commence at petal fall and repeat 10 to 14 days later. On russet sensitive varieties delay applications until 6 weeks after petal fall. Water rate: 50 to 100 gallons/acre.

**Peas:** 1 to 3 pints/acre at 4- to 6-leaf stage (for deficiency/yield) and 3 pints/acre at start of flowering and end of flowering (for Marsh Spot). Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at 4- to 6-leaf stage (for deficiency/yield) and one and a quarter pints at start of flowering and end of flowering (for Marsh Spot). Water rate: 5 gallons/acre.

**Potatoes:** 1 to 3 pints/acre at one week after 100% emergence and following petiole analysis during tuber bulking. For moderate to severe deficiency, repeat applications at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at one week after 100% emergence and following petiole analysis during tuber bulking. For moderate to severe deficiency, repeat applications at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Raspberries:** 1 to 3 pints/acre at start of flowering. Water rate: 2 to 5 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at start of flowering. Water rate: 5 gallons/acre.

**Rice:** 1 pint/acre applied at start of tillering. Water rate: 3 to 20 gallons/acre.

**Sorghum:** 1 to 2 pints/acre at 4- to 8-leaf stage. For moderate to severe deficiency repeat applications at 10- to 14-day intervals. Water rate: 3 to 20 gallons/acre.

**Soybeans:** 1 to 3 pints/acre when the crop is 2 to 6 inches tall. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre when the crop is 2 to 6 inches tall. Water rate: 5 gallons/acre.

**Spinach:** ½ pint/acre at the 4- to 6-leaf stage. Water rate: 3 to 20 gallons/acre.

**Stone Fruit (Apricots, Cherries, Nectarines, Peaches, Plums):** 1 pint/acre applied from fruit set. Repeat if necessary at 10- to 14-day intervals. Water rate: 50 to 100 gallons/acre.

**Strawberries (field grown):** 1 to 3 pints/acre at green bud. Repeat if needed at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre at green bud. Repeat if needed at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Sugar Beets:** 1 to 3 pints/acre from 4- to 6-leaf stage. For moderate to severe deficiency, application may be pre-treated at 10- to 14-day intervals. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre from 4- to 6-leaf stage. For moderate to severe deficiency, applications may be repeated at 10- to 14-day intervals. Water rate: 5 gallons/acre.

**Sugar Cane:** 1 pint/acre when plants are 3 to 4 feet tall. Water rate: 3 to 20 gallons/acre.

**Sunflowers:** 1 pint/acre at 4 to 8 pairs of leaves. For moderate to severe deficiency, repeat 10 to 14 days later. Water rate: 3 to 20 gallons/acre.

**Sweet Potatoes:** 1 pint/acre one week after 100% emergence or transplanting. Also, apply at the same rate following recommendation from analysis. Water rate: 20 gallons/acre.

**Tobacco:** 1 to 3 pints/acre applied two to three weeks after transplanting (3- to 4-leaf stage). Repeat 10 days later if necessary. Water rate: 25 gallons/acre. For aircraft sprayers, apply one and a quarter pints per acre applied 2 to 3 weeks after transplanting (3- to 4-leaf stage). Repeat 10 days later if necessary. Water rate: 5 gallons/acre.

**Tomatoes (field grown):** 0.5 to 1 pint/acre at the 4- to 6-leaf stage and repeated at 10- to 14-day intervals if required by moderate to severe deficiency. Water rate: 3 to 50 gallons/acre.