



Knowledge grows

YaraVita[®] MANTRAC[™] PRO

A formulated product for the treatment of manganese deficiency by foliar application

Guaranteed Analysis	
Total Nitrogen (N)	3%
Urea Nitrogen	3%
Manganese (Mn)	27.4%
Derived from Urea, Manganese Carbonate	

The information provided is accurate to the best of Yara's knowledge and belief. Any recommendations are meant as a guide and must be adapted to suit local conditions.



Benefits

- Formulated for safe application at critical growth stages to satisfy crop requirements
- Widely tank mixable with other crop sprays. Visit www.tankmix.com/yara for details.
- Proven, reliable performance. Tried and tested on a wide range of crops around the world
- High quality, consistent product. Manufactured to ISO 9001 quality assurance standards
- Easy to use liquid formulation. Pours and disperses easily and quickly into the spray tank.
- High nutrient content means lower application rates reducing handling time and waste packaging

Product Recommendations

Typical Crop Recommendations*

- **Alfalfa:** 1 pint/acre applied at start of tillering. Water rate: 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. Applies to varieties: Jonagold, Elstar, Cox, Golden Delicious and Granny Smith. Water rate: 30 gallons/acre.
- **Apricots:** 1 pint/acre applied from fruit set. Repeat if necessary at 10 to 14 day intervals. Water rate: 50 to 100 gallons/acre.
- **Asparagus:** 1 to 2 pints/acre when there is sufficient leaf area to intercept spray and prior to senescence of ferns. Water rate: 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: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Blackcurrant:** 1 pint/acre at start of flowering. Water rate: 50 gallons/acre.
- **Cole Crops (Broccoli, Brussel Sprouts, Cabbage, Calabrese, Cauliflower):** 1 pint/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: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Canola:** For a single application, 1 pint/acre at onset of stem extension. For moderate deficiency, 1 pint/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: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Carrots (Field Grown):** 1 pint/acre when crop is 6" tall. For moderate to severe deficiency repeat applications at 10 to 14 day intervals. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Cereals:** 1 pint/acre from 2 leaf stage to first node detectable (Zadok's G.S. 12 to 31). For moderate to severe deficiency repeat applications at 10 to 14 day intervals. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Stonefruit:** (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.
- **Citrus:** 1½ pints/acre during spring and autumn flushes. Water rate: 100 gallons/acre.
- **Corn:** 1 pint/acre at 4 to 6 leaf stage. For moderate to severe deficiency repeat applications at 10 to 14 day intervals. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Cotton:** 1 pint/acre applied 21 to 28 days after emergence and 10 to 14 days later. Water rate: 20 gallons/acre
- **Cucurbits (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: 50 gallons/acre.
- **Dry Bean:** For tractor driven sprayers, apply 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 quality). Water rate: 25 gallons/acre. For aircraft sprayers, apply 1¼ pints/acre at 4 to 6 leaf stage (for deficiency/yield) and 1¼ pints/acre at start of flowering and end of flowering (for quality). Water rate: 5 gallons/acre.
- **Fir Trees:** 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.
- **Garlic:** For tractor driven sprayers, apply 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.
- **Turf:** 0.4 fl.oz./1000 sq.ft. as soon as growth commences in spring and /or following identification of need by analysis. Repeat sprays at 10 to 14 day intervals as necessary. Water rate: 0.5 gallons/1000 sq.ft.
- **Groundnuts:** 1 pint/acre applied at the 6 leaf stage and again 10 to 14 days later. Water rate: 20 gallons/acre
- **Leek:** 1 pint/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: 20 gallons/acre
- **Lettuce (Field Grown):** 1 pint/acre 10 to 14 days after transplanting or emergence. For moderate to severe deficiency repeat applications at 10 to 14 day intervals. Water rate: 50 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **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 50 gallons/acre
- **Nursery/Ornamentals:** 5 pints in 100 gallons 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 applications during flowering. Spray a maximum of three applications per crop per annum. Note: Do not apply within one month of picking/ marketing. Maximum water rate: 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 pint/acre two weeks after transplanting, or in the case of direct sown crops, when the crop is 6" tall. Repeat applications at 10 to 14 day intervals. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **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 pint/acre at 4 to 6 leaf stage (for deficiency/yield) and 1 pint/acre at start of flowering and end of flowering. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Potatoes:** 1 pint/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: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Raspberry:** 1 pint/acre at start of flowering. Water rate: 50 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 pint/acre when crop is 2 to 6 inches tall (4 to 6 leaves). Repeat at 10 to 14 day intervals as necessary, up to immediately pre-flowering. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Spinach:** 0.5 pints/acre at the 4 to 6 leaf stage. Water rate: 20 gallons/acre.
- **Strawberries (Field Grown):** 1 pint/acre at green bud. Repeat if needed at 10 to 14 day intervals. Water rate: 50 gallons/acre.
- **Sugar Beet:** 1 pint/acre from 4 to 6 leaf stage. For moderate to severe deficiency, repeat applications may be repeated at 10 to 14 day intervals. Water rate: 20 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Sugar Cane:** 1 pint/acre when plants are 3 to 4 feet tall. Water rate: 35 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 pint/acre applied two to three weeks after transplanting (3 to 4 leaf stage). Repeat 10 days later if necessary. Water rate: 40 gallons/acre. For use in Wisconsin: Mantrac can be applied to this crop in Wisconsin requiring a medium to high level of manganese.
- **Tomatoes (Field Grown):** 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: 50 gallons/acre.
- **Vines:** 1 pint/acre at flower buds visible, flower buds separated and at fruit set. Water rate: 50 to 100 gallons/acre.

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