



# YaraVita™ Mantrac Twin

Manganese treatment for agricultural use via foliar application or seed dressing

## Guaranteed Analysis:

manganese (Mn)	50.0% w/v	500 g/L
nitrogen (N)	6.9% w/v	69 g/L

## 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](http://www.tankmix.com/yara) for details
- Proven, reliable performance. Trialled 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.

## Key Nutrients:

- Manganese -  
Is involved in the activation or function of many enzymes in the plant; e.g. detoxification and water splitting enzymes, which provide the oxygen to form carbohydrates for plant growth. Mn deficiency reduces chlorophyll content and Mn is required in lignin manufacture, a decrease in lignin may be why manganese deficient plants have lower resistance to root pathogens such as Take-all in cereals.
- Nitrogen -  
Protein N is by far the largest fraction of N in the green plant; nitrogen plays a key role in nucleic acid formation, amino acid and protein synthesis. N also has a key role in chlorophyll and ATP synthesis.



# Product Recommendations

## Typical Crop Recommendations\*

- **Alfalfa (Lucerne):** 1 L/ha when sufficient leaf cover to intercept spray, and at flower bud formation. Water rate: 30 to 200 L/ha.
- **Apple:** 1 to 1.5 L/ha prior to flowering in the case of severe deficiency. Otherwise commence at petal fall and repeat 10 to 14 days later. Under conditions conducive to fruit russet (variety, weather conditions, etc) delay applications until 6 weeks after petal fall". Also, 1 to 1.5 L/ha after harvest before leaf senescence. Water rate: 200 to 1000 L/ha. Apple (Fruit colouration): For improved green background colour (note specified varieties only): 6 applications of 0.25 L/ha from June drop to around 4 weeks pre-harvest. Water rate: 200 L/ha. Applies to varieties: Jonagold, Elstar, Cox, Golden Delicious and Granny Smith.
- **Apricot:** 1.5 L/ha during fruit development. Repeat if necessary at 10 to 14 day intervals. Water rate: 200 L/ha.
- **Beans:** 1 L/ha at 4 to 6 leaf stage (for deficiency/yield) and 1 to 1.5 L/ha at start of flowering and end of flowering (for quality). Water rate: 30 to 200 L/ha. Seed Dressing: Typical rate 3 litres per tonne. Also, up to 6 litres per tonne if necessary.
- **Brassicas:** 1 L/ha 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: 30 to 200 L/ha.
- **Canola:** 1 L/ha 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: 30 to 200 L/ha. Seed Dressing: Typical rate 10 litres per tonne. Also, up to 22 litres per tonne if necessary.
- **Cereals:** 1 to 2 L/ha from 2 leaf stage to second node detectable (Zadok's G.5, 12 to 32). For moderate to severe deficiency repeat applications at 7 to 14 day intervals. Water rate: 30 to 200 L/ha. Seed Dressing: Typical rate 3 litres per tonne. Also, up to 6 litres per tonne if necessary.
- **Cherry:** 1.5 L/ha during fruit development. Repeat if necessary at 10 to 14 day intervals. Water rate: 200 L/ha.
- **Citrus:** 1.25 to 1.5 L/ha during spring and autumn flushes. Water rate: 500 to 1000 L/ha.
- **Cucumber (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Cucurbits (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Lettuce (Field Grown):** 1 L/ha when sufficient leaf area to intercept spray. Note: Final application to be made at least one month before harvest. Water rate: 50 to 500 L/ha.

- **Lupin:** 1 L/ha at the 4 to 6 leaf stage. Repeat once or twice at 10 to 14 day intervals if necessary. (For winter varieties apply the repeat sprays at spring re-growth). Water rate: 30 to 200 L/ha. Seed Dressing Typical rate 3 litres per tonne. Also, up to 6 litres per tonne if necessary.
- **Melon (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Nectarines:** 1.5 L/ha during fruit development. Repeat if necessary at 10 to 14 day intervals. Water rate: 200 L/ha.
- **Olive:** 1 L/ha. Apply at the start of the season. Repeat applications at 10 day intervals if necessary. Avoid flowering. Water rate: 1000 L/ha.
- **Onion:** 1 L/ha when sufficient leaf area to intercept spray. Water rate: 50 L/ha.
- **Peach:** 1.5 L/ha during fruit development. Repeat if necessary at 10 to 14 day intervals. Water rate: 200 L/ha.
- **Pears:** 1 to 1.5 L/ha 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: 200 to 1000 L/ha.
- **Peas:** 1 L/ha at 4 to 6 leaf stage (for deficiency/yield) and 1 to 1.5 L/ha at start of flowering and end of flowering (for Marsh Spot). Water rate: 30 to 200 L/ha. Seed Dressing: Typical rate 3 litres per tonne. Also, up to 6 litres per tonne if necessary.
- **Plum:** 1.5 L/ha during fruit development. Repeat if necessary at 10 to 14 day intervals. Water rate: 200 L/ha.
- **Potatoes:** 1 to 2 L/ha at one week after 100% emergence. For moderate to severe deficiency, repeat applications at 10 to 14 day intervals. Also, 1 L/ha following petiole analysis during tuber bulking. Water rate: 30 to 200 L/ha.
- **Pumpkin (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Squash (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Strawberry (Field Grown):** 1 L/ha at green bud. Repeat if needed at 10 to 14 day intervals. Water rate: 200 to 500 L/ha.
- **Tomato (Field Grown):** 0.5 to 1 L/ha at the 4 to 6 leaf stage and repeated at 10 to 14 day intervals if required by moderate to severe deficiency. Water rate: 30 to 500 L/ha.
- **Water Melon (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.
- **Zucchini (Field Grown):** 1 to 2 L/ha when sufficient leaf area to intercept spray. Water rate: 50 to 200 L/ha.



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\*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. Always read the label before use.

