ManTrain is a highly penetrating biological liquid Manganese amino acid chelate (10.9% w/v, 9.9% w/w Mn) for use as a foliar nutrient on crops to prevent and/or correct Manganese deficiencies and related plant physiological disorders like sub-optimal photosynthetic activity (chlorophyll formation and protection) and organelle protection for anti-oxidant activity.

**Composition:**
Manganese (Mn)…….. 75145 mg/kg
Zinc (Zn)…………….. 617 mg/kg
Boron (B)……………. 191 mg/kg

Amino acid chelated product.

**Product Properties:**
S.G: 1.36 ± 0.02
pH: 5.4 ± 0.1
Appearance: Colourless

Plant Stress Management™ Product

A Biological Equilibrium Farming Product

Product Characteristics.
Manganese is directly related to the assimilation of carbon dioxide in photosynthesis. It aids in the synthesis of chlorophyll and in nitrate assimilation. These are important Plant Stress Management™ actions. ManTrain is taken up very efficiently as a foliar spray or irrigation applied formulation and should be used on all crops to specifically Manganese deficiencies. It should be applied simultaneously where necessary with foliar applications of DynoCMZ, BioKelp and BioPhos and 0.2% FulMax as chelation, wetting and uptake enhancer.

ManTrain is compatible with most agrochemical products but it is recommended that a compatibility drinking glass test be done before mixing with other chemicals.

DIRECTIONS FOR USE: Use only as directed. Shake well before use.

- Do not mix ManTrain with highly alkaline products.
- In the case of overhead irrigation, refrain from irrigating the treated crop for at least 12 hours.
- Application concentration should never be lower than 1% for maintenance applications up to a maximum spray concentration of 3% for rectification of specific problems.
- Spray solution water should be buffered between pH 4.5 and 5.5.
- Use at least 0.2% FulMax (200mℓ per 100ℓ water) in the spray mixture to enhance uptake of the nutrients through the leaf surface.
- Note in the case of crops with a thick cuticle or wax layer (e.g. Brassica’s and onions), use at least 0.5% FulMax (500mℓ per 100ℓ water).
- Preferably apply foliar spray during cool periods of the day.

Optimal application dosage concentration based on dosage response results.
Total tank concentration should never be lower than 0.75% (750mℓ / 100ℓ) and preferably 1.5% (1.5ℓ / 100ℓ).
General Recommendation:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Max rate/ha</th>
<th>Rate /100ℓ water</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pome Fruit: Apples Pears</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB only 14 days after fruit set. When deficient, application should be done at least 6 – 8 times during season</td>
<td>500mℓ - 750mℓ ManTrain plus 100mℓ FullMax /100 ℓ tank solution</td>
<td>Apply as a medium to low volume (500ℓ - 1000 ℓ) foliar spray in a regular program commencing during spring (after bud break). First application 2 weeks after first flush with 14 to 21 day intervals up to 3 weeks before harvest. 50% wetting sufficient. Note restrictions for use on apples and pears.</td>
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<tr>
<td>Stone Fruit: Apricots, Peaches, Plums</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 500-750mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Add 100 - 200 mℓ/100ℓ FullMax to improve uptake and efficiency.</td>
</tr>
<tr>
<td>Sub-Tropical Fruit: Mango, Avocado, Macadamia, Pecan, Bananas, Litchis</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 500-750mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Add 100 - 200 mℓ/100ℓ FullMax to improve uptake and efficiency.</td>
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<tr>
<td>Citrus: Grapes: Table grapes Wine grapes</td>
<td>0.25% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 250-500mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Apply as a medium to low volume (500ℓ - 1000 ℓ) foliar spray. First application between flowering and fruit set. Last application no later than veraison for tablegrapes and during the lag phase (berry is pea size) for wine grapes.</td>
</tr>
<tr>
<td>Root Vegetable: Potatoes Sweet Potato</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 500-750mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Apply as a medium to low volume (100ℓ- 250ℓ) foliar spray in a regular program commencing 2 weeks after germination or from 4 leaf stage onwards. Apply at least once every 14 days during the growing season.</td>
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<tr>
<td>Other Vegetables: Tomatoes, Peppers</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 500-750mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Add 100 - 200 mℓ/100ℓ FullMax to improve uptake and efficiency.</td>
</tr>
<tr>
<td>Grain: Wheat, Maize Canola Oats Lucerne Beans, Soybeans</td>
<td>0.5% - 0.75% ManTrain in addition to Plant stress and growth stimulation treatments with BioKelp, BioPhos and DynoMoB</td>
<td>250-500mℓ BioKelp plus 250-500mℓ BioPhos plus 500-750mℓ ManTrain plus 250mℓ DynoMoB</td>
<td>Add 100 - 200 mℓ/100ℓ FullMax to improve uptake and efficiency.</td>
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</table>

- Due to the variation of soil and soil types from area to area, a full recommendation will only be possible once a soil analysis and 1:2 water extract analysis has been done.
- Recommendations are also based on requirements for different crop types.

Contact your Agrilibrium representative to obtain a crop specific Plant Stress Management™ recommendation.