

MULTI-ACTION MANGANESE LIQUID WITH PHOSPHORUS, POTASSIUM AND SULPHUR

Maniphos is a unique formulation of plant available manganese in combination with phosphorus (present in both phosphite and phosphate forms), potassium and sulphur. It is designed to enhance and promote the healthy growth and development of arable and horticultural crops.

With a zero nitrogen formulation **Maniphos** can be applied to peas and field beans to prevent manganese and sulphur deficiencies impacting on quality and yield and similarly to cereals all year around to promote hardiness and natural disease resistance.

Key Benefits

- Plant available manganese to counter low availability
- Key P and K nutrients for plant health and vigour
- Sulphur to aid growth, photosynthesis and N-use efficiency
- Phosphite action to increase nutrient uptake and mobility
- Increased quality and yield potential
- Suitable for zero nitrogen cropping and closed period application



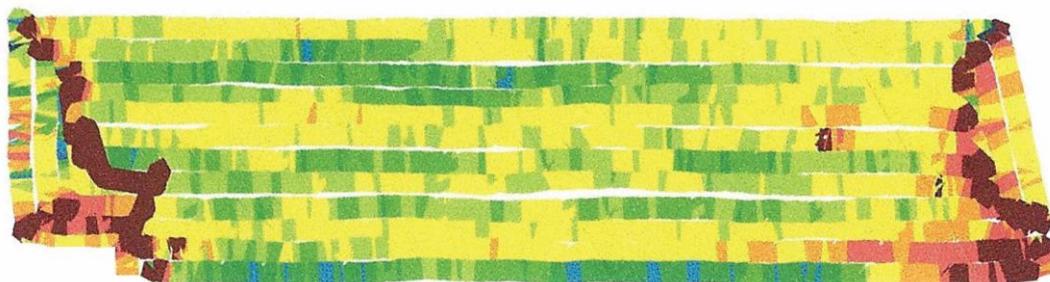
How it works

Manganese is the most commonly deficient trace element in UK soils affecting many crops including cereals, field vegetables, brassicas, root and horticultural crops. It plays a vital role in many plant enzyme systems with deficiencies impacting on health, growth, yield and quality. **Sulphur** deficiencies now affect a wide range of crops in many different soil types. Being a key constituent of enzymes and amino acids involved in protein formation and photosynthesis sulphur is an essential nutrient to build yield and quality.

Maniphos provides manganese and sulphur in combination with macro-nutrients potassium and phosphorus. The biostimulating action of the phosphite P in **Maniphos** optimises their use by assisting in their uptake and translocation in the plant.

Tramline winter wheat trials

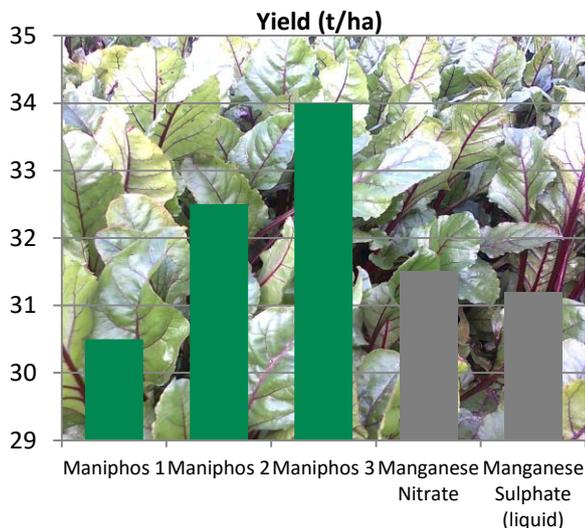
Using **Maniphos** applied at 2.5 l/ha @ G.S (Zadoks) 32 and @ G.S 39 gave **yield increases** of at least **0.5 T/ha** in Winter Wheat var. Santiago. Yield mapping clearly shows yield increase (darker green & blue) following **Maniphos** applications.



Maniphos applied to alternate tramlines, all other crop inputs were identical across the field. Applied to Santiago winter wheat on sandy loam soil, Lincolnshire 2012.



Independent red beet trials



Maniphos applied at 3 l/ha **increased yield** by at least **2.5 t/ha** compared to applications of Manganese Nitrate and Manganese Sulphate liquid.

	Manganese Content g/l	Application Rate l/ha	Manganese g/ha
Maniphos 1	100	1	100
Maniphos 2	100	2	200
Maniphos 3	100	3	300
Manganese Nitrate	200	2	400
Manganese Sulphate (liquid)	160	2	320

All treatments applied 4 times. All manganese treatments supplied adequate levels of Manganese. Independent trials carried out by Vegetable Consultancy Services 2012

ANALYSIS:

Phosphorus Pentoxide (P ₂ O ₅)	12% w/v	(120 g/l)
Potassium Oxide (K ₂ O)	2.4% w/v	(24 g/l)
Magnesium (MgO)	1.6% w/v	(16 g/l)
Sulphur (SO ₃)	17% w/v	(170 g/l)
Manganese (Mn)	10% w/v	(100 g/l)

Application Rates & Timings

CEREALS : Apply @ 1.25 - 2.5 l/ha from Zadoks G.S. 16-23. Repeat at G.S. 30-32 and 39-45.

OILSEED RAPE : Apply @ 1.25 – 2.5 l/ha from 6-8 true leaves . Repeat just prior to and during rapid growth.

POTATOES : Apply @ 1.5 l/ha at the start of tuber bulking. Repeat at 2.0-3.0 l/ha during tuber bulking.

ROOTS : Apply @ 2.0–3.0 l/ha from 4-6 true leaves. Repeat at 10-14 day intervals.

BRASSICAS : Apply @ 2.0–3.0 l/ha from 4-6 true leaves. Repeat at 14-21 day intervals.

PEAS / BEANS : Apply @ 1.25–2.5 l/ha from 4-6 true leaf stage. Repeat at 14-21 day intervals.

ALLIUMS : Apply @ 2.0-3.0 l/ha from 4-6 true leaves Repeat at 10-14 day intervals.

Maniphos should be applied at water rates of between 200-600 l/ha depending on the crop and stage of growth.

Mixing Advice

Maniphos is formulated as a totally water soluble liquid for ease of use. **Maniphos** should be added to the spray tank first, into a minimum 50% total water volume followed by the remaining water and any other tank mix partners. Maintain agitation throughout the mixing and spraying operations.

Maniphos is physically compatible with a wide range of potential tank mix partners. Check compatibility prior to adding to the spray tank.

Pack Sizes: 2 x 5L boxed and 1000L IBC

This product is physically compatible with a wide range of tank-mix partners. Check compatibility prior to adding to the spray tank. Consult your local advisor or Ilex EnviroSciences for specific recommendations. Do not apply in strong sunlight. Efficacy may be affected by crop health, growth stage and weather conditions. Ilex EnviroSciences accepts no liability for damage to treated crops.