

# TESTING THE EFFECT OF BLACK EARTH LIQUID HUMIC ON PHOSPHORUS UPTAKE IN SPINACH



## RESEARCH COOPERATOR

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## TRIAL OBJECTIVE

Determining if Black Earth  
Liquid humic could increase  
phosphorus uptake in spinach.

## EXPERIMENTAL – DESIGN

Treatment	MAP Rate (mg/pot)	MAP Rate (kg P/ha)
Control	–	–
MAP	239	270
Black Earth Treated MAP	239	270

## EXPERIMENTAL – TREATMENTS

Mono-ammonium phosphate (MAP) was chosen as the phosphorus fertilizer for the purposes of this experiment. 8.2 grams of Black Earth Liquid humic was sprayed on 500 grams of MAP. Spinach was grown in 4” pots containing 850 grams of silica sand. The spinach was grown for 26 days and weight and phosphorus uptake was measured.

## CERTIFICATIONS

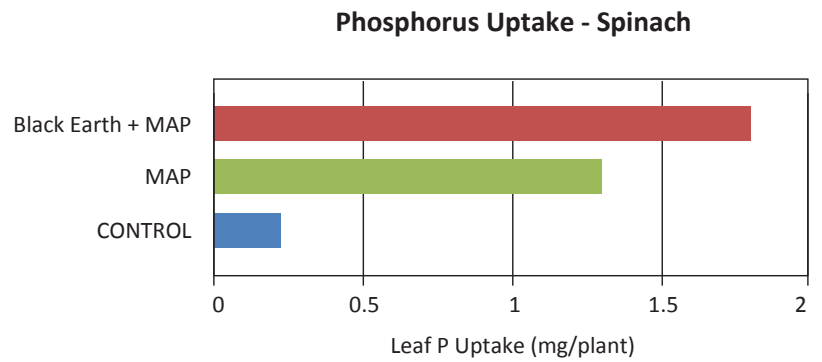
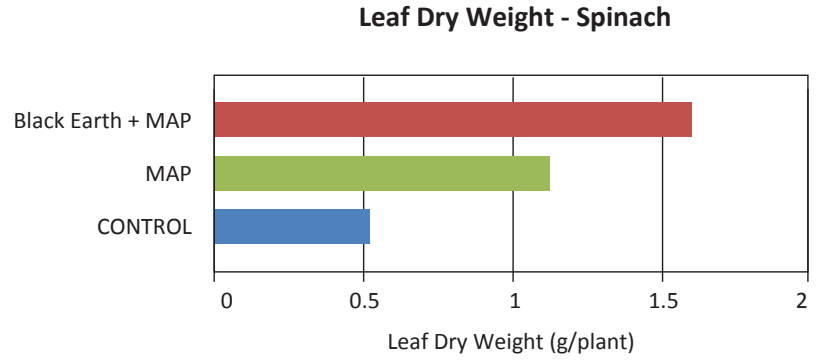
Black Earth Humic products are:

- » Listed by OMRI
- » Registered with CFIA
- » Certified for use for NOP
- » Certified by the CDFA



## RESULTS


There was a 42.9% increase in leaf dry weight with the Black Earth treated MAP over the untreated MAP indicating a positive yield response. There was a 38.5% increase in phosphorus uptake with the Black Earth treated MAP over the untreated MAP. This indicates that Black Earth is an effective tool in increasing the efficiency of phosphorus.



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