

GERMINATION RESPONSE ON WHEAT WHEN USING SOLUBLE HUMIC ACIDS: ORGANO HUME, DS-80 AND FULVIC ACID



INVESTIGATOR

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OBJECTIVE(S)

1. To determine the efficacy of Black Earth's products (Organo Hume, Fulvic Acid and DS-80) on seed germination parameters
2. To establish the optimum concentration of humic and Fulvic Acid that result in higher germination percent and speed of germination

CERTIFICATIONS

- Black Earth Humic products are:
- » Listed by OMRI
 - » Registered with CFIA
 - » Certified for use for NOP
 - » Certified by the CDFA



EXPERIMENTAL CONDITIONS

Crop Variety: Wheat (*Triticum aestivum* var. Stanley)

Location: Ryley, Beaver County, Alberta

Test Period: June-July 2014

Treatment(s):
A) Organo Hume (OH) at 20, 100, 500, 1000 and 2000 ppm Humic Acid
B) DS-80 at 20, 100, 500, 1000 and 2000 ppm Humic Acid
C) Fulvic Acid (FA) at 10, 20, 100 and 500 ppm Fulvic Acid
D) Tap water as a control treatment (0 ppm)

Experimental Design: Completely randomized design with four (4) replicates; each replicate was a petri-dish with optimally moistened cotton pads as growth medium

Experimental Details: Seeds were soaked for 12 hours in fifteen separate glass jars containing the different concentration of Humic and Fulvic Acids and water (control). Forty (40) pre-soaked seeds were transferred to each replicate petri-dish and germination monitored for one week

Parameters Measured: Germination indices (*germination (G%), peak value, mean daily germination, germination value

**Only G% data presented.*



RESULTS

- » Organo Hume at HA concentrations of 100 ppm, 1000 ppm and 2000 ppm had %G significantly higher than the control.
- » DS-80 at HA concentration of 100 ppm had significantly higher %G than the control
- » In both DS-80 and Organo Hume, %G for all concentrations of HA was higher than the control, except at 500 ppm for Organo Hume.


CONCLUSION

This test proves that Black Earth Humic (HA) and Fulvic Acids (FA) improve germination of seeds over a wide range of HA concentrations (20-2000 ppm) with maximum response observed at 100 ppm HA. The two HA treatments (Organo Hume and DS-80) resulted in higher germination indices than the FA, probably because the former contain FA and HA.

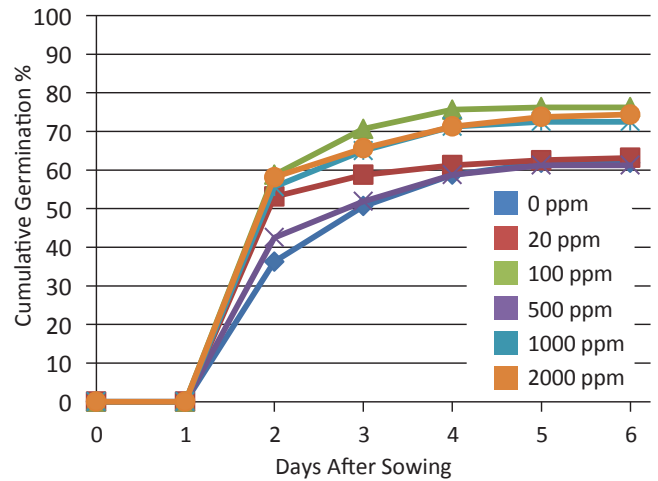
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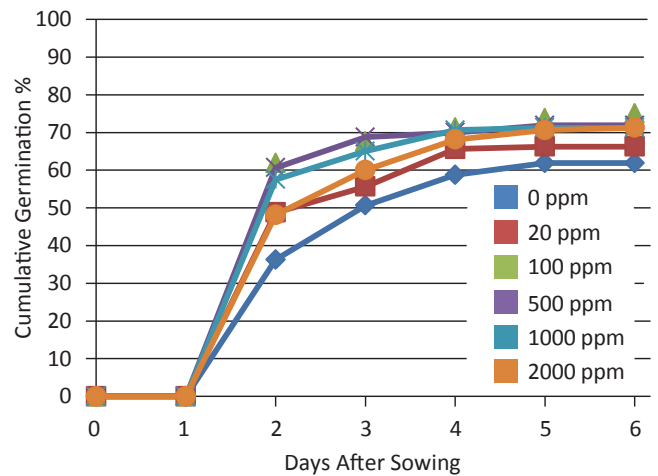
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Wheat Seeds in Organo Hume (HA)



Wheat Seeds in DS-80



Wheat Seeds in Fulvic Acid

