

# EFFECTS OF HUMIC PRODUCTS ON GROWTH OF CREEPING BENTGRASS



## RESEARCH COOPERATOR

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## TRIAL OBJECTIVE

To compare the effects of humic products on root and shoot growth of newly seeded and establishing creeping bentgrass.

## CERTIFICATIONS

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



## EXPERIMENTAL – DESIGN

Species:	Creeping bentgrass, <i>agrostis palustris</i>
Variety:	Pencross
Location:	University of Guelph Greenhouses, Guelph, Ontario
Measurements:	Germination and seedling count, chlorophyll index, turf weight and shoot biomass
Experimental Design:	Six (6) management treatments. Each treatment was replicated five (5) times.

## EXPERIMENTAL – TREATMENTS

100% USGA specifications sand was used as the root zone. One (1) litre pots were filled and seeded on May 15, 2002 at a seedling rate of 0.85 gms/m<sup>2</sup> and placed in a randomized complete block layout. Pots were kept moist until germination and irrigated. Fertilization, except the unfertilized control, was a standard turf maintenance regime. (4:1:2 N-P-K ratio an annualized rate of 0.02 g actual N/m<sup>2</sup>)

### TREATMENTS

- 1) Control – unfertilized
- 2) Control – standard fertility
- 3) Black Earth Mini Granule 2.5 kg/100 m<sup>2</sup>
- 4) Black Earth Mini Granule 5.0 kg/100 m<sup>2</sup>
- 5) Black Earth Liquid 90 ml/100 m<sup>2</sup>
- 6) Black Earth Liquid 180 ml/100 m<sup>2</sup>

## RESULTS

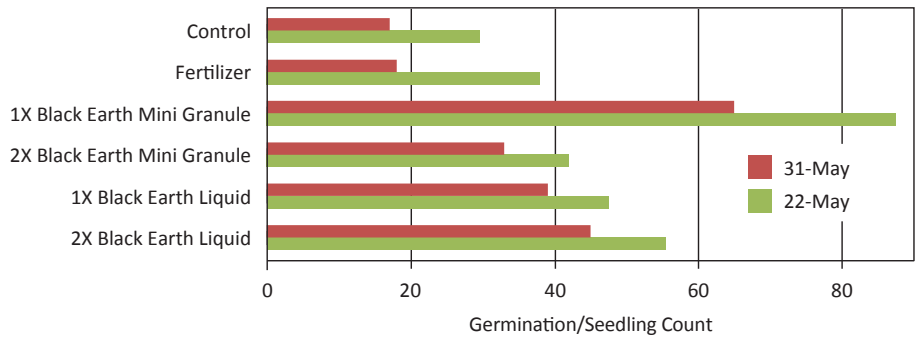
Germination and establishment were assessed by ranking pots according to a visually estimated scale. There was a significant effect with the granular humic treatments in sand soil versus both control and fertilizer treatment.

*Black Earth had a significant effect on the chlorophyll content, particularly late in the experiment.*

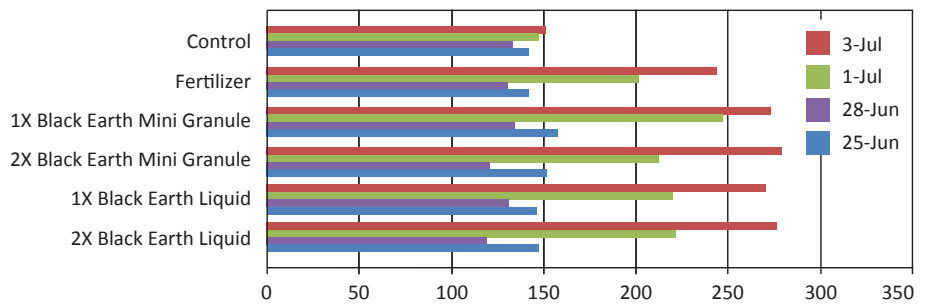
*The shoot growth rate of turf treated with Black Earth was significantly higher than those without humic.*

*Black Earth treatments all had significant beneficial effects on bentgrass growth. There were no differences in nutrient content suggesting this was not the reason for the increased growth. There were no differences in rate or form of Black Earth.*

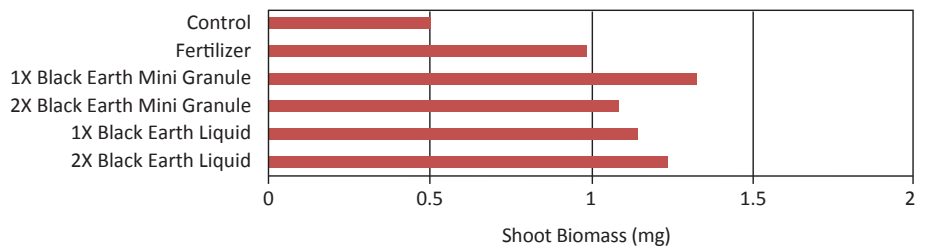
### Effect of Humic Materials on Germination and Seedling Count



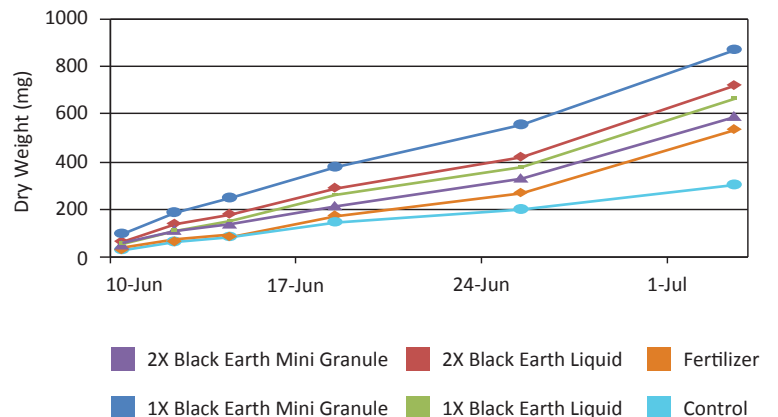
### Effect of Humic Materials on Chlorophyll Index



### Total Shoot Biomass



### Effect of Humic Materials on Cumulative Turf Weight - Sand



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