APPLE SEEDLINGS, COFERTIGATION OF BLACK EARTH AND N AND NPK

RESEARCH COOPERATORS

TRIAL OBJECTIVE
To test the effectiveness of fertigated liquid humic substance Black Earth Liquid under less fertile nutrient conditions.

EXPERIMENTAL – DESIGN
Variety: Gala M.9 apple rootstock
Location: Ag Canada Summerland Greenhouses
Experimental Design: Randomized complete block with 10 replicate seedlings.
Planting Details: Apple seedlings were transplanted at the 2-leaf stage on December 7, 2000
Fertility: NPK applied as 20-20-20 commencing December 11, 2000 and applied twice weekly (100 ml of solution) until February 26, 2001 for a total of 23 applications
Harvest: February 28, 2001

EXPERIMENTAL – TREATMENTS
1) Check – no humic fertigant, no fertilizer
2) Check – no humic fertigant, N (8 mM)
3) Check – no humic fertigant, NPK (8 mM N)
4) 1/500 dilution of Black Earth (0.2 mls. per watering), no fertilizer
5) 1/500 dilution of Black Earth (0.2 mls. per watering) N (8 mM)
6) 1/500 dilution of Black Earth (0.2 mls. per watering), NPK (8 mM N)
7) 1/250 dilution of Black Earth (0.4 mls. per watering), no fertilizer
8) 1/250 dilution of Black Earth (0.4 mls. per watering), N (8 mM)
9) 1/250 dilution of Black Earth (0.4 mls. per watering), NPK (8 mM N)

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

<table>
<thead>
<tr>
<th>BLACK EARTH – RATE</th>
<th>POTASSIUM % – DRY WEIGHT</th>
<th>PHOSPHORUS % – DRY WEIGHT</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>1.59 (c)</td>
<td>0.18 (ab)</td>
</tr>
<tr>
<td>0.2 mls./watering</td>
<td>1.87 (b)</td>
<td>0.16 (b)</td>
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<tr>
<td>0.4 mls./watering</td>
<td>2.27 (a)</td>
<td>0.19 (a)</td>
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RESULTS

Cofertigation of Black Earth Liquid with N or NPK-fertilizer stimulated growth of apple seedlings more than was observed via fertigation alone. The liquid appeared to stimulate the uptake of P and K.