**Summary**

**Purpose**
Evaluate the growth response of hemp to MitoGrow Aqua 3-IA 2.5%, when applied during the vegetative stage of transplants grown from seed.

**Evaluation Objectives**
1. Vegetative and root growth enhancement
2. Plant quality, health/vigor and phytotoxicity

**Trial Design**
- **Non-Randomized:** 4 treatments with 4 plants per treatment
- **Plant Age:** 8 week old transplants grown from feminized seed
- **Hemp Strain:** Cherry Wine (sourced from Eastern Plains Hemp – Aurora, CO)
- **Container Type:** 5.5” x 7” fabric grow pots (grown in 1 gallon Root Pouch)
- **Container Volume:** ~0.7 gallons (volume of media to be used: ~0.65 gallons)
- **Growing Media:** Pro-Mix LP, peat moss (75-85%), perlite and vermiculite mixture

**Trial + Miscellaneous Details**

**Schedule**
- **Transplanted:** 06/28/19
- **Application:** 07/01/19
- **Evaluation:** 07/25/19, 24 days post treatment

**Maintenance**
- Pots were placed into a float table post transplanting and allowed to soak in a water and fertilizer solution
  - Jack’s Professional Water-Soluble Fertilizer: 25-5-15 at 150 PPM of N
- Pots were watered 07/09/19, 07/15/19 and 7/22/19, using a water and fertilizer solution at ~16 floz per pot
  - Jack’s Professional Water-Soluble Fertilizer: 17-4-17
- Pots were watered (water only) on 07/12/19 and 07/18/19 with ~16 floz per pot

**Treatments**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Applied Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trt 1:</strong> MitoGrow Aqua 3-IA 2.5%</td>
<td>60 PPM Water Solution (9.1 grams of product per gallon of water)</td>
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<tr>
<td><strong>Trt 2:</strong> MitoGrow Aqua 3-IA 2.5%</td>
<td>120 PPM Water Solution (18.2 grams of product per gallon of water)</td>
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<tr>
<td><strong>Trt 3:</strong> MitoGrow Aqua 3-IA 2.5%</td>
<td>240 PPM Water Solution (36.4 grams of product per gallon of water)</td>
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<tr>
<td><strong>Trt 4:</strong> Control (untreated)</td>
<td></td>
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</tbody>
</table>

**Notes**
- Using a watering can with a “rain drop” head, treatments were applied as directed drench to the growing media
- Drench was made with water and fertilizer solution

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Trial + Miscellaneous Details (cont.)

<table>
<thead>
<tr>
<th>Treatment</th>
<th># of Nodes</th>
<th>Color/Vigor</th>
<th>Root Density</th>
<th>Root Length (cm)</th>
<th>% over Trt 4</th>
<th>Root Volume (cc)</th>
<th>% over Trt 4</th>
<th>Root Weight (g)</th>
<th>% over Trt 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trt 1</td>
<td>Aqua 2.5% @ 60 PPM</td>
<td>10.8</td>
<td>10.0</td>
<td>8.3</td>
<td>19.8</td>
<td>8.8</td>
<td>22.4</td>
<td>47.4</td>
<td>1.99</td>
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<tr>
<td>Trt 2</td>
<td>Aqua 2.5% @ 120 PPM</td>
<td>11.3</td>
<td>10.0</td>
<td>9.8</td>
<td>21.0</td>
<td>15.4</td>
<td>27.1</td>
<td>78.3</td>
<td>2.59</td>
</tr>
<tr>
<td>Trt 3</td>
<td>Aqua 2.5% @ 240 PPM</td>
<td>10.8</td>
<td>9.8</td>
<td>8.0</td>
<td>22.3</td>
<td>22.6</td>
<td>26.9</td>
<td>77.0</td>
<td>2.93</td>
</tr>
<tr>
<td>Trt 4</td>
<td>Control</td>
<td>10.2</td>
<td>9.2</td>
<td>6.2</td>
<td>18.2</td>
<td>15.2</td>
<td></td>
<td>1.31</td>
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</tr>
</tbody>
</table>

Notes
- Color/Vigor and Root Density ratings were subject and on a scale of 1-10, 10 being best
- Data presented are means of 4 plants per treatment

Product Information
Aqua 3-IA for Hemp is a water soluble, dry powder containing IBA and can be mixed with fertilizer solutions and applied with most irrigation methods. This product is fortified with mychorrhizae, B vitamins and beneficial microbes. Use of Aqua 3-IA encourages and improves overall nutrient and water uptake, thereby enhancing vigor and growth as well as tolerance to environmental stress.

To purchase or receive more information on this product, please visit our website or contact us via the email or phone number below.