Yield and Quality of Aquaponically Grown Pakchoi and Beet Varieties.

Aquaponics in Hawaii Conference
May 25, 2013

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Vegetable variety trials at Waimānalo

Effluent from ~100 lb fish in a 650 gallon tank re-circulated through 4'x48' beds with black cinder media.
Vegetable variety trials at Waimānalo

• 3 week old seedlings started in trays of peat w 10% vermi.

• 7-8 Pakchoi varieties were transplanted July 2012 and January 2013.

• 6 beet varieties transplanted October 2012 and May 2013.

• 4 reps, 6 plants per rep with 8 inch spacing between and within rows.

• Pakchoi 28-35 days after transplanting. Beets @ 45 days
Pak Choi Yield
Yield

• Yield was greatest in the white stem varieties.

• However there is a strong market for the green stem varieties.

• Head sizes of both type were comparable to soil grown.

![Store bought图片]

![Store bought图片]
Pakchoi Glucosinolate content
July-Aug 2012

Total Glucosinolates (mmol*kg$^{-1}$ dry weight)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Novelty</th>
<th>White Stem</th>
<th>Green Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiro Red choi</td>
<td>d</td>
<td>a</td>
<td>cd</td>
</tr>
<tr>
<td>Winwin Joicho Store</td>
<td>abc</td>
<td>bc</td>
<td>ab</td>
</tr>
<tr>
<td>Meiqing Black summer</td>
<td>abc</td>
<td>bc</td>
<td>bc</td>
</tr>
<tr>
<td>Bonsai Store bought</td>
<td></td>
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</tr>
</tbody>
</table>

Jan.-Feb., 2013 Average

College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa
Total Phenolic content

![Image of leaf samples]

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<thead>
<tr>
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<th>Total Phenolics (mg·kg⁻¹ dry weight)</th>
</tr>
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<tbody>
<tr>
<td><strong>Novelty</strong></td>
<td></td>
</tr>
<tr>
<td>Shiro Red choi</td>
<td></td>
</tr>
<tr>
<td><strong>White Stem</strong></td>
<td></td>
</tr>
<tr>
<td>Winwin</td>
<td></td>
</tr>
<tr>
<td>Joichoi Store bought white</td>
<td></td>
</tr>
<tr>
<td><strong>Green Stem</strong></td>
<td></td>
</tr>
<tr>
<td>Meiqing</td>
<td></td>
</tr>
<tr>
<td>Black summer</td>
<td></td>
</tr>
<tr>
<td>Bonsai Store bought green</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- a, b, c, d
- Novelty group comparisons: a = bcd
- White Stem group comparisons: d
- Green Stem group comparisons: b = bc
Beet Yield
Beet Root Yield Nov. 2012

Hypocotyl Fresh Weight (g)

- Chiogga
- Albino
- Pacemeker
- Merlin
- Bulls Blood
- Burpee Gold

Store-bought Average
Beet Leaf Yield Nov. 2012

Leaf Fresh Weight (g)

Chiogga   Albino Pacemeker   Merlin Bulls Blood Burpee Gold

ab          a                cd                  bc                   d
Acknowledgements

• David McGuire, Naloponics
• Jensen Uyeda
• Robert Saito
• Roger Corrales
• Craig Okazaki
• Castle Foundation

• USDA Funding:
  • OREI
  • WSARE
  • Hatch
Mahalo!!

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