Vital Earth Resources  
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2014 Crop Results

Vitazyme on Blueberries (Organic)

Researcher: Jacob Hesseltine, Vital Grow Distribution LLC, Waterville, Washington  
Farmer: Zirkle Fruit Company  
Location: Pasco, Washington  
Variety: Duke  
Plant age: 8 years  
Plant density: 11 feet between rows, 1 foot in-row

Experimental design: A 13.2-acre block of organically-grown Duke blueberries was split approximately in half, with 53.46 full rows treated with Vitazyme four times during the season to determine the effects of the product on fruit yield and quality. The 58.13 full rows not treated with Vitazyme served as controls.

1. Control  
2. Vitazyme

Fertilization: standard nutrient program  
Vitazyme application: (1) 13 oz/acre on March 25; (2) 13 oz/acre on April 2; (3) 13 oz/acre on April 29; (4) 13 oz/acre on May 6. A Power-Blast sprayer was used, delivering 100 gal/acre, driven at 2.75 mph.

Harvest date: June 10 and 11, 2014, for the first picking. Other pickings followed, but this was the only picking that was evaluated.

Quality results: On June 10, 50 average berries were collected randomly from both treatments to evaluate the following parameters.

<table>
<thead>
<tr>
<th>Fruit Size</th>
<th>Fruit Weight</th>
<th>Fruit Brix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>16.53 mm</td>
<td>1.86 grams</td>
</tr>
<tr>
<td>Vitazyme</td>
<td>18.43 mm</td>
<td>2.47 grams</td>
</tr>
</tbody>
</table>

Increase in fruit size with Vitazyme: 11%  
Increase in fruit weight with Vitazyme: 33%  
Increase in fruit Brix with Vitazyme: 1.20 %-points

1Determined by a Cranston fruit sizer.  
1Determined by a Matrix-500 digital scale.  
Determined by an Atago PAL-1 refractometer.
**Yield results:** Only the first picking results are shown below.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Boxes</th>
<th>Rows</th>
<th>Row yield</th>
<th>Yield change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>634</td>
<td>58.13</td>
<td>10.9</td>
<td>—</td>
</tr>
<tr>
<td>Vitazyme</td>
<td>807</td>
<td>53.46</td>
<td>15.1</td>
<td>4.2 (+39%)</td>
</tr>
</tbody>
</table>

**Conclusions:** A blueberry trial in central Washington, using four 13 oz/acre applications of Vitazyme, proved that the product greatly improved both the yield and quality of the berries. Fruit diameter was increased by 11%, fruit weight by 33%, and fruit Brix by 1.20 percentage points, indicating the berries were much larger and sweeter than the untreated control berries. A picked yield increase of 39% closely paralleled the 33% heavier fruit. This trial illustrates the pronounced improvement in the yield, quality, and income from blueberries grown with Vitazyme in Washington.