Unique Wine Vinegar Produced from *Vitis coignetiae* Grapes

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Wine vinegar produced from *Vitis coignetiae* grapes using Bizen-yaki (famous local ceramic) and plastic vessels as fermentation tank was evaluated in terms of quality by comparing with wine vinegar from Pione grapes and two imported products.

*V. coignetiae* wine vinegar that was processed using the Bizen-yaki had higher levels of acids, anthocyanin, and total phenols, and high free radical scavenging activity than that using the plastic vessel. The deep red-purple tint and the strong fruity flavor of *V. coignetiae* wine vinegar contrasted the imported wine vinegar that had a pale-brown tint and high acidity. On the other hand, Pione wine vinegar possessed mild flavor and low levels of anthocyanin, malic acid tartaric acids, and total phenols, compared to *V. coignetiae* wine vinegar. The attractive color and fruity flavor of *V. coignetiae* wine vinegar may be appealing to consumers when the vinegar is used as a dressing or a beverage.

**Key words:** Bizen-yaki vessel, color, flavor, *V. coignetiae*, wine vinegar

**Materials and Methods**

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Table 1 Must composition\(^z\) of *V. coignetiae* and Pione grapes

<table>
<thead>
<tr>
<th>Must origin</th>
<th>TSS (Brix)</th>
<th>TA(^y) (%)</th>
<th>Glu (mg/100 mL)</th>
<th>Fru</th>
<th>Mal</th>
<th>Tar</th>
<th>phenol(^x) (ppm)</th>
<th>Total (OD(_{525}))</th>
<th>Major constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>V. coignetiae</em></td>
<td>13.5</td>
<td>1.36</td>
<td>5.4</td>
<td>7.00</td>
<td>0.66</td>
<td>0.75</td>
<td>1498</td>
<td>9.21</td>
<td>Mv3pG5G Mv3pG5G</td>
</tr>
<tr>
<td>Pione</td>
<td>18.0</td>
<td>0.57</td>
<td>8.6</td>
<td>8.40</td>
<td>0.26</td>
<td>0.23</td>
<td>457</td>
<td>2.35</td>
<td>Pn3pG5G Mv3pG5G</td>
</tr>
</tbody>
</table>

\(^z\) Abbreviations: TSS, total soluble solids; TA, titratable acidity; Glu, glucose; Fru, fructose; Mal, malic acid; Tar, tartaric acid.

\(^y\) As tartaric acid equivalent.

\(^x\) As catechin equivalent.