Table 3. Values of "U.S. Standard Grades of Quality" of canned tomato juice and quality attributes (1). (Average sample of three 303 x 406 cans.) Raw product grown at the Vegetable Crops Branch, Fremont, Ohio; processing at Columbus, Ohio.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Color (30)</th>
<th>Consistency (15)</th>
<th>Defects (15)</th>
<th>Flavor (40)</th>
<th>Total (max = 100)</th>
<th>U.S. grade</th>
<th>Soluble solids (°Brix)</th>
<th>Titratable acidity (%)</th>
<th>Gross viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio 7814</td>
<td>28</td>
<td>13</td>
<td>15</td>
<td>35</td>
<td>91</td>
<td>A</td>
<td>6.2</td>
<td>0.46</td>
<td>143</td>
</tr>
<tr>
<td>Heinz 2653</td>
<td>28</td>
<td>13</td>
<td>15</td>
<td>35</td>
<td>91</td>
<td>A</td>
<td>5.5</td>
<td>0.34</td>
<td>50</td>
</tr>
<tr>
<td>Campbell 37</td>
<td>28</td>
<td>13</td>
<td>15</td>
<td>38</td>
<td>94</td>
<td>A</td>
<td>5.6</td>
<td>0.29</td>
<td>65</td>
</tr>
<tr>
<td>1982</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ohio 7814</td>
<td>27</td>
<td>15</td>
<td>15</td>
<td>37</td>
<td>94</td>
<td>A</td>
<td>5.8</td>
<td>0.86</td>
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</tr>
<tr>
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<td>15</td>
<td>15</td>
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<td>92</td>
<td>A</td>
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<tr>
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<td>26</td>
<td>15</td>
<td>15</td>
<td>36</td>
<td>92</td>
<td>A</td>
<td>5.7</td>
<td>0.50</td>
<td>57</td>
</tr>
</tbody>
</table>

Fig. 2. ‘Ohio 7814’ at maturity as grown for machine harvest (vine opened up to display fruit).

Fig. 3. Fruits of ‘Ohio 7814’; average weight = 65 g (2.3 oz).

available to seedsmen from the Department of Horticulture, OSU-OARDC, Wooster, OH 44691.

Literature Cited


‘Sugarlee’ Watermelon

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Additional index words. Citrullus lanatus, vegetable breeding, fusarium wilt resistance, anthracnose resistance, Fusarium oxysporum, Colletotrichum lagenarium

‘Sugarlee’ watermelon [Citrullus lanatus (Thunb.) Matsum. & Nakai] is an early season cultivar that produces high-quality fruits suitable for shipping or local market sales. It is resistant to anthracnose, caused by race 1 of Colletotrichum lagenarium (Pass.) Ellis & Halsted, and fusarium wilt caused by Fusarium oxysporum Schlect. f. sp. niveum (E.F. Sm.) Snyder & Hans. Because it matures early, ‘Sugarlee’ fits well into Florida’s commercial production program and might be used in conjunction with ‘Dixielee’ to lengthen the shipping season for any given production area or grower. ‘Sugarlee’ has performed well in the Southern Cooperative Watermelon Trials during the period 1977-1981 and is well-adapted throughout most of the watermelon production areas in the eastern United States.

Origin
‘Sugarlee’ originated from a series of crosses and backcrosses similar to that from which ‘Dixielee’ was derived, which included the highly fusarium-wilt-resistant Texas W5 and ‘Summit’ and the moderately resistant ‘Fairfax’ and ‘WR Graybelle’ (Fig. 1). Its pedigree differs from that of ‘Dixielee’ by the inclusion of both ‘Charleston Gray’ and ‘Crimson Sweet’ and the exclusion of the intense-red-fleshed ‘Peacock’.

Both parental lines of ‘Sugarlee’ evolved from series of similar origin. Included in their genealogy were the cultivars ‘Summit’, ‘Charleston Gray’, ‘Fairfax’, ‘Crimson Sweet’, and ‘WR Graybelle’ and the breeding line Texas W5. The parental cross was made in 1968 and single plant selections were made for the next 7 generations (1969-1975). Seed from 6 selections of the F5 were composited and planted in isolation in 1976. Seed from this planting was designated Florida 77-2 and distributed widely for testing in Florida and other states in 1977, 1978, 1979, 1980, and 1981. Foundation seed of ‘Sugarlee’ originated from this source.

Cultivars in the pedigree of ‘Sugarlee’ have been described adequately in release notes or circulars. Texas W5, which was entered in

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1Professor.
2Professor and Center Director.
Fig. 1. Pedigree of 'Sugarlee' watermelon.

Plants of 'Sugarlee' are moderately vigorous and prolific, and produce an early set of round, striped, medium-size fruits (Fig. 2), with a tough rind (slightly over 1 cm thick) and high quality, firm, sweet flesh. Flesh color is an attractive red, but not as intense as that of 'Dixielee'. Seeds are black, stippled, and medium-large.

In replicated trials at Leesburg (4 years) and Immokalee (3 years), mean and maximum yields for 'Sugarlee' (61.7 and 69.4 MT/ha, respectively) compared favorably with those for 'Crimson Sweet' (65.6 and 78.9), 'Charleston Gray' (70.2 and 83.0) and 'Jubilee' (63.6 and 80.2). Mean melon weights for these trials were as follows: 'Sugarlee' (7.2 kg), 'Crimson Sweet' (7.9), 'Charleston Gray' (9.1), and 'Jubilee' (9.4). Sugar content of the juice of 'Sugarlee' (10.2% mean soluble solids) was not as high as that of 'Dixielee' (10.6%), but was higher than that of 'Charleston Gray' (9.0%), 'Crimson Sweet' (9.6%), and 'Jubilee' (8.6%).

Special attributes of 'Sugarlee' that have gained the favor of test growers are its earliness (several growers have noted that it is earlier than any of the 3 major cultivars ('Crimson Sweet', 'Jubilee', and 'Charleston Gray') currently being grown in Florida), excellent internal quality, especially its freedom from whiteheart and hollowheart, and its characteristic of holding prime quality fruit on the vine for a reasonably long period. Other desirable qualities of 'Sugarlee' are its good shipping characteristics (hard, tough rind and firm flesh), adequate fruit yields, and resistance to anthracnose and fusarium wilt.

Availability

Foundation seed of 'Sugarlee' is available to commercial seedsmen from the Florida Foundation Seed Producers, Inc., P.O. Box 309, Greenwood, FL 32443. Limited amounts of breeder seed can be obtained by request to the senior author.