‘Gulfsnow’ Peach

Thomas G. Beckman,1,4
U.S. Department of Agriculture, Agricultural Research Service, Southeastern Fruit and Tree Nut Research Laboratory, 21 Dunbar Road, Byron, GA 31008

Jose X. Chaparro3
University of Florida, Department of Horticultural Sciences, 1143 Fifield Hall, Hull Road, Gainesville, FL 32611

Patrick J. Conner3
University of Georgia, 4604 Research Way, Tifton, GA 31793

Additional index words. Prunus persica, non-melting, breeding

‘Gulfsnow’ peach is jointly released for grower trials by the U.S. Department of Agriculture–Agricultural Research Service (Byron, GA), Georgia Agricultural Experiment Station, and Florida Agricultural Experiment Station. The ‘Gulf’ prefix indicates this variety was developed for the lower coastal plain, which is largely the Gulf of Mexico region but also includes a small portion of the Atlantic Coast from North Carolina to Florida.

Trees of ‘Gulfsnow’ are vigorous, semi-spreading, and produce an attractive, sweet-tasting, white, and non-melting flesh fruit. The fruit is firm and extends the shelf life of fruit from conventional melting-flesh cultivars. ‘Gulfsnow’ is suggested for trial in north Florida and south Georgia.

Origin

‘Gulfsnow’ originated in Attapulgus, GA, from a 2003 cross of AP98-30 × AP99-20W and was selected and propagated in 2006 for testing as AP06-09W at Attapulgus. Both parents are of complex origin (Fig. 1).

Description

Standards and methods used in this program to evaluate selections have been described (Beckman and Krewer, 1999; Beckman et al., 1995). Trees of ‘Gulfsnow’ are estimated to require 400 chill units (Sherman and Lyrene, 1998) based on full bloom consistently occurring between ‘Flordaking’ peach (350 chill units) and ‘Sunlite’ nectarine (450 chill units) at Attapulgus where full bloom of ‘Gulfsnow’ occurs most seasons in mid-February (Table 1). ‘Gulfsnow’ has fruited acceptably well at Attapulgus where the mean temperature [(mean daily maximum + mean daily minimum)/2] of the coldest month (January) averages 11.4 °C. The Florida model (Sharpe et al., 1990) suggests that a 400 chill unit variety like ‘Gulfsnow’ would fruit well at a location where the coldest month averaged 12 to 14 °C (Sharpe et al., 1990). Hence, in a band starting a little south of Attapulgus to around the latitude of Gainesville, FL, and in colder locations, such as Attapulgus, in the absence of spring frosts. Thus, we expect this new peach to be adapted in areas where ‘Flordaking’ and ‘Sunlite’ have been grown successfully. Fruit ripen in early June at Attapulgus, ≈110 d after full bloom (Table 1) and usually ≈10 d after ‘Gulfcrimson’ peach (Table 2). Trees are vigorous, productive, and without alternate-bearing. Trees set a high number of flower buds, have few blind nodes (Richards et al., 1994), and exhibit little bud failure (bud drop) before bloom (Weinberger, 1967). Fruit thinning is required in the absence of thinning by spring frost to size fruit and prevent limb breakage.

‘Gulfsnow’ fruit have been observed on the original seedling and budded trees since 2006. Fruit are large-sized, round to slightly elongated, and attractive (Fig. 2), averaging ≈185 g (71 mm diameter) when thinned to ≈15 cm apart. Buttons have not been observed in fruit of ‘Gulfsnow’ Commercially ripe fruit exhibit 50% to 60% red over a cream ground color. Fruit shape is round with a recessed tip. In some years, the cream white flesh contains red pigment flecks in the outer flesh, particularly on the sun-exposed side of the fruit, but there is little or no red in the flesh at the pit (the pit itself is red). Flesh texture is smooth, without strings, but is clingy to the pit even when fully ripe. Flesh is firm with good sweetness (10 to 12 °Brix) and does not brown readily on bruised or cut surfaces. Pits are medium-sized and have not been

Table 1. Tree performance and fruit characteristics of ‘Gulfsnow’ (Attapulgus, GA, 2006–12).

<table>
<thead>
<tr>
<th>Yr</th>
<th>Bloom (Julian)</th>
<th>Harvest (Julian)</th>
<th>Diam (mm)</th>
<th>Wt (g)</th>
<th>Shape</th>
<th>Red (%)</th>
<th>Looks</th>
<th>Quality</th>
<th>Firmness</th>
<th>Brix (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>40</td>
<td>70</td>
<td>142</td>
<td>78</td>
<td>242</td>
<td>9</td>
<td>50</td>
<td>8</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>2007</td>
<td>66</td>
<td>10</td>
<td>163</td>
<td>70</td>
<td>170</td>
<td>7</td>
<td>50</td>
<td>8</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>2008</td>
<td>65</td>
<td>30</td>
<td>158</td>
<td>72</td>
<td>196</td>
<td>7</td>
<td>40</td>
<td>7</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>33</td>
<td>2</td>
<td>152</td>
<td>ND</td>
<td>ND</td>
<td>12</td>
<td>16</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2010</td>
<td>63</td>
<td>50</td>
<td>169</td>
<td>72</td>
<td>186</td>
<td>7</td>
<td>40</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2011</td>
<td>24</td>
<td>70</td>
<td>161</td>
<td>ND</td>
<td>177</td>
<td>8</td>
<td>50</td>
<td>5</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>2012</td>
<td>40</td>
<td>50</td>
<td>158</td>
<td>64</td>
<td>141</td>
<td>8</td>
<td>50</td>
<td>7</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Average</td>
<td>47</td>
<td>40</td>
<td>158</td>
<td>71</td>
<td>185</td>
<td>8</td>
<td>53</td>
<td>8</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Partially based on a 8 to 10 fruit sample collected at ‘shipping ripe’ (ground color break) stage. Subjective shape, looks, quality, and firmness ratings: 1 = least desirable, 7 = commercially acceptable, 10 = most desirable.

Received for publication 19 Sept. 2012. Accepted for publication 8 Nov. 2012.

1Research Horticulturist.
2Assistant Professor.
3Associate Professor.
4To whom reprint requests should be addressed; e-mail tom.beckman@ars.usda.gov.
observed to split even when croploads were light.

Leaf petioles have small globose glands. Flowers are showy and pink. Anthers are yellow and pollen is bright yellow and abundant. Leaves have shown no bacterial spot [Xanthomonas arboricola pv. pruni (Smith) Vauterin et al.] in test plantings where known susceptible genotypes show typical symptoms.

Comparable in size to ‘Gulfcrimson’ (Krewer et al., 2008) and significantly larger than ‘June Gold’ or ‘Karla Rose’ nectarine, ‘Gulfsnow’ has no white-fleshed peach competition in its ripening window. ‘Karla Rose’ is a white-fleshed nectarine but has found acceptance only in the U-pick and local sales markets as a result of its small size, poor appearance, and inadequate firmness for shipping. ‘Gulfsnow’s’ most evident weakness is its variable cropping history (Table 1). However, in only two of the seven seasons it has been observed, 2007 (on one-year-old topworked trees) and 2009, did it not have a commercially usable crop. ‘Gulfsnow’ has displayed good fruit shape, appearance, eating quality, firmness, and a very low incidence of split pits. Although it has significantly less red skin blush than ‘Gulfcrimson’, it has been, nonetheless, judged to be equally attractive as a result of its cream ground color and exceptionally round shape.

### Table 2. Tree performance and fruit characteristics of ‘Gulfsnow’ and reference cultivars (Attapulgus, GA, 2006–12).

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Bloom (Julian)</th>
<th>Crop&lt;sup&gt;a&lt;/sup&gt; (%)</th>
<th>Harvest (mm)</th>
<th>Wt (g)</th>
<th>Shape (%)</th>
<th>Red (%)</th>
<th>Looks</th>
<th>Quality</th>
<th>Firmness (%)</th>
<th>Brix (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulfcrimson</td>
<td>52 b&lt;sup&gt;b&lt;/sup&gt;</td>
<td>77 a</td>
<td>148 c</td>
<td>69 a</td>
<td>163 ab</td>
<td>7 a</td>
<td>80 a</td>
<td>8 a</td>
<td>7 ab</td>
<td>8 a</td>
</tr>
<tr>
<td>June Gold</td>
<td>78 a</td>
<td>35 b</td>
<td>152 bc</td>
<td>59 b</td>
<td>127 bc</td>
<td>4 b</td>
<td>50 b</td>
<td>5 b</td>
<td>6 b</td>
<td>6 b</td>
</tr>
<tr>
<td>Gulfsnow</td>
<td>47 b</td>
<td>40 ab</td>
<td>158 ab</td>
<td>71 a</td>
<td>185 a</td>
<td>8 a</td>
<td>53 b</td>
<td>8 a</td>
<td>7 ab</td>
<td>8 a</td>
</tr>
<tr>
<td>Karla Rose</td>
<td>73 a</td>
<td>51 ab</td>
<td>163 a</td>
<td>56 b</td>
<td>103 c</td>
<td>5 b</td>
<td>90 a</td>
<td>6 b</td>
<td>8 a</td>
<td>6 b</td>
</tr>
</tbody>
</table>

<sup>a</sup>Fruit characteristics based on an 8 to 10 fruit sample collected at “shipping ripe” (ground color break) stage. Subjective shape, looks, quality, and firmness ratings: 1 = least desirable, 7 = commercially acceptable, 10 = most desirable.

<sup>b</sup>Mean separation in each column by Waller–Duncan test (Kratio = 100). Percent cropload (Crop), red skin color (Red), and soluble solids (Brix) data were transformed as arcsine (square root) before analysis (Gomez and Gomez, 1984). Untransformed means presented. Data analyzed by General Linear Models program of the Statistical Analysis System for personal computers (SAS Institute, Inc., 2003). Years were treated as blocks.

Fig. 2. Typical fruit of ‘Gulfsnow’.

### Availability

A plant patent has been filed for ‘Gulfsnow’ and a propagation agreement is available through Florida Foundation Seed Producers, Inc., P.O. Box 110200, Gainesville, FL 32611–0200. Budwood is indexed free of Prunus Necrotic Ringspot Virus and Prune Dwarf Virus.

### Literature Cited


