The Low-Chilling Stone Fruit Breeding Program in Gainesville, at the University of Florida, has developed plums adapted to the subtropical conditions of central and south Florida. Varieties 'Gulfgold', 'Gulfruby', 'Hypoluxo', 'Gulfbeauty' (Fla. 85-1), and 'Gulfblaze' (Fla. 87-7) were budded to 'Fordguard' peach rootstock and planted in a southwest Florida landscape near Fort Myers (latitude 26°39'25"N, longitude 81°45'08"W) in 1993. Trees were spaced 12 feet apart in a row, fertilized with a dry soluble complete fertilizer blend 3 to 5 times/year, irrigated with a lawn watering system or microsprinklers, and a weed free area maintained beneath the canopy with Roundup herbicide. Trees were pruned to establish an open center and topped to maintain a maximum height of eight feet. Bloom and fruit maturity dates were noted and fruit were lightly thinned, allowing overcropping to occur. Fruit were harvested when skin color was red (yellow for 'Gulfgold') indicating tree ripe while still firm. Observations were made of fruit yield, skin color, flesh color, fruit size, fruit firmness, taste, and tree growth. Observations were also made of insect and disease pressure to fruit and tree.

Results and Discussion

Trees of plum varieties 'Gulfgold', 'Gulfruby', 'Gulfbeauty', 'Hypoluxo', and 'Gulfblaze' produced fruit characteristic of the respective varieties and produced good crops in southwest Florida in 1995, 1996, and 1997. Table 1 shows tree and fruit characteristics of these four varieties and Hypoluxo. All varieties had fruit with diameter of 1.5 inches or larger. 'Gulfgold' consistently produced fruit of 2.0 inch diameter and most of the 'Gulfruby' fruit approached this size. 'Gulfbeauty' fruit were slightly less in diameter than 'Gulfruby', and 'Gulfblaze' averaged about 1.5 inches. Fruit of these varieties have red to purple peel when ripe and yellow to orange flesh. Some peel bitterness and acidity may be detectable and all have firm edible flesh which is clingstone.

Flowering usually occurs in February and first fruit (depending on variety) mature 75 to 105 days later. Although there was some flowering in the fall and during warm periods in December or January, sufficient flower buds remain to pro-
Table 1. Tree and fruit characteristics of low-chill subtropical plum varieties grown in southwest Florida. Ratings compiled from observations and published sources (Sherman and Lyrene, 1998; Sherman et al., 1992; Strong and Byrne, 1995).

<table>
<thead>
<tr>
<th>Variety</th>
<th>Tree type</th>
<th>Chill units</th>
<th>Bloom date</th>
<th>Maturity date</th>
<th>Fruit wt. (g)</th>
<th>Skin color</th>
<th>Flesh color</th>
<th>Firmness</th>
<th>Shape</th>
<th>Attractiveness</th>
<th>Taste</th>
<th>Bacterial spot resistance</th>
<th>Leaf scald resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulfruby</td>
<td>S</td>
<td>250</td>
<td>10-16 Feb.</td>
<td>late-Apr May</td>
<td>45-50</td>
<td>R</td>
<td>Y</td>
<td>5</td>
<td>round</td>
<td>excellent</td>
<td>sweet- subacid</td>
<td>susceptible</td>
<td>resistant</td>
</tr>
<tr>
<td>Hypeutiko</td>
<td>U</td>
<td>200</td>
<td>3-12 Feb.</td>
<td>late-Apr May</td>
<td>50-55</td>
<td>RG</td>
<td>Y</td>
<td>4</td>
<td>elliptic</td>
<td>good</td>
<td>sweet</td>
<td>very susceptible</td>
<td>moderate</td>
</tr>
<tr>
<td>Gulfbeauty</td>
<td>U</td>
<td>200</td>
<td>9-13 Feb.</td>
<td>late-Apr May</td>
<td>30-40</td>
<td>R</td>
<td>Y</td>
<td>7</td>
<td>round</td>
<td>good</td>
<td>subacid</td>
<td>very susceptible</td>
<td>high resistance</td>
</tr>
<tr>
<td>Gulfblaze</td>
<td>I</td>
<td>250</td>
<td>9-12 Feb.</td>
<td>mid-late May</td>
<td>50-60</td>
<td>R</td>
<td>O</td>
<td>8</td>
<td>round</td>
<td>excellent</td>
<td>sweet</td>
<td>resistant</td>
<td>high resistance</td>
</tr>
<tr>
<td>Gulfgold</td>
<td>I</td>
<td>350</td>
<td>10-16 Feb.</td>
<td>mid-late June</td>
<td>60-70</td>
<td>Y</td>
<td>Y</td>
<td>6</td>
<td>round</td>
<td>excellent</td>
<td>subacid</td>
<td>very resistant</td>
<td>very susceptible</td>
</tr>
</tbody>
</table>

U = upright, I = intermediate, S = spreading.
One chill unit = one hour of chilling at an optimum temperature usually thought to be near 45°F.
'R = red, Y = yellow, G = green.
'Y = yellow, O = orange.
Rated 0-4 = very poor to poor, 5-6 = marginal to good, 7-9 = excellent for commercial use.

duce a full crop, and most premature flowering did not persist to produce fruit. Fruit of 'Gulfruby' and 'Gulfbeauty' mature late April and early May. Fruit of 'Gulfblaze' mature in mid to late May and 'Gulfgold' early June. Fruit hang on the tree only 3 to 5 days after becoming ripe and fall to the ground.

The chilling requirement for these varieties is relatively low (estimated at 150 to 300 units) making them adapted to the mild winters and subtropical climate conditions of south Florida. The varieties received adequate chilling in the three winters they were observed and produced excessive fruit that required thinning. These varieties also have a high heat requirement for breaking dormancy, which could reduce the tendency to over flower prematurely.

These varieties are not self-fruitful and require a pollenizer tree of another plum variety. These varieties are all cross-compatible and acceptable for commercial u-pick operations. Due to their performance in south Florida they may also be successful in other subtropical climate areas. Trees are available in garden centers throughout the State, but due to the recent release of budwood of 'Gulfbeauty' and 'Gulfblaze' these may be in short supply until winter 1998-99.

In summary, these plum varieties can be successfully grown and fruited in south Florida. They have fruit of good size, appearance and firmness, and warrant further use in the development of fruit varieties for the landscape and are acceptable for commercial u-pick operations. Due to their performance in south Florida they may also be successful in other subtropical climate areas. Trees are available in garden centers throughout the State, but due to the recent release of budwood of 'Gulfbeauty' and 'Gulfblaze' these may be in short supply until winter 1998-99.

**Literature Cited**