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'Gulfking' Peach

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'Gulfking' peach is jointly released for grower trials by the U.S. Department of Agriculture-Agricultural Research Service, the Georgia Agricultural Experiment Station, and the Florida Agricultural Experiment Station. The 'Gulf' prefix indicates this cultivar was developed for the lower coastal plain which is largely the Gulf of Mexico region of North America, but also includes a small portion of the Atlantic Coast from North Carolina to Florida. Trees of 'Gulfking' produce an attractive, sweet-tasting, yellow and non-melting flesh fruit intended for the fresh fruit market. It is expected to produce fruit with tree-ripened aroma and taste while retaining firmness for longer shelf life than fruit from conventional melting-flesh cultivars.

'Gulfking' originated in Byron, Ga., from a 1995 cross of BY87P285 x 'UFGold' (8) and was selected and propagated in 1998 and tested as AP98-4 at Attapulgus, Ga. BY87P285 originated from a cross of 'Sunprince' x 'Majestic'.

Standards and methods used in this program to evaluate selections have been described (1, 2). Trees of 'Gulfking' reach full bloom most seasons in mid-February at Attapulgus (Table 1) and are estimated to require 350 chill units (7). This is based on full bloom consistently occurring with 'Flordaking' peach (Table 2). 'Gulfking' has fruited well where the coldest month averages 13 to 14°C (6) and in colder locations in the absence of spring frosts. Thus, we expect this new peach to be adapted in areas where 'Flordaking' has been grown successfully.

Fruit ripen in early May at Attapulgus, about 73-80 days after full bloom (Table 1), usually with 'Flordaking' (Table 2). Trees are vigorous, productive and without alternate bearing. Trees set a high number of flower buds, have few blind nodes (4), and exhibit little bud failure (bud drop) prior to bloom (9). Fruit thinning is required in the absence of thinning by spring frost, in order to size fruit and prevent limb breakage.

Leaves have small reniform glands. Flowers are showy and pink. Anthers are light red and pollen is bright yellow and abundant. Leaves have shown no bacterial spot [*Xanthomonas campestris* pv. *pruni* (*Sm.*) *Dye*] in test plantings where known susceptible genotypes such as 'Flordagold' show typical symptoms.

'Gulfking' fruit have been observed on the original seedling and budded trees since 1998. Fruit are large and attractive (Fig. 1), averaging about 120 grams (63 mm diameter) when thinned to about 15 cm apart (Table 1). Commercially ripe fruit exhibit 80-90 percent red (with moderately fine darker red stripes) over a deep yellow to orange ground color. Fruit shape is round with a recessed tip. The flesh contains some red pigment flecks in the outer flesh on the sun-exposed side of the fruit. There is no red in the flesh at the pit. Flesh is clingy to the pit even when fully ripe. Flesh is firm with good sweetness and does not brown readily on bruised or cut surfaces. Pits are medium small and have little tendency to split even when crop loads are low.

Although slightly smaller than 'Flordaking', 'Gulfking' offers some significant advantages including superior shape, red blush, attractiveness, eating quality, firmness and low incidence of split pits (Table 2). A plant patent has been filed for 'Gulfking' and a propagation agreement is available through Florida Foundation Seed Producers, Inc., P. O. Box 309, Greenwood, FL 32443. Budwood is indexed free of Prunus Necrotic Ringspot Virus (PNRSV) and Prune Dwarf Virus (PDV).

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Table 1. Tree performance and fruit characteristics[z] of 'Gulfking' (Attapulgus, Ga., 2000-2002).

	Tree			Fruit							
Year	Bloom date (Julian day)	Crop load [y] (%)	Harvest date (Julian day)	Dia. (mm)	Wt. (gm)	Shape	Red (%)	Attr.	Qual.	Firm.	Splits (%)
2000	53	70	129	61	103	8	80	8	8	9	0
2001	47	100	120	63	131	9	80	8	8	9	7
2002	46	10	126	64	120	8	90	9	8	9	0

[z] Subjective Shape, Attractiveness (Attr.), Quality (Qual.) and Firmness (Firm.) ratings: 1 = least desirable, 7= commercially acceptable, 10 = most desirable.

[y] Crop load is judged as percent of a full crop, i.e. fruit evenly spaced 10-15 cm apart throughout canopy. Significant spring freeze reduced crop load in 2002, striking as 'Sunfre' (550 cu) approached full bloom, i.e. after 'Gulfking's' full bloom.

Table 2. Tree performance and fruit characteristics[z] of 'Flordaking', and 'Gulfking' (Attapulgus, Ga., 2000-2002).

	Tree			Fruit							
Cultivar	Bloom date (Julian day)	Crop load [y] (%)	Harvest date (Julian day)	Dia. (mm)	Wt. (gm)	Shape	Red (%)	Attr.	Qual.	Firm.	Splits (%)
Flordaking	49	70	125	67	152	4.7	37	4.7	5.3	6.7	49
Gulfking	49	60	125	63	118	8.3	83	8.3	8	9	2
Sig. (P) [x]	ns	0.42	ns	0.15	0.07	0.01	0.04	0.05	0.02	0.02	0.03

[z] Subjective Shape, Attractiveness (Attr.), Quality (Qual.) and Firmness (Firm.) ratings: 1 = least desirable, 7= commercially acceptable, 10 = most desirable.

[y] Crops of both cultivars listed were significantly reduced in 2002 by spring frost injury following full bloom.

[x] Significance (P) of difference of means in each column or ns=nonsignficant. Percent Crop load, Red skin color (Red) and Split pit (Splits) data were transformed as arcsine (square root) prior to analysis (3). Untransformed means presented. Data analyzed by General Linear Models (GLM) program of the Statistical Analysis System for personal computers (5).

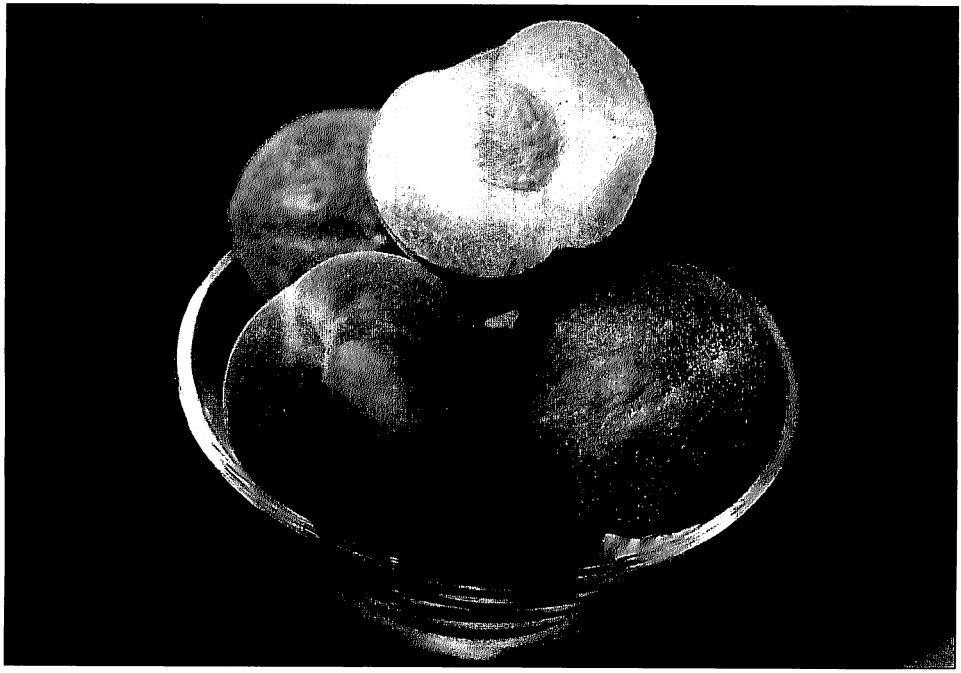

Figure 1. Typical fruit of 'Gulfking' peach.

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