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'Sweet Charlie' Strawberry

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'Sweet Charlie' strawberry (*Fragaria ×ananassa* Duch.) offers strawberry growers in Florida and other areas with relatively mild winter climates a short-day cultivar that is early fruiting and produces fruit that has a distinctively sweet flavor and is resistant to anthracnose (caused by *Colletotrichum* spp.). Plants of 'Sweet Charlie' generally start producing ripe fruit ≈2 weeks earlier than 'Oso Grande', a Univ. of California release that has been the standard short-day cultivar in west central Florida throughout the 1990s (Chandler et al., 1992). 'Sweet Charlie' was named in honor of the late Charles M. (Charlie) Howard, plant pathologist at the Univ. of Florida's Gulf Coast Research and Education Center from 1967 to 1991.

Origin

'Sweet Charlie' (tested as FL 85-4925) was selected in 1986 by C.M. Howard from a cross between FL 80-456 and 'Pajaro' (Fig. 1). FL 80-456 was an anthracnose-resistant clone selected by C.M. Howard in 1981. 'Pajaro' is a 1980 release from the Univ. of California that produces firm, attractive, and flavorful fruit under west central Florida conditions, but is susceptible to anthracnose fruit rot.

Description

The size of 'Sweet Charlie' plants varies according to planting date, but they tend to be smaller and more compact than plants of 'Oso Grande' planted on the same date. (The standard plant density for 'Sweet Charlie' in west central Florida is 43,055 plants/ha.) Petioles range in length from 7.5 to 10 cm. Leaflets are generally slightly cupped, medium to dark green, semi-glossy, scabrous, and obovate. Primary fruit are usually wedge-shaped; secondary and later fruit are conical to wedge-shaped (Fig. 2). Average fruit mass is 17 g. External fruit color is orange-red; internal color is orange streaked with white. The achenes are greenish yellow and slightly recessed. The calyx is large, with 1.5 to 2.5 cm long, coarsely serrated lobes. Fruit of 'Sweet Charlie' are moderately firm, and have a relatively high vitamin C (ascorbic acid) content and soluble solids concentration, and a low concentration of titratable acid (Table 1).

Performance

'Sweet Charlie' grown in central Florida tends to have greater December and February fruit yield than 'Oso Grande', although their seasonal yield is similar (Table 2).

Disease and pest reactions

'Sweet Charlie' has shown no symptoms of anthracnose fruit rot in commercial Florida field situations where it has been grown adjacent to susceptible cultivars that were showing severe symptoms of this disease. 'Sweet Charlie' is, however, susceptible to anthracnose crown rot (caused by *Colletotrichum* spp.) It is also susceptible to phomopsis leaf blight and fruit rot [*Phomopsis obscurans* (Ell. & Ev.) Sutton]. Powdery mildew [*Sphaerotheca macularis* (Wallr. ex Fr.) Jacz. f.sp. fragariae] has not been a serious problem on 'Sweet Charlie'. And, although 'Sweet Charlie' can be severely affected by the two-spotted spider mite (*Tetranychus urticae* Koch) if infestations are left untreated, it appears to be more tolerant of this pest than is 'Selva'.

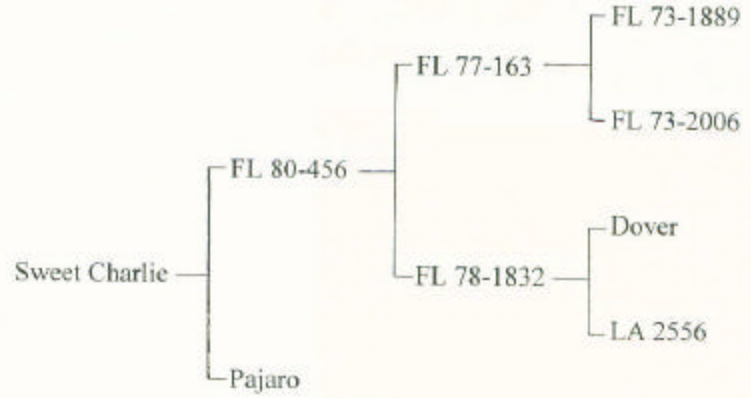

Fig. 1. Pedigree of 'Sweet Charlie' strawberry.

Fig. 2. Fruit of 'Sweet Charlie' strawberry.

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Table 1. Physical and chemical characteristics of strawberry fruit harvested at Dover, Fla., 9 Mar. 1992.

Cultivar	Firmness (N)[y]	Ascorbic[z] acid (mg/100 g FW)	Soluble[x] solids concn (%)	Titratable[w,z] acidity (%)
		Before storage		
Sweet Charlie	7.25 (0.76)	52.6 (2.4)	7.0 (0.10)	0.66 (0.03)
Oso Grande	8.13 (0.83)	34.4 (5.6)	4.6 (0.40)	0.69 (0.06)
		After 1 week at 7 °C		
Sweet Charlie	6.93 (0.02)	56.4 (1.8)	6.7 (0.06)	0.65 (0.02)
Oso Grande	7.80 (0.40)	40.5 (1.3)	5.3 (0.67)	0.85 (0.01)

[v]Data are means of three six-fruit composite samples (replicates), with SEs in parentheses.
[w]Titratable acidity expressed as percent citric acid.
[x]Determined by Instron analysis using a 16-mm diameter, convex-tip Magness–Taylor type probe. Two measurements were obtained on each fruit and averaged. Numbers in parentheses are SEs for three six-fruit replicates.

Table 2. Yield and mean fruit mass of 'Sweet Charlie' strawberry compared to 'Oso Grande' strawberry grown at Dover, Fla.[y]

Cultivar	Yield[z] (g/plant) December	January	February	March	Season	Fruit mass[x] (g)
			1993–94			
Oso Grande	31 (10)	79 (15)	100 (9)	314 (19)	524 (21)	17.7 (0.3)
Sweet Charlie	51 (5)	71 (8)	252 (30)	148 (20)	521 (20)	17.3 (0.2)
			1995–96			
Oso Grande	0	84 (27)	87 (15)	174 (33)	344 (28)	23.1 (0.7)
Sweet Charlie	18 (3)	84 (9)	174 (61)	178 (5)	454 (74)	17.1 (0.5)

[y]For both seasons, the plants were obtained from a commercial Canadian nursery. The planting dates were 12 Oct. 1993 and 9 Nov. 1995.
[z]Values represent mean per-plant yield for three 10-plant plots, with SEs in parentheses.
[x]Seasonal fruit mass was determined by dividing total marketable fruit yield per plot by total marketable fruit number per plot. SEs reported in parentheses.

Availability

The Univ. of Florida's Institute of Food and Agricultural Sciences obtained a U.S. plant patent (no. 8729) on 'Sweet Charlie' in 1994. A list of nurseries licensed to propagate 'Sweet Charlie' can be obtained from the Florida Strawberry Growers Association, P.O. Drawer 2550, Plant City, FL 33564.

Literature Cited

Chandler, C.K., J.C. Sumler, and E.E. Albregts. 1992. Performance of 'Oso Grande', FL 85-4925, and FL 87-236 during the 1991–1992 season. Proc. Fla. State Hort. Soc. 105:348–349.