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'Strawberry Festival' Strawberry

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Most of the strawberries (*Fragaria xananassa* Duchesne) produced in Florida are shipped fresh to locations throughout the eastern United States and Canada (Florida Agricultural Statistics [www.nass.usda.gov/fl]). Therefore, Florida growers need cultivars that produce fruit that are attractive and flavorful, and maintain these qualities during and after long-distance shipment. 'Strawberry Festival' strawberry has produced commercially acceptable yields of firm, attractive, and flavorful fruit in trials at the Univ. of Florida's Gulf Coast Research and Education Center in Dover (GCREC-Dover) and in two commercial fields in west central Florida. It is recommended for trial in areas where strawberries are grown in the annual hill plasticulture system. The clone was named 'Strawberry Festival' in recognition of the Florida Strawberry Festival¹, an annual festival in Plant City that celebrates the abundant crop of berries harvested in eastern Hillsborough County during late February and early March.

Origin

'Strawberry Festival' originated from a 1995 cross between 'Rosa Linda' (Chandler et al., 1997b) and 'Oso Grande' (U.S. plant patent no. 6578). 'Rosa Linda', a 1996 release from the Florida Agricultural Experiment Station, was used as a parent because of its high early season yield potential and its desirable fruit shape. 'Oso Grande', a Univ. of California cultivar, was used as a parent because of its ability to produce large, firm

fruit. The original plant of 'Strawberry Festival' was selected in 1995 from a field nursery at GCREC-Dover. 'Strawberry Festival', tested as selection FL 95-41, has been evaluated in replicated plot trials at this location and in observational trials for 2 years at the Univ. of Florida's Suwannee Valley Research and Education Center, Live Oak, in north central Florida. Replicated plot trials were limited to only one location in Florida because most of Florida's 2500 ha of strawberries are within a 30-km radius of the Dover center. Strawberries in Florida are grown using the annual hill cultural system (Hancock, 1999). In the trials at GCREC-

Dover, fresh transplants with leaves intact were planted each October through black polyethylene mulch on two-row raised beds. Beds were fumigated with a mixture of methyl bromide (98%) and chloropicrin (trichloronitromethane) (2%) prior to planting. Four plots (10 plants each) of each clone in 1997, 1998, and 1999 were planted in a randomized complete-block design. Plants were spaced 38 cm apart in the row, with 30 cm between rows. Ripe fruit were harvested, graded, counted, and weighed twice a week from December through March. Each season's data were analyzed separately because of planting date and plant source differences among seasons. For sensory analysis, ripe fruit was harvested in the morning, cooled to 2 °C, and transported to the Food Science and Human Nutrition Dept. in Gainesville. Trained panelists evaluated samples for color uniformity, flavor intensity, sweetness, and firmness, as described by Sims et al. (1997). Samples were evaluated from three harvest dates (Jan., Feb., and Mar., 1999).

Description and performance

'Strawberry Festival' is a short-day cultivar. The vigorous plant tends to produce numerous runners if planted in early October in central Florida. Average petiole length is 120 mm. Average length and breadth of leaflets is 78 and 73 mm for terminal leaflets, respectively, and 69 and 72 mm, respectively, for secondary leaflets. Leaflet nar-

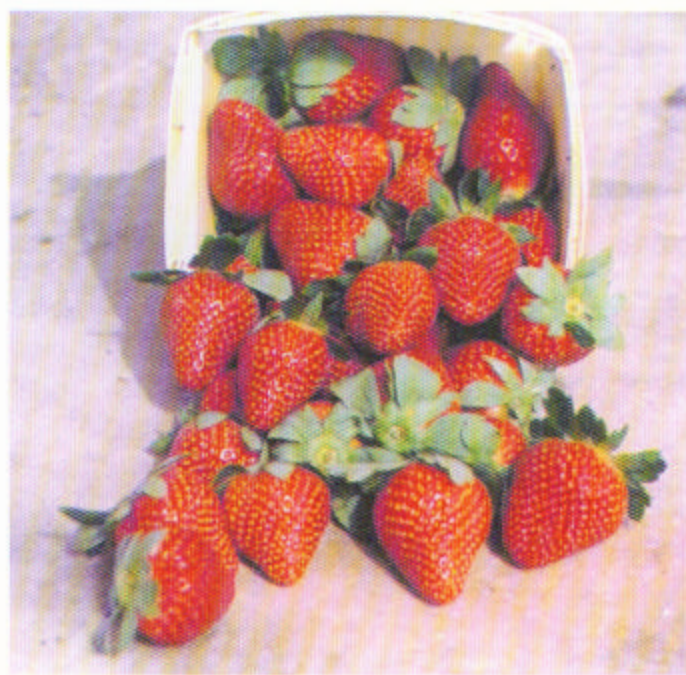


Fig. 1. Fruit of 'Strawberry Festival' strawberry.

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

Cultivar	Firmness (N) ^a	Ascorbic ^b acid (mg/100 g FW)	Soluble ^c solids conc. (%)	Titrate ^d acidity (%)
		<i>Before storage</i>		
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)
		<i>After 1 week at 7 °C</i>		
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)

^aData are means of three six-fruit composite samples (replicates), with SEs in parentheses.

^bTitrate acidity expressed as percent citric acid.

^cDetermined 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.^a

Cultivar	Yield ^b (g/plant)					Fruit mass ^c (g)
	December	January	February	March	Season	
			<i>1993-94</i>			
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)
			<i>1995-96</i>			
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)

^aFor both seasons, the plants were obtained from a commercial Canadian nursery. The planting dates were 12 Oct. 1993 and 9 Nov. 1995.

^bValues represent mean per-plant yield for three 10-plant plots, with SEs in parentheses.

^cSeasonal 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. Albrechts. 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.