HortScience. 12(5):508–509. 1977. Florida 1011 Tomato Breeding Line¹

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Florida 1011, an inbred line of tomato (Lycopersicon esculentum Mill.) was developed at the Agricultural Research and Education Center in Homestead and Bradenton in cooperation with the H. J. Heinz Company. The line is designated Florida 1011 in recognition of its Southern Tomato Exchange Program (STEP) designation (3).

The objective of our program was to develop an adapted, jointless tomato cultivar suitable for processing and machine harvest. Although Florida 1011 possesses a number of characters considered important for mechanical harvest it is not as concentrated in fruit set and maturity as desired. Fruit size is somewhat large for processing and fruit shape is variable.

Origin

The breeding stock designation of Florida 1011 is 2086-D1-S2-D2-BGBk CVStW (Fig. 1). This line, released in the F₅ generation, has demonstrated its usefulness as a breeding line in the disease resistant and quality improvement phases of the Florida tomato program and is reported to be useful in other programs elsewhere for similar purposes. It is not intended for use as a cultivar but has shown desirable combining ability for potential use in the production of F₁ hybrids.

Description

Florida 1011 produces a determinate

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⁸Research Consultant, A. L. Castle, Inc., 24401 S.W. 197 Ave., Homestead, FL 33030. vine with firm fruit and possesses the j_2 gene which confers the jointless pedicel character. It is resistant to diseases caused by *Verticillium alboatrum* Reinke and Berth. (verticillium wilt), *Fusarium oxysporum lycopersici* (Sacc.) Snyder and Hans. race 1 (fusarium wilt), *Stemphylium solani* Weber (gray leafspot) and some races of *Cladosporium fulvum* Cke. (leaf mold). Mature green fruit are uniform green, a slightly globe shaped, firm and resistant to cracking (Fig. 2). Fruit ripen to a uniform deep red color.

Outstanding characteristics

Florida 1011 has been widely distributed and tested in the 1969, 1970, and 1971 processing tomato trials. Among the 17 entries in the 1969 STEP trials it placed among the top 5 in overall merit. In the 1970 STEP trials the average yield at 4 southern region locations was 16.4 MT/ha.



Fig. 2. Florida 1011 tomato.

This was 5% less than the check 'Campbell 28'. In Florida however the average yield of Florida 1011 for 3 seasons was 71.3 MT/ha and for 'Campbell 28' was 65.7 MT/ha (2). Fruit size in Florida 1011 averaged 131 g whereas fruit size in 'Campbell 28' was smaller.

In field evaluations Florida 1011 produced large fruit and was comparable to 'Harvester' in marketable yield (Table 1). The concentration in fruit maturity was not considered superior to any other entry except 'Roma'. In processing quality characteristics Florida 1011 had a lower pH and higher soluble solids than other cultivars tested (Table 1) (1).

Florida 1011 represents a breeding



Fig. 1. Pedigree of Florida 1011. Disease resistances are designated by letters C = leaf mold, A = early blight, V = verticillium wilt, St = grey leafspot and W = fusarium wilt (race 1).

Table 1. Evaluation of processing tomatoes.

Cultivar	Mkt. yield (Mt/ha)	Fruit size (g)	Fruit with- out stems (%)	Maturity (fruit color) ^y (%)	Soluble solids (Brix)	pH ^x
Florida 1011	47.3a ^z	114a	75	73	5.9	4.3
Harvester	47.6a	42cd	84	81	4.3	4.6
Parker	38.6ab	34d	88	78	4.2	4.5
Roma	37.2ab	51bc	71	62	4.2	4.5
Chico Grande	32.9b	54b	44	71	3.8	4.6

²Mean separation within columns by Duncan's multiple range, 5% level.

 $^{y}\%$ of fruit, by wt, which exhibit red color at harvest.

^xDetermined on fresh fruit by Bates and Strobel (1).

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line which was developed to be used as a combination fresh market-processing tomato. Its characteristics of disease resistance and quality make it valuable in tomato improvement programs in many areas.

Availability

A limited amount of seed may be

obtained from Florida Foundation Seed Producers, Inc., P. O. Box 14006, University Station, Gainesville, FL 32611.

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HortScience. 12(5):509. 1977. **'Tophat' Blueberry**¹

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'Tophat' is a spherical dwarf plant, about 30 cm in diam (Fig. 1), and is released as an ornamental plant for gardens or containers.

Origin

This cultivar, selected in 1960 at the South Haven Experiment Station, and tested as '100-H,' originated from a cross of '19-H' \times '36-H.' Both parents have a wild Michigan lowbush selection of *Vaccinium angustifolium* Aiton in their lineage (Fig. 2).

Description

'Tophat' has small leaves, inherited from the lowbush ancester. While its stems are small and the internodes short, plants can be propagated from hardwood cuttings.

The fruit matures early, ripening about July 15 at South Haven, Michigan Yield has been medium in most years with about one-half pint (27 cc) of berries per bush. The berries are medium large, bright blue, firm with a small scar and good flavor.

Use and culture

There is increasing interest in using blueberries as ornamentals around the home. The plants are attractive with their white flower clusters in May, bright blue berries in July, and brilliant red leaves in the fall.

Blueberry plants are grown successfully only when exacting soil requirements of the plant are satisfied. Plants require acid soil with a pH range of 4.5 to 5.2, high organic matter content, and a continuous and adequate moisture supply. Birds are readily attracted to the ripening fruit. Ornamental plantings generally need to be protected by netting or other means during fruit ripening if one does not want birds to harvest the fruit. 'Tophat' offers unusual ornamental fruit plant opportunity when these exacting cultural requirements are fulfilled.



Fig. 1. 'Tophat' blueberry.

Availability

Plants of 'Tophat' may be obtained from the Hartmann Blueberry Nursery, Route 1, Grand Junction, Michigan 49056.



"LBS I" is a lowbush selection from northern Michigan "HBS" selections are highbush type "H" selections are highbush x lowbush hybrids Fig. 2. Pedigree of 'Tophat' blueberry.

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