

## Fresh Market Tomato Cultivar Observation Trial for Northern Indiana, 2001

Elizabeth T. Maynard

Northwest Commercial Horticulture Program, Purdue University North Central, Westville, IN 46391

Fresh market tomatoes were grown in an unreplicated trial at the Pinney-Purdue Agricultural Center in Wanatah, Indiana. The trial included 11 red beefsteak types, one yellow stuffing type, and one small-fruited yellow type. Details of cultural practices and data collection are listed below.

Plot size:	1 row by 16 ft. Rows on beds centered 5 ft apart, plants 2 ft apart in row.
Soil type:	Tracy sandy loam.
Fertilization:	120 lb./A N from urea and 170 lb./A K <sub>2</sub> O from 0-0-60 applied and incorporated before planting. Transplant starter solution supplied 1.2 lb./A N, 5.9 lb./A P <sub>2</sub> O <sub>5</sub> , and 2.0 lb./A K <sub>2</sub> O from 9-45-15 (1.5 lb. in 50 gal. water).
Planting:	Seeded April 17 in 128-cell flats, transplanted May 30. Trained in a trellis-weave system except for Tigerette which was too short.
Weed control:	4-ft wide black plastic mulch on bed, Sencor 4F between plastic at 0.5 pt./A June 11, and hand-weeding.
Disease control:	Quadris, 5 oz./A July 6, Aug. 14; Bravo Weather Stik, 2 pt./A, July 18, Aug. 3; Kocide, 2 pt./A, July 18, 27, Aug. 3, 20.
Insect control:	Dipel, 1 lb./A, Aug. 3, 20.
Irrigation:	Drip irrigation beneath plastic mulch as needed.
Harvest:	Fruit harvested Aug. 10, 17, 27-30, Sept. 5, 10-11. Graded into marketable (U.S. No. 1 and No. 2) and culls.
Data collected:	Weight and number of marketable fruit; weight of culls.

Results are reported in Table 1. Marketable yield of the beefsteak cultivars ranged from 11.5 to 18.4 lb. per plant, equivalent to 500 to 800 cwt per acre. The highest-yielding cultivars were Sun Leaper and Sunstart, both with more than 18 lb. per plant. The cultivars Fabulous, Florida 47, Florida 91, JTO 00197, RFT 6153 and Royal Mountie all yielded within 10% of the well-known Mountain Spring, which produced 15.2 lb. per plant. JTO 99203 and EX 1703292 were the lowest yielding beefsteak cultivars. If harvests had been continued beyond Sept. 11 it is likely that the rankings for marketable yield would have differed since later-maturing varieties were still producing marketable fruit. Average fruit weight for beefsteak types ranged from 0.36 lb. to 0.59 lb. Florida 91 and Fabulous produced the largest fruit, 0.59 lb., and 0.58 lb., respectively. Cultivars with fruit size within 10% of Mountain Spring (0.5 lb.) included Florida 47, JTO 99197, JTO 99203, RFT 6153 and Sunstart. Sun Leaper and Royal Mountie produced the smallest fruit. The earliest cultivars were Sunstart and Royal Mountie, both of which produced about 1/2 of marketable yield by Aug. 29. The latest cultivars were Florida 91, Florida 47, and JTO 99203, which produced less than 1/5 of marketable yield by Aug. 29. Culls represented from 11% to 32% by weight of all fruit. JTO 99203 had the greatest percentage of culls due to small size and cracking. All beefsteak cultivars were semi-determinate and reached a height of 3 to 4 ft. Cultivars with the most vigorous vines on Sept. 7 included Fabulous, Florida 91, Florida 47, and RFT 6153.

Two specialty cultivars were included in the trial. Tigerette is a small determinate plant less than 2 ft. tall with yellow-green foliage. The pale yellow egg-shaped fruit averaged about 1.8 in. long and 1.6 in. wide and weighed about 1.5 oz. each. Although the low yield makes it unsuitable for commercial production, it might have potential as a novelty bedding plant where it could be promoted as a variety for patio planters, or as an 'edible ornamental' for its unusual foliage color. Yellow Stuffer is an indeterminate plant producing yellow, jelly-less fruit with seeds attached to a central core, similar to a pepper. It may have a place in novelty tomato markets but probably would require substantial promotion, including recipes for use, before significant demand would develop.

Table 1. Yield and fruit size of thirteen tomato varieties in an unreplicated trial, Wanatah, Indiana, 2001.

Cultivar	Co.	Marketable Yield per Plant		Average Wt. per Fruit (lb.)	Early Marketable Yield per Plant (8-10 to 8-30)		Total Yield per Plant (lb.)	% Culls	
		Number	Weight (lb.)		Number	Weight (lb.)			
EX 1703292	FS	28	13.7	0.49	7.1	4.0	29	17	18
Fabulous	SW	29	16.6	0.58	10.3	6.4	38	19	15
Florida 47	AS	31	16.2	0.53	3.6	2.0	12	18	11
Florida 91	AS	27	16.3	0.59	2.4	1.4	8	19	14
JTO 99197	JS	32	14.3	0.45	11.9	6.1	42	17	17
JTO 99203	JS	23	11.5	0.50	3.5	1.9	16	17	32
Mountain Spring	SY	31	15.2	0.50	5.3	3.2	21	19	18
RFT 6153	SY	32	15.6	0.49	7.3	3.6	23	19	20
Royal Mountie	SW	45	16.2	0.36	18.6	7.9	48	19	14
Sun Leaper	SY	42	18.4	0.43	11.6	5.9	32	22	17
Sunstart	AS	40	18.1	0.45	21.3	9.5	52	22	17
Tigerette	ST	44	4.1	0.09	15.8	1.4	34	5	14
Yellow Stuffer	ST	25	10.4	0.42	7.0	2.7	26	14	23
Grand Mean		33	14.4	0.45	9.7	4.3	30	17	18