



Horticulture Program HORT-00-2

2000 FRESH MARKET TOMATO EVALUATION

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This Fresh Market Tomato trial compared 12 cultivars using 4 replicates of each cultivar. Objectives were to evaluate potential fresh market cultivars for total yield, average fruit size, color, percent soluble solids, grade and quality attributes and for their overall suitability in southern Ohio growing seasons. The plots were located at the Ohio State University Enterprise Center research and demonstration plots in Hillsboro, Ohio.

Methods:

Planting: Seeded April 13, 1999 into 98-cell Pro Trays using a peat vermiculite soilless mix. Cells were thinned as needed to 1 plant /cell. Plants were transplanted to the field on May 26, 2000 at Hillsboro, Ohio using a Water Wheel Planter.

Spacing: Rows were 5 feet apart, with plants set into raised beds at an 18" spacing between plants. The beds were covered with black plastic mulch with trickle irrigation under the mulch prior to planting.

Soil Type: Haubstadt Silt Loam

Fertilizer: Applied 120 lbs. N., 120 lbs. P₂O₅ and 120 lbs. K₂O per acre prior to planting according to soil test recommendations. 20-20-20 (1 lb. / 100 gal. 8 oz. per plant) with transplant water.

Weed Control: 2 pt/A Treflan 4 E tank mixed with .51 lb./A Sencor 75 DF pre plant incorporated prior to laying the black plastic mulch. Hand hoed and cultivated as necessary.

Pest Management: 2.7 lb./acre Bravo Ultrex rotated with 6.2 fl. oz./acre of Quadris. 8 oz./acre Pounce, 1.33 qt./acre Thiodan and 1 qt./acre Sevin XLR was applied with fungicide application throughout the growing season.

Irrigation: 5/30, 6/6, 6/15, 6/23, 6/30, 7/10, 7/20, 7/25, 8/8, 8/17, 8/25

Harvest: August 24 and September 2

Results:

There was average fruit set and yield throughout the harvest season. Plant health and quality remained good through the season. Early season harvest yields ranged from 7739 lbs. to 36591 lbs. per acre. The top three early performers were ACX 12 B, BHN 399, and ACX 12 A all showing potential for early season yields. Total Marketable Fruit; yields for the replicated cultivars ranged from 46477 lbs. to 78239 lbs. per acre. Some cultivars the show potential were Florida 91, BHN 399, ACX 12B and Royal Mountie. The average fruit weight ranged from .046 lbs. to 0.52 lbs. per fruit.

The long-range goal is to utilize the existing agriculture infrastructure of southern Ohio to introduce these Fresh Market tomato varieties as an alternative crop for Ohio producers.

Table 1. Early harvest yields and comparisons for the replicated Tomato Cultivar Evaluation, Hillsboro, Ohio 2000

	Total	Total 20 lb	Lg. 20 lb	Med. 20 lb	Sm. 20 lb	Seed
Cultivar	lbs./A	Box/A	Box/A	Box/A	Box/A	Source
ACX 12 B	36591.00	1825.50	103.41	717.00	1009.10	AC
BHN 399	35182.00	17.59.1	161.93	723.90	873.30	BHN
ACX 12 A	32295.00	1614.80	22.16	400.60	1192.00	AC
Royal Mountie	30273.00	1513.60	80.12	556.30	877.30	SW
Prime Time	25966.00	1298.30	278.41	697.20	322.70	HR
Shady Lady	22727.00	1136.40	31.82	551.70	522.80	SS
Floralina	19773.00	988.60	61.37	401.70	525.60	PS
Mountain Fresh	16955.00	847.70	11.36	452.30	384.10	HM
C4785	14909.00	745.50	10.80	277.80	456.80	BHN
Florida 91	11432.00	571.60	145.46	330.10	96.00	ASG
BHN 255	7739.00	386.90	137.50	130.80	119.30	BHN
LSD	9300.80	465.04	157.07	259.74	402.78	

Table 2. Yields from replicated Fresh Market Tomato cultivar trials: Ohio State University Extension Enterprise Center, Hillsboro, Ohio 2000

	Total	Total 20 lb	Lg. 20 lb	Med. 20 lb	Sm. 20 lb	Avg.	Total	% Soluble
Cultivar	lbs./A	Box/A	Box/A	Box/A	Box/A	Fr. Wt.	Fr./A	Solids
Florida 91	78239.00	3911.90	548.30	1325.00	2038.60	0.52	150000	4.53
BHN 399	73023.00	3651.10	316.50	1357.40	1977.30	0.51	145455	4.40
ACX 12 B	72239.00	3611.90	344.90	1245.50	2021.60	0.5	141591	3.97

Royal Mountie	69943.00	3497.20	235.80	1208.50	2052.80	0.43	160682	3.67
Prime Time	65955.00	3297.70	444.90	1458.50	1394.30	0.51	128864	5.23
Mountain Fresh	65659.00	3283.00	96.00	981.80	2205.10	0.46	143636	4.40
ACX 12 A	60163.00	3006.80	125.80	732.40	2121.60	0.44	136364	4.37
Floralina	60136.00	3006.80	119.90	993.80	1893.20	0.47	129318	4.50
BHN 255	53455.00	2372.70	401.10	909.10	1362.50	0.49	109091	4.27
C4785	48898.00	2444.90	34.10	538.60	1872.20	0.44	113409	4.03
Shady Lady	46477.00	2323.90	81.80	867.00	1375.00	0.46	100909	4.70
LSD	30123.00	1506.10	300.75	615.29	0.00	0.05	0	N/A