

Vegetarian Newsletter

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Eat your Veggies!!!!

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Tomato Yellow Leaf Curl Resistant Variety Trial North Florida Research and Education Center-Quincy, FL Fall 2008

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During the 2007-2008 production season 31,500 acres of tomatoes were harvested in Florida with a farm-gate value of over \$619 million. Total production was 45.5 million 25-pound boxes. Tomatoes accounted for about 26% of the total value of vegetables grown in Florida during that production season making it the most valuable vegetable crop in Florida. In the panhandle area of Florida, tomatoes are by far the most valuable of the vegetable crops.

A tomato variety trial was conducted at NFREC, Quincy during the fall season of 2008 to evaluate fresh market (large rounds) tomato varieties and potential new hybrids. The replicated trial started out with 23 entries but due to a very high incidence of tomato yellow leaf curl virus (TYLC), only 5 entries are being reported on. Growing conditions were very poor. Plants received extensive damage from wind rain due to a tropical storm. Crop also matured much later than normal due to damage.

Entries were seeded on 26 June into planter flats containing a commercial media. Cell size of flats was 1.5 in by 1.5 in by 2.5 in. Seedlings were fertilized weekly with a dilute solution of 15-16-17 (N-P₂O₅-K₂O) peat-lite special. Plants were hardened off before transplanting by reducing water and fertilizer. Production was on raised full bed mulched system. Beds were fumigated with methyl bromide/chloropicrin (67/33) at broadcast rate of 200 lbs/acre before mulch (white on black Blockade) application. Irrigation was with single drip tube placed 6 inches off center. Total fertilization was 195-60-195 lbs/acre of N-P₂O₅-K₂O. Row spacing was 6 feet between rows with a finished bed width of 34 inches. Transplanting was done on 5 August. Plots consisted of 12 plants spaced 20 inches apart. Plots were tied 4 times and maintenance pesticides were used as needed to control pest problems. Design was a random complete block with 4 replications. Fruit were harvested at or beyond the mature-green stage on 4 and 11

November. At each harvest fruit were graded and sized into medium, large and extra-large fruit. Weights and fruit numbers were recorded for each size along with cull weight.

Incidence of TYLC in susceptible entries was nearing 100% by harvest time. Total yields ranged from 490 boxes/a for ‘Tygress’ to 897 boxes/a for ‘Tycoon’ (Table 1). As comparison, ‘BHN 602’, a widely used variety in fall, only produced about 100 boxes/a total. Mean fruit size ranged from 5.7 oz for ‘Tycoon’ to 4.7 oz for ‘Tygress’.

Table 1. Yield and fruit size of TYLC resistant varieties trialed at North Florida Research and Education Center, Quincy, Florida, Fall, 2008.

Entry	Yield (25 lb boxes/a)		Mean fruit wt. (oz)
	Extra-large size	Total	
Tycoon	547 a ^z	897 a	5.7 a
BHN 765	380 ab	810 ab	5.2 a
Inbar	396 ab	737 ab	5.5 a
Security 28	342 ab	645 ab	5.5 a
Tygress	189 b	490 b	4.7 b

^z Mean separation using Duncan’s multiple range test, 5% level.