

UT Roma Tomato Variety Evaluation, 2011

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A Roma tomato variety trial was conducted on-farm in Evensville, TN in the spring of 2011. Two replications of thirteen tomato varieties were transplanted on May 24 on 6 ft. centers with an in-row spacing of 20 in. A pre-plant fertilizer of 1000-1300 lbs of 10-20-23 was applied. Soil was fumigated with 80 lbs of Pic-Clor 60.

Tomatoes were harvested and graded three times on August 12, 22, and September 1. Number and weights of marketable and unmarketable fruit were recorded. Vine strength, vine cover, and susceptibility to bacterial disease were noted on August 12. Yield in lbs/acre was calculated on a plant spacing of 20 in. in-row with 6 ft. centers, totaling 4,235 plants/acre.

'NC10202' and XS3073' were the top producers by marketable weight with over 1,400 boxes/acre and produced some of the larger sized fruits at 0.23 and 0.24 lbs. 'NC10202' and 'Plum Crimson' were the top producers by marketable number of fruit with over 160,000 fruit /acre. 'BHN 768', 'BHN 685', and 'NC10200' had the largest fruit (0.25 lbs) but were some of the lowest yielding varieties with less than 870 boxes/acre. 'NC10202' and 'NC10203' yielded the most total fruit by weight with 29 tons/acre and 'Plum Crimson' and 'NC10201' yielded the most total fruit by number with over 306,000 fruit/acre. While not statistically significant, 'XS3073', 'Patria' and 'NC10202' had a tendency to produce the lowest percentage of culls with around 30% (Table 1). Vine strength of 'NC10203' was very strong and this variety also had very good vine cover along with 'Plum Regal' and 'NC10200'. 'Plum Regal' and 'Picus' were the least susceptible to bacterial disease (Table 2).

TABLE 1. ROMA TOMATO VARIETY TRIAL YIELD¹ RESULTS, EVENSVILLE, TN, 2011

Variety	Seed Source	Mkt. Wt (boxes/A) ²	Mkt. No. (no./A)	Avg. Frt. Size (lbs)	Total Wt. (tons/A) ³	Total No. (no./A)	Cull (% by no.)
NC10202	NCSU	1,609 a ⁴	172,365 a	0.23 bcd	29 a	276,758 ab	30.8
XS3073	Harris Moran	1,410 a	145,896 ab	0.24 abc	25 abcd	248,171 abcd	29.5
Patria	Harris Moran	1,391 ab	150,131 ab	0.22 cde	25 abcd	272,946 abc	30.0
Plum Crimson	Harris Moran	1,347 abc	162,413 a	0.21 def	28 f	308,520 a	39.7
Plum Regal	Seedway	1,338 abc	143,920 ab	0.25 ab	26 abc	249,442 abcd	36.6
NC10203	NCSU	1,304 abcd	140,179 ab	0.24 abc	29 a	243,089 abcd	44.8
Picus	Seedway	1,284 abcd	142,508 ab	0.23 cde	25 abcd	247,960 abcd	35.7
NC10201	NCSU	1,149 abcd	148,649 ab	0.18 g	24 bcdef	306,191 a	39.4
Monticello	Seedway	898 bcd	107,358 bc	0.20 efg	22 cdef	235,466 bcde	49.0
NC10200	NCSU	866 cd	86,183 c	0.25 ab	24 abcde	203,704 cde	55.9
BHN 685	Seedway	862 cd	85,735 c	0.25 a	19 f	166,812 e	42.4
Sonoma	Seedway	819 d	104,746 bc	0.19 fg	20 ef	228,102 bcde	48.1
BHN768	Seedway	811 d	78,772 c	0.25 a	21 def	180,412 de	51.0
P-value		0.038	0.018	0.021	0.010	0.018	0.224

¹Yield per acre was calculated by assuming 4,235 plants per acre with an in-row spacing of 20 in. on 6 ft. centers.

² Marketable weight is reported as 25 lb boxes/acre.

³ Total weight and number is marketable and unmarketable fruit yield combined.

⁴ Means within columns followed by the same letter are not significantly different at $P < 0.05$ by LSD.

TABLE 2. ROMA TOMATO VARIETY TRIAL PLANT CHARACTERISTICS, EVANSVILLE, TN, 2011

Variety	Vine Strength	Vine Cover	Bacterial Susceptibility
NC10202	average	medium	sensitive
XS3073	average	medium	sensitive
Patria	average	medium	sensitive
Plum Crimson	weak	open	v. sensitive
Plum Regal	strong	v. good	tolerant
NC10203	v. strong	v. good	medium
Picus	strong	good	tolerant
NC10201	average	open	v. sensitive
Monticello	average	open	medium
NC10200	strong	v. good	medium
BHN 685	average	medium	medium
Sonoma	weak	open	medium
BHN768	average	open	v. sensitive

¹Vine strength scale: very weak, weak, average, strong, very strong.

²Vine cover scale: very open, open, medium, good, very good.

³Bacterial susceptibility scale: very sensitive, sensitive, medium, tolerant, very tolerant.