

Heirloom Tomato Variety Evaluation



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Table 1. Summary of cultural practices used for variety trial of Heirloom grown with drip/seepage irrigation in Immokalee, FL. during winter 2011.

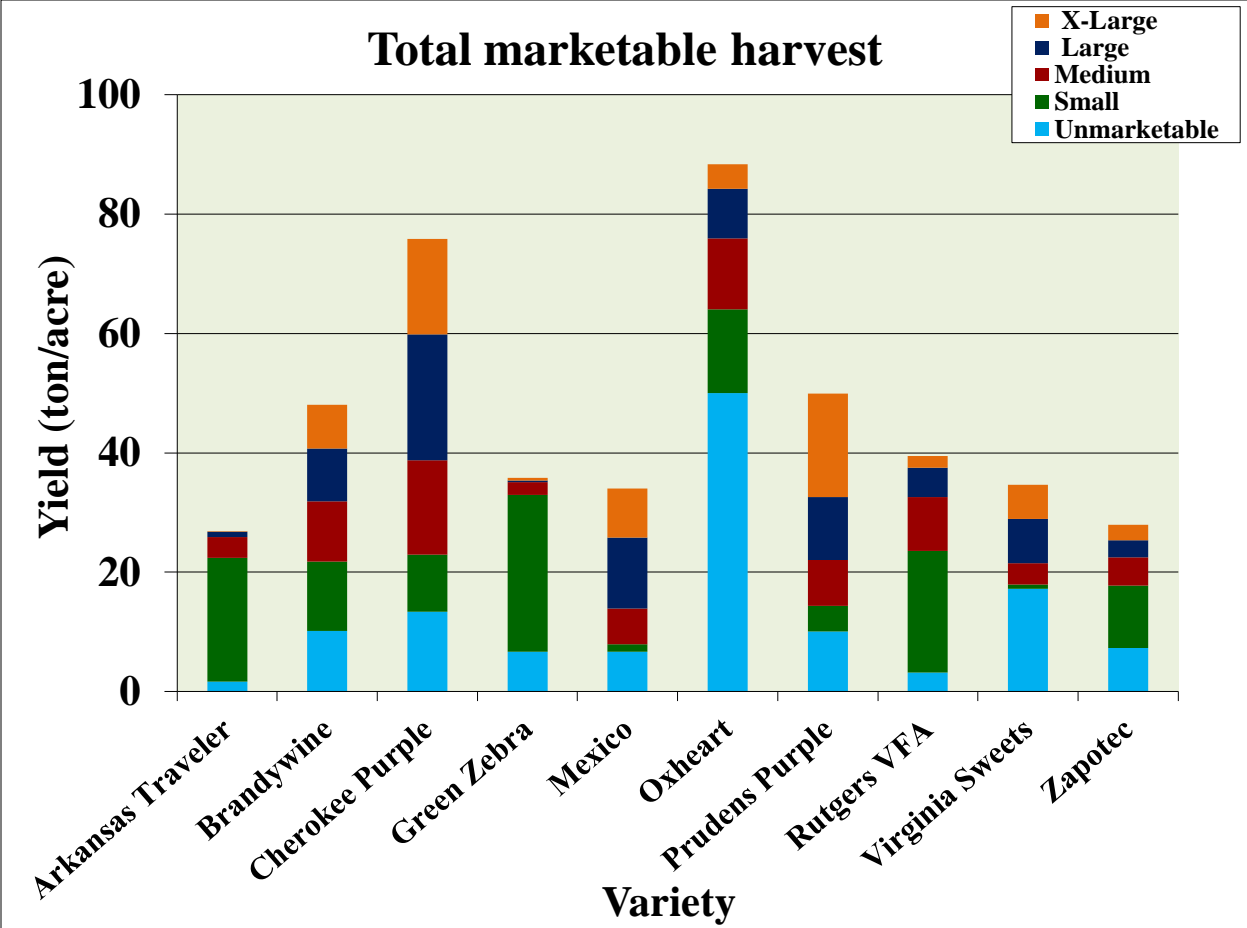
Field history	
Location	Immokalee, FL.
Experimental design	RCBD (4 replications)
Irrigation	Drip-seepage
Plot size	9.16 ft (5 plants)
Harvest size	9.16 ft (5 plants)
Planting date	3 Nov. 2011
Fumigation	Telone/Chloropicrin (40:60)@120 lb/acre
Plastic mulch	Black
Linear ft per acre	7,260
Bed spacing (center to center)	6 ft
Bed height	8 in
Bed width	30 in
Plant population	3,967
Distance between plants	22 in
Stakes	6 ft
Row run	North - South
Harvest date	
1st	02 Feb. 2012
2nd	09 Feb. 2012
3rd	14 Feb. 2012
4th	17 Feb. 2012
5th	23 Feb. 2012
6th	29 Feb. 2012
7th	07 Mar. 2012
8th	13 Mar. 2012
9th	20 Mar. 2012
10th	27 Mar. 2012
Planting to 10th harvest	21 weeks

Table 2. Sources of heirloom tomato seeds

Variety	Company
Arkansas Traveler	Annie's Heirloom Seeds
Brandywine	Annie's Heirloom Seeds
Cherokee Purple	Annie's Heirloom Seeds
Green Zebra	Annie's Heirloom Seeds
Mexico	Gary Ibsen's Tomatofest
Oxheart	Gary Ibsen's Tomatofest
Prudens Purple	Johnny's Selected Seeds
Rutgers VFA	El Dorado Heirloom Seeds
Virginia Sweets	Tatiana's TOMATObase
Zapotec	White Flower Farm

Table 3. Summary of temperature and total rainfall in Immokalee, FL. during winter 2011.

Period	Temperature (°F)			Total rainfall (in)
	Average	Min	Max	
Nov. 2011	69.1	58.3	82.8	0.1
Dec. 2011	66.1	53.6	80.5	0.6
Jan. 2012	61.4	45.9	78.8	0.0
Feb. 2012	68.0	56.9	82.1	0.9
Mar. 2012	69.8	56.2	84.9	0.6
Average/Total	66.9	54.2	81.8	2.2



Tomato size range (oz): X-Large = ≥ 9 ; Large = 6 - 9; Medium = 4 - 6; Small = ≤ 4

Fig. 1. Total harvest marketable and unmarketable yield categories for selected heirloom tomato varieties grown in Immokalee, FL. during winter 2011.

Table 4. Total harvest marketable and unmarketable yield categories for selected heirloom tomato varieties grown in Immokalee, FL. during winter 2011.

Variety	Marketable yield (ton/acre)				Unmarketable		
	x-large	Large	Medium	Small	Total	Gray wall (%)	Total (ton/acre)
Arkansas Traveler	0.1d ^z	0.9f	3.5ef	20.7b	25.1de	37.1cd	1.7f
Brandywine	7.4b	8.8bc	10.1bc	11.6c	37.9b	44.5cd	10.2cd
Cherokee Purple	16.0a	21.1a	15.8a	9.5c	62.5a	38.6cd	13.4bc
Green Zebra	0.0d	0.2f	2.2f	26.2a	29.1cd	63.7ab	6.7def
Mexico	8.2b	11.9b	5.9de	1.3d	27.4d	16.0de	6.7de
Oxheart	4.1bcd	8.3cd	11.9b	14.0c	38.3b	84.3a	50.0a
Prudens Purple	17.4a	10.5bc	7.6cd	4.3d	39.9b	10.2e	10.1cd
Rutgers VFA	2.0cd	4.9de	9.1cd	20.3b	36.3bc	49.1cd	3.2ef
Virginia Sweets	5.8bc	7.4cd	3.5ef	0.8d	17.5e	51.2bc	17.2b
Zapotec	2.6cd	2.9ef	4.7ef	10.5c	20.7de	26.4de	7.3de
P. value	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Sig.	**	**	**	**	**	**	**

Tomato size range (oz): X-Large = ≥ 9 ; Large = 6 - 9; Medium = 4 - 6; Small = ≤ 4

^z Within columns, means followed by different letters are significantly different according to Duncan's Multiple Range Test at 5%.

**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.

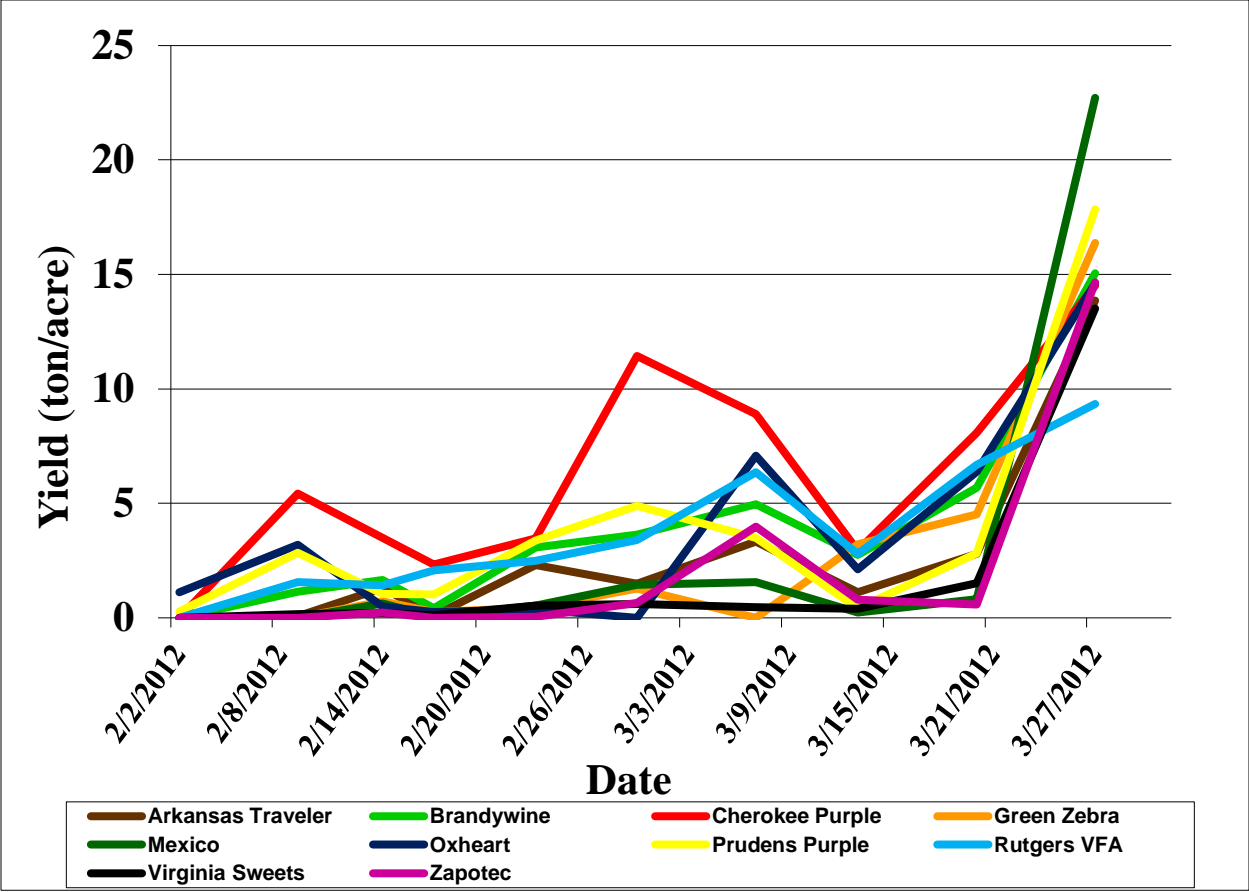


Fig. 2. Total marketable yield of heirloom tomato varieties grown in Immokalee, FL. during winter 2011.

Table 5. Fusarium crown rot (FCR) incidence at final harvest (27 Mar. 2012) of heirloom tomato varieties grown in Immokalee, FL. during winter 2011.

Variety	FCR disease severity rating (%) ^z
Arkansas Traveler	15.0±19.1
Brandywine	50.0±38.3
Cherokee Purple	25.0±10.0
Green Zebra	15.0±30.0
Mexico	0.0±0.0
Oxheart	50.0±38.3
Prudens Purple	15.0±30.0
Rutgers VFA	50.0±34.6
Virginia Sweets	5.0±10.0
Zapotec	5.0±10.0
P value	0.07
Sig.	ns

^zFCR- Fusarium crown rot (*Fusarium oxysporum* f.sp.*radicis-lycopersici*) disease assessment as percentage of symptomatic plants from the total plants/plot.

**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.

Table 6. Blind evaluation of heirloom tomato fruits grown in Immokalee, FL. during winter 2011. (Blind evaluation was calculated from the contribution of 22 participants on the basis of taste preferences: 1 = first place; 2 = second place; 3 = third place).

Variety	Taste test rating (%)		
	1	2	3
Arkansas Traveler	4.5	9.1	4.5
Brandywine	-	-	18.2
Cherokee Purple	13.6	4.5	13.6
Green Zebra	13.6	27.3	13.6
Mexico	-	4.5	-
Oxheart	-	4.5	-
Prudens Purple	18.2	18.2	4.5
Rutgers VFA	22.7	9.1	18.2
Virginia Sweets	27.3	9.1	22.7
Zapotec	-	13.6	-