

**Evaluation of FCR-resistant Tomato Cultivars under
Commercial Conditions Southwest Florida
Spring 2010**



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Table 1. Summary of cultural practices used for FCR variety evaluation grown with seepage irrigation in Estero, FL. during spring 2010.

Location	Estero, FL.
Experimental Design	CRBD (4 reps)
Irrigation	Seepage
Plot size	18.3 ft
Planting Date	29-Dec-09
Fumigation	Methyl Bromide: Chloropicrin (50:50 @ 100 lb/acre)
Mulch	Metalized/Silver
Linear ft per acre	7,260
Bed Height	8 in
Bed Width	32 in
Bed Spacing	6 ft
Plant Spacing	22 in
Row run	North – South
Plant population	3,967
Harvest Date	
1st	28-Apr-10
2nd	11-May-10
Planting to 2nd pick	18 weeks

Table 2. Seed sources and pruning

Varieties	Company	Number of suckers pruned
BHN 585	BHN	3
Crown Jewel	Seminis	3
HMX 8849	Harris Moran	3
Sebring	Syngenta	3
Soraya	Syngenta	3
FL 47	Seminis	3

Table 3. Summary of temperature and total rainfall in Estero, FL. during spring 2010.

Period	Temperature (°F)			Total rainfall (inch)
	Average	Min	Max	
January	56.7	44.5	71.2	2.1
February	58.0	46.3	71.2	2.7
March	61.7	48.9	75.3	8.6
April	71.3	60.8	83.1	7.2
May	80.1	69.8	92.6	0.0
Average/Total	65.6	54.1	78.7	20.6

Table 4. Bacterial disease assessment for selected tomato varieties grown in Estero, FL. during spring 2010.

Variety	Disease Severity Rating (%) ^z
BHN 585	47.5b ^y
Crown Jewel	50b
HMX 8849	47.5b
Sebring	50b
Soraya	67.5a
FL 47	37.5b
P value	0.0064
Sig.	**

^z Bacterial disease assessment as disease severity (percentage symptomatic tissue) for bacterial spot was performed on May 10, 2010. The rating did not distinguish between the bacterial spot caused by *Xanthomonas perforans* and bacterial speck caused by *Pseudomonas syringae* pv. *tomato*.

^y 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.

Table 5. First harvest marketable fruit yield by size categories for FCR resistance selected tomato varieties grown in Estero, FL. during spring 2010.

Variety	Marketable Yield				Unmarketable
	5/6	6/6	6/7	Total	
	----- (25-lb boxes/acre) -----				
BHN 585	457b ^z	128	56	641	132a
Crown Jewel	443b	191	60	694	76b
HMX 8849	945a	111	24	1,080	63b
Sebring	477b	114	61	653	80b
Soraya	527b	148	39	713	95ab
FL 47	492b	137	41	669	64b
P value	0.02	0.63	0.14	0.12	0.05
Sig.	*	ns	ns	ns	*

^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.

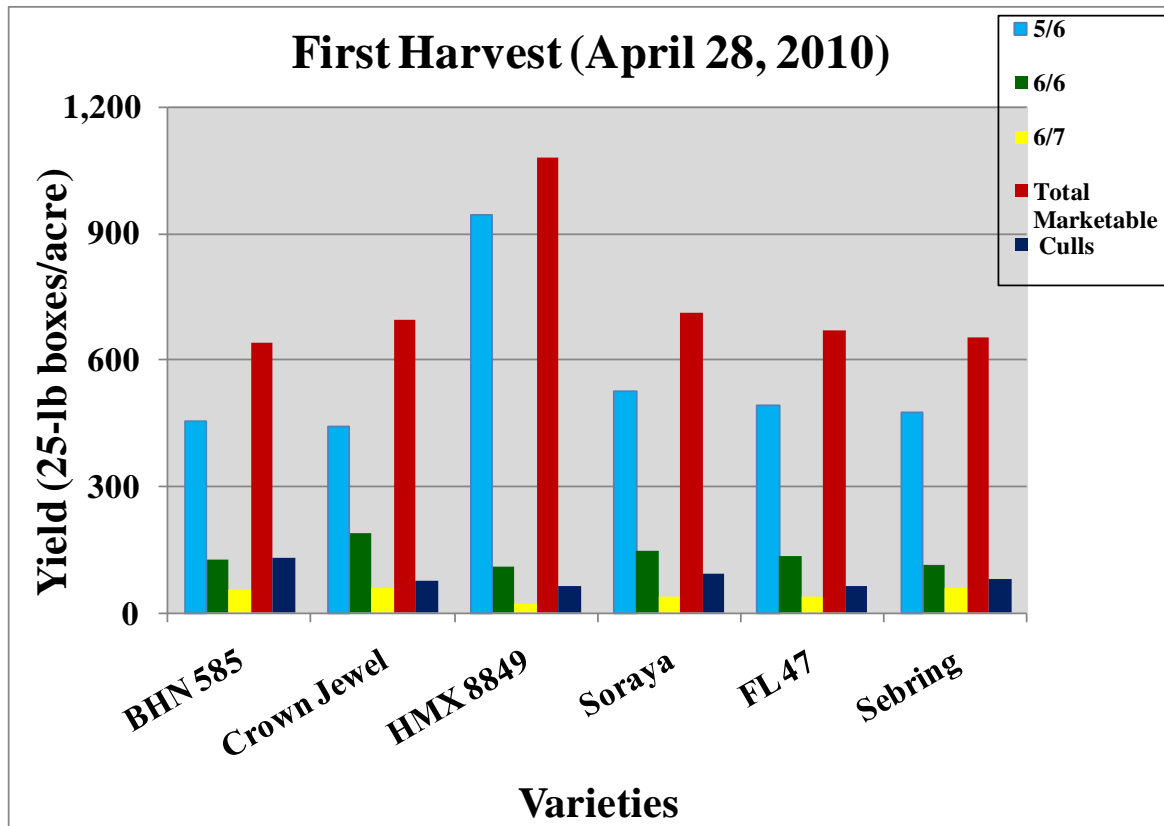


Table 6. Second harvest marketable fruit yield by size categories for selected FCR resistance tomato varieties grown in Estero, FL. during spring 2010.

Variety	Marketable Yield			Total	Unmarketable
	5/6	6/6	6/7		
	----- (25-lb boxes/acre) -----				
BHN 585	379 ^z	234	225ab	838ab	499
Crown Jewel	417	249	230ab	896a	402
HMX 8849	517	211	146c	874ab	343
Sebring	423	267	271a	960a	324
Soraya	498	222	189bc	909a	266
FL 47	391	182	161bc	734b	343
P value	0.12	0.08	0.01	0.05	0.09
Sig.	ns	ns	*	*	ns

^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.

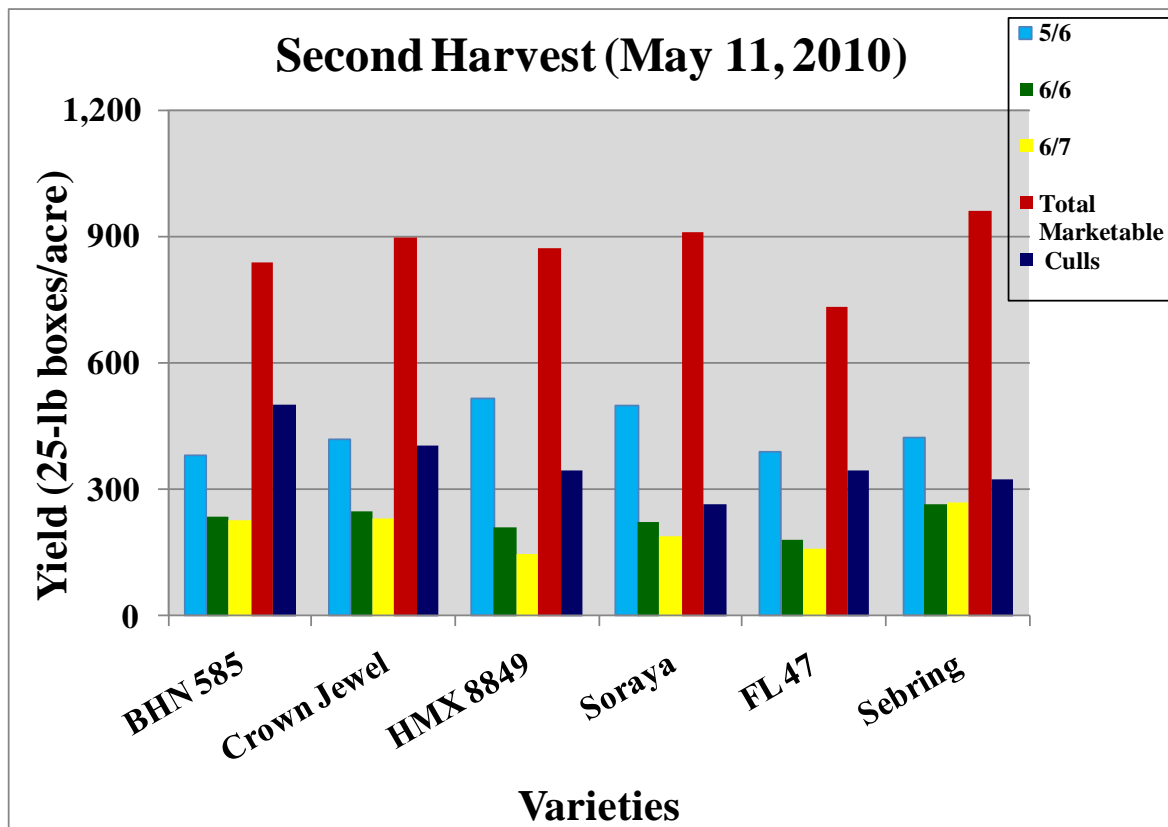


Table 7. Total harvest marketable fruit yield by size categories for FCR resistance selected tomato varieties grown in Estero, FL. during spring 2010.

Variety	Marketable Yield				Unmarketable
	5/6	6/6	6/7	Total	
	----- (25-lb boxes/acre) -----				
BHN 585	836b ^z	362	280ab	1,479b	631a
Crown Jewel	860b	440	290ab	1,591b	478ab
HMX 8849	1,463a	322	169c	1,954a	407b
Sebring	900b	381	332a	1,613b	404b
Soraya	1,025b	370	228bc	1,623b	362b
FL 47	883b	319	202c	1,403b	408b
P value	0.002	0.27	0.002	0.04	0.04
Sig.	**	ns	**	*	*

^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.

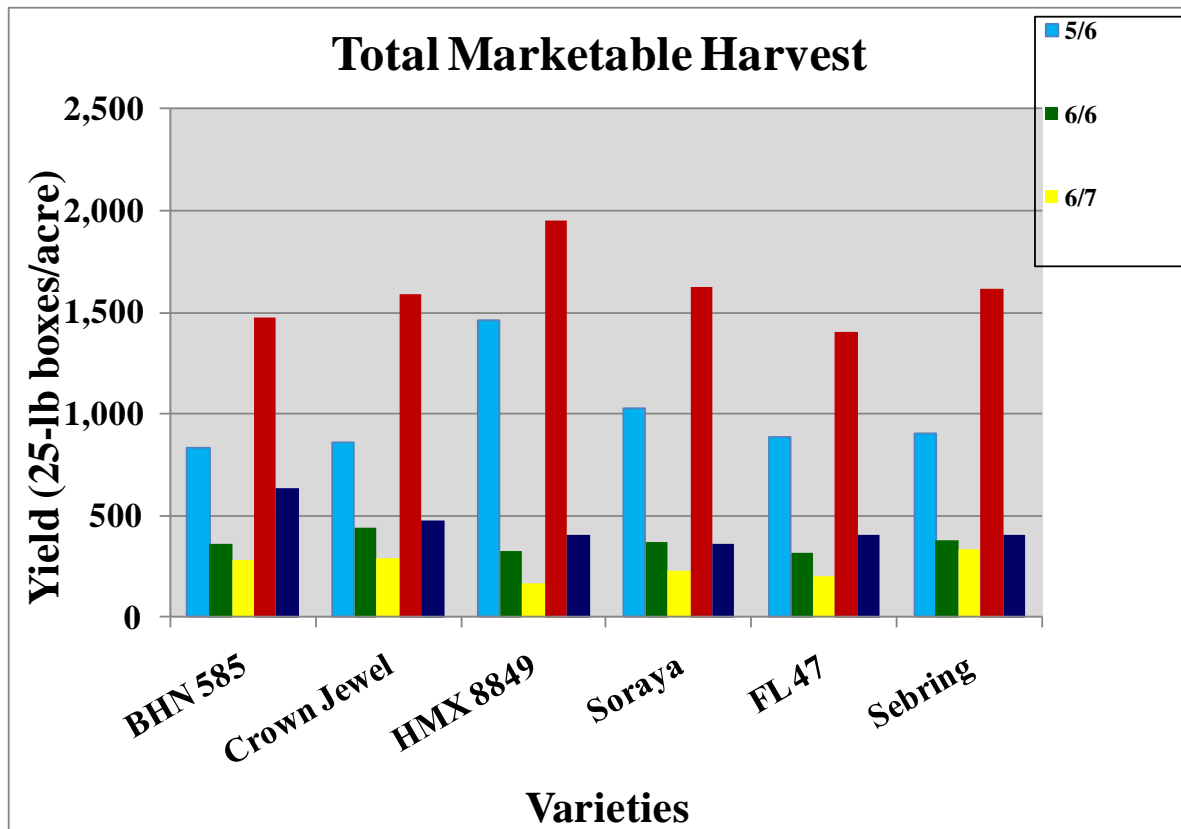


Table 8. Tomato FCR post-harvest evaluation of fruit firmness at table ripe stage for the first harvest for selected tomato varieties grown in Estero, FL. during spring 2010.

Variety	Deformation (Firmness/mm)	Color (1-10)
BHN 585	1.99bc ^z	6.0b
Crown Jewel	2.05c	6.0b
HMX 8849	1.75bc	6.0b
Sebring	1.63b	5.0c
Soraya	1.20a	4.0d
FL 47	1.82bc	7.0a
P value	0.0006	0.01
Sig.	**	**

^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.

Table 9. Field FCR variety blind evaluation, spring 2010 (tomato plant and fruit evaluation was calculated from the contribution of 14 participants based in rating scale 1-5; 1= very poor and 5 = very good).

Field Tomato Plants and Fruit Evaluation							
Variety	Earliness type	Plant vigor	Fruit size	Firmness	Fruit quality	Yield potential	Overall rate
BHN 585	3.5a ^z	3.3b	2.5c	2.9d	2.6c	3.0b	2.6d
Crown Jewel	2.8c	4.3a	2.9bc	3.2cd	3.3b	3.2b	3.0cd
HMX 8849	3.5a	4.1a	4.0a	4.3a	3.5b	4.5a	4.0a
Sebring	3.0abc	4.1a	3.2b	4.0a	3.3b	3.4b	3.3bc
Soraya	2.9bc	3.9a	3.2b	3.6bc	3.7ab	4.1a	3.7ab
FL 47	3.2abc	3.9a	4.1a	3.8ab	4.1a	3.5b	3.8a
P values	0.04	0.002	0.0001	0.0001	0.0001	0.0001	0.0001
Sig.	*	**	**	**	**	**	**

^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.