

Heirloom Tomato Cultivar Evaluation at Saint Charles, Illinois – 2004

***Denise Cimmarrusti, William H. Shoemaker, University of Illinois**

As many new varieties of tomato become available on the market, choosing the right one becomes increasingly more important. Not only does selection affect the consumer, it can also have an impact on the grower.

In determining selection, one must think of the traits each cultivar offers. Heirloom tomatoes, like hybrids, are unique in their offerings, and each needs to be carefully selected based on the cultivar's characteristics and the grower's management style. Traits such as: yield, disease/crack resistance, and color/flavor all play an important role in the selection process. Choosing the right cultivar, in the right location, for the right season will influence marketability and the perception of heirloom tomatoes.

This evaluation was established at the University of Illinois, Saint Charles Horticulture Research Center to evaluate heirloom tomatoes and their characteristics. The data collected provides a comparative assessment of these characteristics. With this being the third season of growing heirloom tomatoes in an evaluation, varieties were sorted based on their unique characteristics. Cultivar chosen for this years' evaluation were based on specific traits. These included cultivars which had previously shown the following: good crack resistance, moderate yield capability, adequate size/weight, and good disease resistance.

Materials and Methods

Transplant Production

Fifty-five heirloom tomato cultivars were seeded in the greenhouse facilities on April 2. Seedlings were grown in 50 cell plastic trays. Plants were transplanted into the field on May 14 and watered in with a nutrient starter solution. (9-18-9@2gal./100 gal. H2O)

Plot Establishment

Plot was sprayed with the herbicide Treflan 1qt/A aia, ppi on May 11, and disked in. The trial was planted on black plastic mulch covered beds with trickle irrigation lines beneath. The evaluation had six rows, each one hundred feet long, spaced 6 feet apart, on center. Plots consisted of two plants per cultivar, planted two feet apart with 5 feet between cultivars. Plants were supported during the growing season by five foot tall, #10 reinforced concrete wire caging. For extra support, each two cages were then staked together using wooden stakes, which were then secured together with cable ties. No additional fertilization was used throughout the growing season. At planting, all transplants were pruned, removing all suckers below their first flowering truss.

**UI Kane County Master Gardener; Sr. Research Specialist, Food Crops, Dept of NRES.*

Plot Maintenance

Two fungicide treatments were applied throughout the season. The first treatment which consisted of Bravo(2.5 pt/A) was applied on 7/08. A second treatment of Bravo(2.5pt./A) was applied on 7/20 along with the insecticide Sevin(1qt/A). Irrigation was provided as needed through drip irrigation.

Data Collection

Fruits were harvested one time a week beginning July 26 through September 20. Data were taken on fruit number, weight, brix and pH. Three pH and brix readings were taken for each cultivar, beginning August 14. (See table 1.)

Results and Discussion

An early warm period in May allowed for an early planting. However after transplants were moved to the field, they seemed to suffer from a delay in growth due to renewed cool temperatures and frequent periods of rain. Six varieties out of the trial had at least one plant that failed to thrive, and as the season progressed, only one of the two plants survived. The cool, wet period also favored disease development. Black spots (probably Bacterial Spot) were noted in the plots shortly thereafter. Fungicide treatments and subsequent dry weather were sufficient to bring problem into check. The trial experienced little pressure from insect pests.

Table 1. Harvest Data, Heirloom Tomato Cultivar Evaluation

Name	Total Wt/Lbs.	Total # of Fruit	Avg. Fruit Weight/Oz.	Brix	PH
Amana Orange	64.4	71	14.51	5.4	4.42
Amish Paste	45.9	153	4.8	-	-
Big Rainbow	39.8	39	16.33	4.8	4.64
Black	77.1	323	3.82	4.6	4.36
Black From Tula	45.5	96	7.58	4.4	4.41
*Black Krim	9.0	18	8.0	4.5	4.32
Bloody Butcher	66.6	409	2.61	5.7	4.40
*Brandywine, OTV	25.9	34	12.19	5.2	4.58
Brandywine, Pink	55.8	64	13.95	5.0	4.46
Brandywine, Yellow	33.8	30	18.03	5.5	4.46
Caspian Pink	42.5	46	14.78	5.4	4.18
Cheeseman	18.1	499	0.58	5.7	4.26
*Cherokee Purple	17.2	28	9.83	5.1	4.32
Ellis Island	56.1	95	9.45	4.0	4.55

Name	Total Wt/Lbs.	Total # of Fruit	Avg. Fruit Weight/Oz.	Brix	PH
Ernie's Plump	40.0	89	7.19	5.3	4.46
Federle	24.6	69	5.70	5.3	4.74
Giant Syrian	72.7	81	14.36	5.0	4.33
Goliath	58.3	72	12.96	4.7	4.58
Grandma Mary's Paste	79.2	353	3.59	4.0	4.55
Homestead	37.0	87	6.80	3.5	4.31
Hungarian Heart	74.2	77	15.42	4.7	4.78
Indische Fleische	70.7	142	7.97	4.7	4.38
Italian Purple	58.3	58	16.08	4.6	4.60
Jersey Devil	37.4	141	4.24	5.4	4.71
Kavalarovo Plum	74.7	1086	1.10	5.6	4.29
Kellogg's Breakfast	60.4	56	17.26	5.2	4.27
Large Polish Paste	45.4	120	6.05	4.7	4.75
Laurano	42.4	229	2.96	4.0	4.48
LeCase Di Puglia	63.7	711	1.43	4.6	4.56
Martino Roma	34.3	320	1.72	4.5	4.52
Mortgage Lifter	77.9	105	11.87	4.1	4.37
Moskvich	44.2	132	5.36	5.3	4.52
Napoli	56.2	560	1.61	3.9	4.43
Nebraska Wedding	51.3	97	8.46	4.9	4.33
Opalka	42.1	94	7.17	4.3	4.89
*Pantano Romanesco	25.8	47	8.78	4.6	4.38
Persimmons	58.5	95	9.85	4.9	4.42
Pete's Italian Plum	53.4	166	5.16	5.0	4.82
Polish Linguisa	44.6	128	5.58	4.6	4.84
Principie Borghese	52.1	610	1.37	4.7	4.22
Purple Perfect	64.6	88	11.75	4.4	4.36
Purple Potato Leaf	55.4	58	15.28	4.6	4.63
Purple Price	31.7	59	8.60	4.8	4.36
Red Rose	21.2	28	12.11	-	4.37
Rio de Fuego	58.2	274	3.40	4.4	4.52
Rio Grande	58.3	273	3.42	4.6	4.68
Russian Big Roma	69.2	160	6.92	4.7	4.92
Russian Rose	37.2	58	10.26	4.9	4.26

Name	Total Wt/Lbs.	Total # of Fruit	Avg. Fruit Weight/Oz.	Brix	PH
Scarab	14.3	49	4.67	4.9	4.39
Soldacki	69.7	77	14.48	4.8	4.53
*Striped Stuffer	26.3	102	4.13	4.2	4.27
*Stupice	35.1	276	2.03	4.7	4.55
Ten Fingers of Naples	30.6	185	2.66	5.2	4.63
Tondo Fario	25.4	61	6.66	4.8	4.56
Watermelon Beefsteak	76.5	84	14.57	4.7	4.54

*Data taken from only one plant in plot