

Hort and Crop Series No. 700**SPECIALTY AND HEIRLOOM TOMATO TRIAL - 1999**

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The specialty vegetable market is a rapidly expanding niche in the produce industry. Unusual vegetables are showing up more often in supermarkets, farm markets, produce auctions and upscale restaurants. Consumers are requesting tomatoes with excellent flavor in a variety of colors, shapes and sizes. The specialty and heirloom tomato industry is growing for producers who are looking to fill this niche market. While some specialty varieties are fairly new to the market, many heirloom varieties are resurfacing due to their excellent flavor and array of colors and shapes. Heirloom tomato production requires special cultural practices such as harvesting fruit at the breaker stage to avoid problems with soft, overripe fruit.

Thirteen varieties of specialty and heirloom tomatoes were planted in three replications in 1999 at the OSU Waterman Farm to evaluate their growth habit, fruit yield and quality and marketability. Two additional cultivars were planted in single replication plots for observational purposes only.

It is important to understand that cultivars should not be evaluated on only one year of production at one single site. Growers are cautioned to start small when planting unique cultivars for the first time. Cultural practices will need to be fine-tuned depending on cultivar selections and growing conditions such as planting date, irrigation, pruning and staking practices, and climatic conditions, as well as market expectations. For growers wishing to produce unique heirloom and specialty tomato varieties, marketing opportunities should be investigated first to insure there are buyers for the product.

Transplants: Seeds were sown into 288-cell plug trays on March 30, 1999. Six-week old seedlings were hand transplanted to the field on May 10, 1999.

Plant Spacing: Plants were spaced 2 feet apart in rows spaced 5 feet apart. Plants were established on raised beds with black plastic mulch.

Cultural Practices: Plants were staked and tied three times using the "Florida weave method".

Soil Type: Kokomo silty loam

Fertilizer: 100 lbs N/A 46-0-0
8 oz. starter fertilizer (10-52-8) at transplant

Weed/Pest Mgmt: Sevin XLR Plus 2qts/A + Bravo 720 2 pts/A on:
6/9, 6/23, 6/30, 7/15, 7/21 and 8/3
Asana 4 oz/A + Bravo 720 2 pts/A + Benlate ½ lb/A on 8/18

Harvest dates: 7/27, 8/6, 8/18, 8/27, 9/3 and 9/10

Marketing: All varieties were distributed by a wholesale produce company to restaurants, hotels, and

other establishments . All fruit was acceptable and varieties in the yellow and orange colors, particularly roma shaped, were in high demand.

Results and Discussion:

All heirloom (open-pollinated) and specialty cultivars performed fairly well in Columbus during 1999 despite a very hot, dry growing season (Table 1). One characteristic of many heirloom varieties is catfacing and radial cracking. Marketing demands were highest for yellow and orange varieties; particularly those of roma or lemon shape. Disease problems in the plots included Early Blight, Verticillium wilt and Septoria. Older, heirloom varieties are generally less disease resistant than the newer varieties which have been released.

Replicated Selections:

Caspian Pink: fairly large fruit (3/4 lb.) with quite a bit of catfacing and radial cracking. Nice pink color with excellent flavor. Uniform fruit size throughout our replications.

Great White: fairly large fruit that turn from white to light yellow when fully mature. Fruits are very meaty with few seeds. These should be harvested in the white stage to avoid soft fruit. Stems are corky and thick and may pull away from the fruit if harvested in the mature stage.

Evergreen: fruit that turns from dark to light green then to a pale yellow when fully mature. Harvest in the light green stage. Catfacing and radial cracking. Thick, corky stems.

Plum Lemon: a very nice lemon-shaped, bright yellow fruit that is meaty with few seeds in distinct seed chambers. Good for fresh eating and excellent cooking quality. Heavy fruit set, and very few culled fruits. Highest marketable yield in our trial this year (24 T/A).

Lillian's Yellow Heirloom: a large cherry variety (approx. 1 oz.), but with inconsistent fruit size on plants. Good tomato flavor, but somewhat soft at maturity; harvest in the breaker stage. Lush, bushy vine growth.

New Zealand Pink Bear: unique pink colored oxheart shaped fruit. Meaty with excellent flavor. Most fruits have some radial cracking. Good variety for fresh eating with excellent cooking quality.

Yellow Paste: light yellow roma-type that has excellent cooking quality. Lush vine growth; easy harvesting; fruits are elongated and somewhat narrow.

Granny Smith: light green color with few defects. Difficult to determine harvest maturity because the skin color stays green at full maturity. Nice when served with other colored tomatoes. Excellent fruit set.

Golden Girl: excellent appearance and good tomato flavor; globe-shaped bright orange fruit. Few culled fruits and good marketable yield (23.1 T/A) in 1999.

Garden Peach: (aka Yellow Peach): small-fruited (about 1 oz.) unique variety that is yellow with a tinge of orange blush on the skin. "Fuzzy" skin appearance that resembles a peach. Good fresh eating quality but may be too small for cooking. Thick vine growth.

Yellow River: bright yellow skin and flesh roma-type. Good for fresh eating and excellent cooking

quality; firm, meaty fruits. Heavy fruit set with uniform size and few culled fruits. This cultivar seems somewhat tolerant to Verticillium wilt. Staking and tying plants aren't necessary but contributes to higher fruit quality.

Nebraska Wedding: nice globe-shaped bright orange fruit with a slightly pointed scar end; similar in color and size (approx. 1/3 lb.) to 'Golden Girl'. Excellent flavor.

Lime Green Salad: very compact, upright determinate variety (staking not needed). Fruit skin matures from green to orange with green flesh color. Fruit will be somewhat soft if allowed to fully mature on the vine, so harvest when skin is green.

Observational Cultivars:

Single replications were planted of the following two new cherry tomato cultivars available for the 1999 growing season. Visual observations and disease resistance were noted but yield was not recorded.

Santa Hybrid: one of the hottest new tomatoes available on the market is the 'grape tomato'. This cultivar produces an abundance of red, sweet, grape-like cherry tomatoes. Fruit set and mature in long grape-like clusters. This variety is popular when packaged in pint containers for sales at farm markets, roadside stands, grocery stores, and on the wholesale market. This indeterminate variety matures in 80 days. Plant growth becomes very branched and staking is recommended. An excellent tasting, crack resistant variety for wholesale and retail markets.

Tommy Toe: this variety produces round to slightly elongated large red cherry tomatoes with excellent flavor. Excellent flavor for fresh eating or juicing. This heirloom from the Ozark Mountain region matures in approximately 70 days. The indeterminate growth habit warrants staking. Fruit size is uniform and slightly larger than other cultivars tested in past years.

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Table 1. Heirloom and specialty tomato trials, Columbus, OH - 1999.

Replicated Cultivars:

Fruit Cultivar	Marketable Yield (T/A)	Seed Culls (T/A)	Days to Maturity	Plant type ^y	Fruit H or S ^x	Avg. Color	Wt.
Caspian Pink		PS	80	I	H		
Pink	.74		10.3	7.0			
Great White		RU	80	I	H	White/ lt.	
yellow	.60	10.6	13.0				
Evergreen		RU	75	I	H	Green to	
yellow	.30	9.9	10.0				
Plum Lemon		RU	75	I	H	Lemon-	
yellow	.11	24.0	1.9				
Lillian's Yellow Heirloom		TT	95	I	H		
Yellow	.07		13.4	7.3			
New Zealand Pink Bear		OR	80	I	H	Dark	
pink	.25	20.5	8.4				
Yellow Paste		OR		I	S		
Yellow	.09		17.5	5.1			

Granny Smith green	.40	PS	20.3	7.8	D	S	Lt.
Golden Girl Orange	.32	PS	69	23.1	D	S	
Garden Peach	.07	RU	75	5.6	I	H	Yellow
Yellow River Yellow	.15	OR	20.5	3.5	D	H	
Nebraska Wedding orange	.36	OR	90	5.3	D	S	Bright
Lime Green Salad amber	.09	TGS	58	5.3	D	S	Lt. green to

Observational:

Santa Hybrid	TGS	55	I	S	Bright red
Tommy Toe	TGS	70	I	H	Bright red

z PS =Petoseed; RU = Rupp Seeds; TT=Totally Tomatoes; OR=Ornamental Edibles; TGS =
Tomato Growers Supply

y I = indeterminate; D = determinate

x H = heirloom cultivar; S = specialty cultivar

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