

**DEVELOPMENT OF AN HEIRLOOM
AND SPECIALTY TOMATO VARIETY DATABASE**

Peter Nitzsche, Wesley Kline, William Tietjen

Introduction

There has been an increased interest by consumers in heirloom and specialty tomatoes. Heirloom tomatoes are old open-pollinated varieties, which have been passed down through the generations. The susceptibility of many of the varieties to fruit defects such as cracking and softness make handling them and marketing them a challenge. Unfortunately, there is little research-based information on the performance of these types of tomatoes.

Materials & Methods

Over hundred varieties of heirloom and specialty tomatoes were planted in trials at the Snyder Farm Research and Extension Farm and at the Rutgers Research and Development Center. The varieties were evaluated for plant vigor and growth habit and fruit from the trial was harvested and evaluated for defects. Tomato fruit was given to taste panels of Master Gardeners and restaurant chefs in order to evaluate flavor characteristics. The fruit was also showcased at a tomato tasting event at the Snyder Farm, which attracted over 1000 consumers. Information from the trials was shared with farmers through twilight meeting and seminars in winter conferences.

Variety characteristics are currently being compiled into a database to be used as a tool to share this information with growers, home gardeners and consumers. Digital images of the tomato fruit from the trials have been recorded to visually show fruit size, shape, internal and external ripe color. Varieties will also be categorized according to the following data:

Type	Breeding	Skin Color	Flesh Color	Shape	Size	Season	Plant Type
heirloom	open pollinated	red	red	beefsteak	oz	early	indeterminate
specialty	hybrid	pink	pink	flattened globe		mid	determinate
		deep pink	deep pink	round		late	semi-determinate
		yellow	yellow	blocky			
		golden	golden	long blocky			
		orange	orange	deep round oval			
		black	black	pear			
		green	green	plum			
		white	white	ox heart			
		bicolor	bicolor	bell			
				cherry			
				currant			
				stuffer			
				grape			

Plant Height	Leaf Type	Use	Seed Availability	Major Flaws	Taste Description	Origin	History
inches	normal	fresh	commercial	cracks	sweet	USA	Where discovered, etc.
	potato	paste	seed exchanges	zipper scars	acid	France	
	narrow			uneven ripening	fruity	Germany	
	fuzzy					Italy	

The database will indicate if/when a variety has been evaluated in field trial(s), provide links to trial reports and be sortable by variety name, fruit shape, fruit color, plant type, and season. The database will be made available online and possibly on CD to farmers, home gardeners, and consumers.

Discussion & Conclusions

Farmers have already used some of the variety recommendations and indicated good customer response and are receiving price premiums for these specialty items over typical fresh market hybrids. Farmers have also indicated that customers, looking for heirlooms, have been drawn to their farm stands or farm market booths resulting in more sales of other produce. The variety database will make more information readily available to farmers, home gardener consumers on heirloom and specialty tomatoes.