

What's in Season from the Garden State

Seasonal Highlights from Cooperative Extension, a unit of Rutgers New Jersey Agricultural Experiment Station

August 27, 2012

So Many Tomatoes, So Little Time

What is it about tomatoes that we love them so? They're our most popular garden vegetable. There are several thousand tomato varieties in existence. It is a staple in our diet – from the lifeless mushy slice in our fast food sandwich to the colorful heirloom tomato salad at a white linen restaurant. One could say the tomato is to Americans (and especially New Jerseyans) what wine is to the French. We cook with it or appreciate it on its own. We drop names of tomato varieties and extol their virtues – Brandywine, Mortgage Lifter, Big Boy, Ramapo. Not to be outdone by “wine snobs”, many of us will admit to being “tomato snobs”. Buy a tomato out of season? Ugh! Buy a tomato at the supermarket? Only when necessary.

Heirloom, beefsteak, red round, slicers, cherry, grape, plum tomatoes – so many to choose from. How to sort out the best tomatoes - the ones that taste good and grow well under our local conditions? How to keep the flavor in tomatoes while still being firm and disease resistant? Home gardeners and commercial tomato growers depend on this information and tomato snobs demand it.

Research at Rutgers New Jersey Agricultural Experiment Station (NJAES) focuses on a wide array of topics that are important to New Jersey. That includes tomatoes. We're up to a lot of things, but we're still tending to tomatoes – we're in New Jersey, after all. So, what's cooking in the tomato department? (We don't actually have a Department of Tomatoes, though.)

The Annual Great Tomato Tasting

No need to bring your own salt shaker, they will be supplied alongside over 60 heirloom and hybrid varieties at the Great Tomato Tasting at Rutgers Snyder Research & Extension Farm in Pittstown (Hunterdon County) on Wednesday, August 29, 2012, from 3 pm until dusk. This event brings to the table the many varieties grown in our research plots that are evaluated for their growth characteristics as well as flavor. Many of the varieties we've evaluated are documented in our Tomato Variety Database: <http://njaes.rutgers.edu/tomato-varieties>. There will also be samples of varieties of apples, basil and peaches from our research plots to taste – and chefs incorporating these ingredients into some tasty dishes. For more info and to RSVP, visit: <http://snyderfarm.rutgers.edu/tomatoes.html>.

New Varieties on the Horizon

With thousands of tomato varieties to choose from, why do we need more? It's no secret that the modern commercial varieties grown by farms mostly for the wholesale market are firm varieties to withstand shipping and other agricultural attributes, yet can be lacking in flavor. Back in the day – the heyday of the Jersey Tomato, for example, commercial varieties were tasty, with new varieties developed for resistance to disease and other improvements, while still maintaining flavor. As modern tomato breeders built in firmness, uniform ripening and appearance, etc., they neglected the flavor component and the path of the modern tomato was thus diverted. Dr. Tom Orton, vegetable breeding specialist at Rutgers NJAES is well versed in the old tomato varieties and has examined their flavor components: brix to measure sugars and volatiles for acidity. At the Rutgers Agricultural Research and Extension Center in Upper Deerfield, NJ (Cumberland County) he is making new crosses of tomatoes – with firmness, disease resistance, yield, and color, and incorporating the flavor of the old time varieties into the new strains. This could be a boon for the wholesale tomato industry – a firm AND tasty tomato.

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Tomatoes grown in Rutgers Snyder Research Farm variety trials. Many of these varieties can be sampled at the Great Tomato Tasting. Photo: Pete Nitzsche.

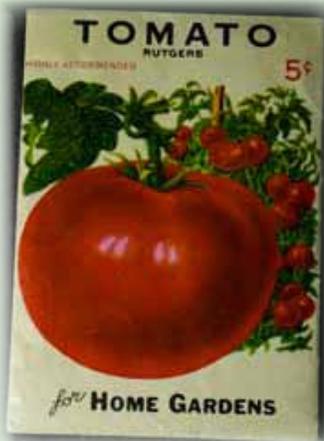
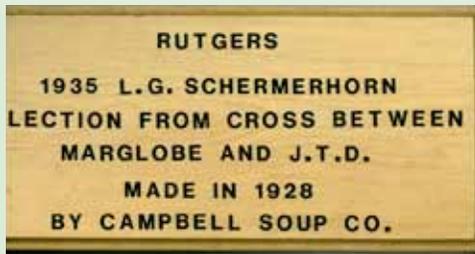
New Jersey Department of Agriculture's Jersey Fresh Availability Report

Current:	Kale
Arugula	Leeks
Baby Arugula &	Mint
Baby Spinach	Nectarines
Basil	Parsley
Beets	Peaches
Cabbage	Peppers
Cilantro	Radishes
Collards	Squash - yellow
Cucumbers	and zucchini
Dandelions	Sweet corn
Dill	Swiss Chard
Eggplant	Tomatoes



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Top: Old Rutgers tomato field trial marker. Photo: Jack Rabin; Middle: Vintage Rutgers tomato seed packet (date unknown). Photo: Pete Nitzsche; Bottom: Pete Nitzsche and Tom Orton select from F1 generation of Marglobe and JTD crosses to replicate the original Rutgers tomato. They are assisted by Rutgers School of Environmental and Biological Sciences undergraduate students.

Old Varieties on the Horizon

Huh? What's new about old? In the tomato biz, old is big. Heirloom tomatoes have developed as a niche market for plants and seeds for home gardeners and fresh tomatoes at farm markets. In New Jersey however, there exists a portfolio of old red round tomato varieties that were grown in the early 20th century for both the local canning industry and the fresh market. These tomatoes were known for their outstanding flavor and hence earned the Jersey Tomato claim to fame. Most of these old varieties are no longer on the market, or were never available to home gardeners since they were processing varieties. At Rutgers NJAES we have been working on bringing some of these varieties back for home gardeners and local farm markets. Seeds of the much loved Ramapo and an early season companion Moreton, are available through the *Rediscover the Jersey Tomato* project: <http://njfarmfresh.rutgers.edu/JerseyTomato.html>. (If you noticed that Ramapo tomato was in short supply in 2012, that is because our new seed supply was delayed until June – too late for the growing season. The seed is now in and in plentiful supply for the 2013 season.) More old time Jersey Tomato variety seed offerings will be added in the next few years, with one being especially noteworthy.

Recreating History

In 1928 the Campbell's Soup Company, based in Camden, NJ made a cross between two leading tomato varieties at the time: Marglobe and JTD (named for Dr. John T. Dorrance, a chemist who joined the company in 1897 and invented condensed soup). In 1929, Rutgers plant breeder Lyman Schermerhorn selected the best of these plants and for the next six years conducted field tests and made further selections until in 1934 the most superior selection was released as the "Rutgers" tomato. The Rutgers tomato was a genuine horticultural improvement over other commercial varieties. Breeding objectives resulted in an amazing array of improved attributes, including: pleasing flavor and taste of the juice; more uniform "sparkling" red internal color ripening from center of the tomato outward; freedom from fruit cracking; vigorous healthy foliage to ripen more fruit and reduce sunscald; firm thick fleshy fruit walls for its time, though considered extremely soft by today's definition of tomato firmness.

Not only did Rutgers provide a top performing tomato for New Jersey's processors, such as Campbell's Soup and Heinz, but Rutgers tomato continued to be a preferred choice of commercial growers through much of the mid-twentieth century. It was grown worldwide, and used in breeding and selection of other improved varieties.

While no longer grown commercially, the Rutgers tomato remained popular, especially with home gardeners. Selections of the Rutgers tomato are available through many home garden seed catalogs. However, when Rutgers was released by the New Jersey Agricultural Experiment Station, Professor Schermerhorn invited and encouraged seedsmen to continue selecting for true types in their seed fields. Thus, the original Rutgers tomato line is long lost, and all the seeds sold today are derivative selections, possibly even different cultivars, from the original. We did not have original seed maintained here at Rutgers NJAES.

Dr. Orton and Pete Nitzsche, agricultural resource management agent of Rutgers Cooperative Extension of Morris County have been on a quest to find the old original Rutgers tomato strain. The earliest seeds found from a seed bank were from the 1950's. How closely matched to the original Rutgers were these seeds? It is difficult to tell. When in 2011 we were provided with Marglobe and JTD seed from Campbell's Soup Company, the possibility of recreating the cross of the original Rutgers – (or close to it) became a reality. This August, from a field trial of crosses of Marglobe and JTD at the Rutgers Snyder Farm, Orton and Nitzsche selected out the most promising plants that most resemble the documented attributes of the original Rutgers tomato. From these selections, further field trials will be run in 2013 with the selections narrowed even further. The results will be made available in a few years as "retro" Rutgers tomato seed.

Where to find Jersey Fresh? Ask for it where you shop or dine or go to:
<http://www.jerseyfresh.nj.gov>

To receive these reports by e-mail:
njfarmfresh@njaes.rutgers.edu

Web: <http://www.njfarmfresh.rutgers.edu>

For your county Rutgers Cooperative Extension office go to:

<http://www.njaes.rutgers.edu/county>