



Grafting Revolution!

GRAFTED VEGGIES OFFER GROWERS AND GARDENERS MANY BENEFITS, INCLUDING DISEASE RESISTANCE AND INCREASED YIELD.

By Nicole Jackson

Edible gardens are increasingly becoming popular for the growing demographic of consumers looking for safe, healthy, local food options. These new gardeners are looking for delicious heirloom varieties but with better garden performance. Grafting is a natural process that joins the top part of one plant (scion) to the root system of another plant (rootstock) without any genetic modification or compromising of the fruit flavor. As tissues heal, the two plants fuse combining the rootstock's vigor and disease resistance with the scion's exceptional fruit. For both growers and home gardeners, grafted vegetables offer disease resistance to a variety of soil-borne fungal, bacterial and viral diseases, and nematodes. They also are highly effective at overcoming abiotic stress such as soil salinity, temperature extremes, and excessive soil moisture. Even without disease or stress factors, yield is often increased due to increased water and nutrient uptake from the vigorous rootstocks.

Bigger, Stronger, Faster

In commercial production, well over 1 billion tomatoes are grafted worldwide primarily as the result



Grafted vegetable field trials in Vista, Calif.,



Left: In field trials, 'Mighty Melon Sugar Baby' showed uniform habit and additional fruit set against non-grafted controls.

Right: With cucumbers, the non-grafted controls gave way to the heat while grafted comparisons continued producing into some of the warmest summer weather.

of the global phase-out of methyl bromide used for soil fumigation, which causes depletion of the ozone layer. Overwhelming independent research is available regarding grafted tomatoes and other vegetables to increase yields in commercial field settings. When combined with rootstock disease resistance, which results in decreased chemical costs, the additional costs for a grafted young plant are recouped.

How the agriculture research translated into home gardeners was something we had to research independently. We had to solve how to maximize garden performance with a pallet of super strong rootstocks developed for commercial growers. What we quickly found during initial development of Mighty 'Mato is that not all rootstocks are equal. The vigorous commercial rootstocks struggled in our garden trials when they were not pruned and fed correctly. Traditionally, commercial farmers train two to four vines per grafted tomato where the non-grafted control only supports one to two vines. When left without the commercial protocol, grafted plants often became highly vegetative and set less fruit. Cleaning plants of suckers while adjusting fertilizer often corrected issues, but we realize most gardeners are going to plant, stake, feed and water randomly then do their best to harvest. Based on our research, we selected our exclusive gardener rootstock, SuperNatural, that would

increase yields for gardeners without the need for highly specialized care plus give gardeners a comprehensive root disease package.

Field Trialing

This past summer, Plug Connection developed a field trial to further evaluate Mighty 'Mato and Mighty Veggies varieties. As our lineup includes 62 different varieties, our needs for evaluation pushed us onto a local organic farm in Vista, Calif., close to where we are located. In addition to collecting data and obtaining photographs, we could sell the produce at local farmers markets. The design was drawn up to include a Mighty 'Mato rootstock trial, Mighty 'Mato container trial, plus performance and flavor trials for all varieties in our collection.

Our research repeatedly confirmed our previous trials that SuperNatural is an excellent rootstock for home gardeners. Of course, we will continue evaluating specific rootstock scion and rootstock combinations but Mighty 'Mato gives dynamic results compared to non-grafted controls. We also closely watched controls and found increased yields of 50 to 200 percent to be accurate statements. Some control hybrids did have great performance, but overwhelmingly the increased push resulted in additional fruit generation.

Expansion Pack

This past year, Mighty 'Mato increased its offerings with grafted eggplants and peppers, products prevalent in the grafted agriculture market. This coming season, we'll launch lineups of flavorful hybrid and heirloom watermelon, cantaloupe, honeydew and cucumbers. Combined under the Mighty Veggies brand, gardeners will now be able to take advantage of grafting power with this expanded pallet of products.

Our field trials showed impressive gains within each category. Watermelons and melons, conclusively increased uniformity and fruit count by 50 to 100 percent. But interestingly unlike tomatoes, with melons, grafting without a carefully selected rootstock will also change flavor. We've selected one that will increase sweetness plus increase fruit set. With cucumbers, our non-grafted controls gave way to the heat while grafted comparisons continued producing into some of the warmest weather we experienced this summer. Peppers and eggplant trials were also revisited. We've reselected rootstocks and are looking forward to significant improvements in yields for these product lines.

Let's Go Eat

I'm often reminded during our trial evaluations gardeners are also relying on us to choose flavors for

their backyard garden; it's what brings them to this dance. Taste is often lost at the grocery store level with the average grocery store tomato scoring 4 on a brix scale. Yes, you can now find heirloom tomatoes readily stocked but with high retail pricing and picked too early to ensure better shipping, the homegrown market will continue to grow with foodies seeking delicious flavor from their backyards. My top picks:

- **Snacking.** 'Blush', 'Juliet' and 'Green Tiger'. Highly flavorful, beautiful and sweet these are my top three tomato picks for snacks and salads. Plus they are all easy to grow making these bulletproof suggestions for your customers. 'Coolcumber' cucumber is also a great snack with its crisp, small fruit.

- **Indigo series** is a new class of tomatoes with high anthocyanin levels. 'Indigo Apple' is a large fruited variety with a classic flavor, this variety will not disappoint. 'Indigo Rose' with its purple-black fruit and dark red flesh is smaller and has a more complex, smoky flavor. I use it in salads, sliced on pizza and combined in salsa. My friends and family gush over the unique coloring. 'Indigo Ruby' and 'Indigo Kumquat' are delicious, sweeter snacking varieties.

- **Cooking.** 'Costituto Genovese', 'San Marzano' and 'Amish Paste'. All will make rich, hearty soups and sauces. 'Epic (Dusky) Eggplant' is my favorite for cooking, its classic flavor is perfect for my veggie lasagna with red onions and butternut squash combined with a dynamite homemade sauce.

- **Melons.** Our team enjoyed 'Ambrosia' cantaloupe and 'Sugar Baby' watermelon. But if flavor is at the top mind, you'll love 'Ali Baba' watermelon. It reminds me of warmer summer evenings from my childhood, sitting at the lake immersed in nothing but watermelon. 'Zatta' is a Tuscan melon and shouldn't be overlooked; its name means ugly but good. It is.

We've also tried to include lots of regional selections, as we know what works regionally is supercharged when grafted. Are you in a difficult region to grow tomatoes? Try these solutions:

- **Short season.** 'Carmelo', 'Lucky Tiger' and 'Sun Sugar'

- **Cool climates.** 'Stupice', 'Manitoba' and 'Beaverlodge Slicer'

- **Southeastern market.** 'Arkansas Traveler', 'Creole' and 'Anahu'

- **Hot arid climates.** 'Heatwave', 'Sun Sugar' and 'Sun Master'

- **Late blight affected areas.** 'Defiant', 'Juliet' and 'Mountain Magi' 

Nicole Jackson is sales and marketing director with Plug Connection. She can be reached at nicole@plugconnection.com



IN THEATRES SPRING 2014

Hula
CALIBRACHOA

DEBUTING IN:
NEW HAWAII

THE BIG SENSATION IN THE HULA NATION

- Hoops of color
- Large, bicolor flowers
- Applicable in combos and as a solo act

NEW **NEW** **NEW**

RED FOX HULA ORANGE **RED FOX HULA HOT PINK** **RED FOX HULA GOLD**

RED FOX

Dummen NA, Inc • Phone 614-850-9551 • sales@dummengroup.com • www.dummengroup.com

Write in 773