

# Cherry Tomato Trials from Local Breeders Selections

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## Choice of Cultivars

We began growing out tomatoes in the early '70's, and had developed several directions that we favor; flavor, vigor, earliness, cold tolerance, fruitfulness, abundance of free amino acids, and amicability with our organic, increasingly amendment free, style of biological gardening, horticulture and agriculture. One cultivar had thick stems, nice 1/2-1# fruits, good rugose leaf cover but was mid-late and not too tasty. Another made clusters of eight fruits, ounce in size and very early. Another was Willamette, developed in the mid 1950's at OSU, an excellent and still popular mid-season slicing salad cultivar.

In the mid '90's, the Seed Saver's Exchange (Decorah, IA), among its thousands of listings of tomatoes (151 pages of the 462 pages in the 2006 edition of their annual catalog) had an offering for a grape tress species, *Lycopersicon humboldtii*. The seeds came originally from Rosemarie LaCherez, a world class Australian seed collector and gardener extraordinaire. Flowers are borne in clusters of 10-30 and fruits ripen into clusters reminiscent of grapes, similar in size, orange-yellow cherries in the case of this tomato. The genus *Lycopersicon* is a part of the larger genus *Solanum* (more than 1600 species) which is predominantly from the Americas. Among the 15-20 species in the tomato genus, some gave rise to cherry tomatoes in Mexico, others in Equador and Peru. Origin of our large fruited tomatoes is still obscure but likely to have come from mid elevation locales in the Andes of Equador, Peru and Bolivia.

So our daughter, Prema Kusra, hand pollinated crosses between the grape tress tomato and the three cultivars described above.

Now after five years of selection, one of the crosses gave rise to cherry tomato cultivars that make multi-branched racemes of flowers yielding large tresses of fruits. The flowers are in clusters of hundreds with dozens of fruit ripening at a time. The best so far was 88 ripe fruits on a tress.

When we began these crosses, we had grown several hundred varieties of tomatoes, and this hands on experience, tasting, cooking, preserving and saving the seeds provided some direction leading to making these particular crosses.

What takes but a few moments to transfer the pollen from one tomato flower to another takes years to decipher, select and develop. And each year is different and each gardening cycle has its particular, unique and worthwhile insights.

Having made some of these *centiflor* cherry tomatoes, centi from hundred and flor from flower, it seemed useful to compare them with other cherry tomato cultivars, which led to this year's growout of cherry tomatoes.

A special interest of this growout was to take the opportunity to compare the cherry tomato selections of local plant breeders, to look at their choices of different characteristics of plant architecture and fruit flavor.

Carol Deppe kindly provided us seeds from her fifth generation selection of Sungold F1. The F1 hybrid Sungold is a tasty and popular cherry tomato reputed to be a cross of a small-fruited cherry tomato with the large fruited, pink skinned heirloom Brandywine.

Phil Gouy had saved seeds from Sungold as well and had a F2 mix of small-fruited cultivars with different colored fruits. This provided a contrast to Deppe's selections from the same parent.

From the Seed Saver's Exchange, we obtained seeds for Fruity Orange and Fruity Red, two cultivars developed by Tim Peters.

For more than three decades, we have been growing Peacevine Cherry tomato, our selection of Sweet 100 and we included it in the growout as a control and reference. Tasty red fruits are borne in clusters of 8-12 with a fine flavor and good, early productivity.

### **Field Conditions and Layout**

Last year 75% of our tomato plants received no fertilizers or other amendments, either in the potting soil or in the field. This year none of our tomato plants were grown with amendments. There have been some worthwhile ecological consequences: slugs and snails left the plants alone, there was no damping off or late blight. Only a few fruits in thousands had blossom end rot. Maturing fruits sitting on the ground had very little rot, even with overhead watering every 2-3 days.

Our rows are 40' long and a flat of 3.5" pots holds 20 plants. We plant a flat per row, ie. a plant every 2'. There are about 50 rows of tomatoes. In one section each row was a different cherry tomato cultivar, except for 2 kinds where only a few plants were available. This side-by-side layout in unfertilized but long-term organic ground gave us a good view of the different cherry tomato cultivars.

### **Results**

The first ripe tomatoes were from Phil Gouy's Sungold F2's, 61 days after transplanting, in the middle of July. His selections are indeterminate plants, thin leaved, sprawling and abundantly fruitful. A few days later N-3, one of Deppe's F5 Sungold selections with clusters of 10-20 cherry to middle sized fruits on very stocky dwarf plants had ripe fruit. Both of these selections from an F1 hybrid, one in the second generation and the other in the fifth gave rise to distinctively different and interesting cultivars. Fruits of both kinds had good flavor, clearly different, one quite sweet, the other with a classic acidic tomato flavor.

As the others grew, flowered, matured fruits, and then continued to flower, fruit and ripen, we encouraged visitors to taste them and label the ones they liked the best. Now we have collected seeds from the most popular for next year's growouts.

Most of Deppe's selections had the potato leaf character found also in Brandywine. In two of the lines the fruits were mostly pink in color, also another Brandywine trait. Flowers and fruits were in clusters, from several to many. In one of the lines, equal numbers of plants had fruits with a bright, deep orange color to ones with the familiar tomato lycopene red.

Both of Tim Peter's varieties, selected by him for fragrance and flavor were similar to the currant tomato (*Lycopersicon pimpinellifolium*), a common parent in many modern cherry tomato cultivars. As the season progressed they ramblled into very large indeterminate bushes with clusters of 8-12 small orange or red fruits of good flavor.

The centiflor varieties had yellow or red fruits, the yellow ones generally twice the size of the red ones. Some of the tresses had 30, 40, 50 ripe fruits or more that made picking quite easy. A month and a half after the first flowering, a second flowering took place. The flowers extended beyond the foliage and the patch of centiflors stood out in the tomato field. They will flower once more later in the fall. Thus they are thrice determinate. Flavor is very good and they don't split with a lot of water.

### **Conclusions**

Each of the four growers whose cherry tomato cultivars we grew out this year had uniquely different selections. We thank them all for having contributed to the development of superior, locally adapted varieties that respond well to long-term organic cultural conditions. Further selection and interbreeding will continue to provide more worthwhile cultivars for the organic movement and the public domain.

