Notice of Release of NC 1 Grape Tomato Breeding Line

NC 1 Grape (NC 1) tomato breeding line is an open-pollinated, high sugar grape tomato breeding line similar in fruit characteristics to the hybrid cultivar ‘Santa,’ which is the current standard for grape tomato production. NC 1 Grape has an indeterminate plant growth habit, with compact growth conditioned by the brachytic gene (br). It has the jointless fruit pedicel for detachment of fruit free of stems and has the uniform light green color gene (u) of immature fruit. NC 1 Grape is suitable as a parent for crossing with other grape tomato and cherry lines to develop improved high sugar hybrid cultivars.

NC 1 Grape was developed by crossing the high sugar grape tomato hybrid ‘Santa’ with a compact, determinate NC State cherry tomato line with ovate fruit shape (see pedigree in Figure 1). NC 1 Grape has very sweet flavor derived from the ‘Santa’ parent, and fruit size (10 g/fruit) and shape are similar to that of ‘Santa.’ NC 1 Grape has a much more compact growth habit than ‘Santa,’ which has a very vigorous, tall growing plant, requiring a tall trellis system for production. NC 1 Grape has the jointless pedicel for detachment of the fruit without the stem at harvest, and it has the u gene for uniform light green color of immature fruit. ‘Santa’ has jointed pedicels and has dark green shoulder color of immature fruit. NC 1 Grape has shown a good level of foliar early blight resistance derived from the breeding line NC EBR-6, which is a parent in the early blight resistant plum tomato hybrid ‘Plum Dandy.’ NC EBR-6 was the source of the brachytic gene for compact growth habit of NC 1 Grape.

NC 1 Grape is a breeding line with desirable features for use as a parent in grape tomato and other small-fruited hybrids and for additional breeding of grape tomatoes.

Breeder seed of NC 1 Grape are available by contacting Dr. Randy Gardner or Dr. Dilip Panthee, Mountain Horticultural Crops Research and Extension Center, 455 Research Drive, Mills River, NC 28759 or by telephone: 828.684.3562; fax: 828.684.8715; email addresses: randy_gardner@ncsu.edu or dilip_panthee@ncsu.edu. A fully executed tomato seed transfer agreement with NC State University’s Office of Technology Transfer will be required to acquire seed of NC 1 Grape.

[Signature]
Director, North Carolina Agricultural Research Service

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Figure 1. Pedigrees of NC 1 grape and NC 3 grape tomatoes.