

North Carolina Agricultural Research Service
North Carolina State University
Raleigh, North Carolina

Notice of Naming and Release of 'Mountain Crest' Hybrid Tomato

The North Carolina Agricultural Research Service announces the release of a new fresh-market F₁ hybrid tomato cultivar, 'Mountain Crest'.

'Mountain Crest' resulted from a breeding program to develop an extended-shelf-life tomato cultivar with acceptable fruit color and flavor adapted to North Carolina growing conditions. 'Mountain Crest', tested as NC 98100, is the F₁ hybrid of NC 84173 PVP x NC 1 *rin*EC. NC 84173 PVP, a large-fruited line with good combining ability, was released in 1990 and is a parent in the hybrids 'Mountain Spring', 'Mountain Fresh', 'Sun Leaper', and 'Floralina'. NC 1 *rin*EC obtained the ripening inhibitor gene (*rin*) from an F₂ population grown from an unidentified tomato hybrid, fruit of which were purchased from a local supermarket. A resultant *rin* selection was crossed with a very firm fruited North Carolina line having the crimson gene (*og*) and from an F₂ population of this hybrid selection was made for plants with the *rin* and *og* genes combined. The NC 1 *rin*EC line has much improved fruit color compared to normal *rin* lines, ripening to a deep orange exterior color and having red color scattered throughout the interior of the fruit.

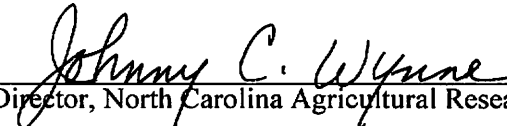
'Mountain Crest' has a vigorous determinate plant (*sp* gene) with medium green foliage which exhibits slight leaf curl. Plant vigor is intermediate to that of 'Mountain Spring' and 'Mountain Fresh' and provides good, but not dense, foliage cover for fruit protection. The plant habit is well adapted to the short-stake, string-weave system of culture. For maximum fruit size for vine-ripe production, plants should be pruned, leaving one or two suckers below the first flower cluster.

Non-ripe fruit of 'Mountain Crest' have a uniform, glossy, light green finish (*u* gene). Fruit pedicels are jointed, and the calyx separates easily from the fruit during harvest. Fruit ripen to a bright red exterior and interior color. Flavor of 'Mountain Crest' based on numerous subjective ratings has been equal or superior to that of 'Mountain Spring'. Fruit are flattened globe to deep oblate in shape, highly resistant to fruit cracking, and generally produce a smooth blossom scar. Ripe fruit are firm and maintain good firmness and extended shelf life compared to normal ripening tomatoes as a result of having the *rin* gene in heterozygous condition. Fruit texture, as is that with other *rin* hybrids, remains somewhat crisp and non-melting compared to that of normal ripening cultivars. Fruit size of 'Mountain Crest' in six replicated trials over three growing seasons at Fletcher, NC, averaged 10.4 oz. compared to 11.3 oz. for 'Mountain Fresh' and 12.8 oz. for 'Mountain Spring'.

'Mountain Crest' produced U.S. Combination grade yields superior to those of 'Mountain Spring' over three years of replicated trials at Fletcher, NC, and was equivalent in yield to 'Mountain Fresh'. Percent of fruit in U.S. Combination grade for 'Mountain Crest' (72%) was superior to that of 'Mountain Spring' (60%) and equivalent to that of 'Mountain Fresh' (75%). 'Mountain Crest' is almost as early in maturity as 'Mountain Spring' and earlier than 'Mountain Fresh'. In several large-scale grower trials in North Carolina in 2001 'Mountain Crest' was well accepted.

'Mountain Crest' has the *Ve* gene for resistance to verticillium wilt and has the *I* and *I-2* genes, conferring resistance to races 1 and 2 of fusarium wilt.

'Mountain Crest' will be released to a selected seed company for exclusive production and sale of seed. Breeder seed of the parental lines will be maintained by the North Carolina Agricultural Research Service. Small samples of 'Mountain Crest' and its parental lines for trial and breeding purposes are available from R. G. Gardner, Mountain Horticultural Crops Research and Extension Center, 455 Research drive, Fletcher, NC 28732-9216. Email: <Randy_Gardner@ncsu.edu>.



Director, North Carolina Agricultural Research Service

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Date