

NORTH CAROLINA AGRICULTURAL RESEARCH SERVICE
 NORTH CAROLINA STATE UNIVERSITY
 RALEIGH, NORTH CAROLINA

NOTICE OF RELEASE OF NC HS-1 TOMATO BREEDING LINE

The North Carolina Agricultural Research Service announces the release of a new fresh-market tomato breeding line, NC HS-1.

NC HS-1, an inbred line in the F₉ generation, was developed for improved horticultural characteristics and fruit set ability under high temperature conditions. The source of heat tolerance in NC HS-1 is the cultivar TH-318, developed by Dr. Paul Leeper in the Texas A&M tomato breeding program at Weslaco (Fig. 1). Segregating generations of crosses leading to NC HS-1 were selected under high temperature summer conditions (90-100° F day and 70-80° F night) in piedmont and eastern North Carolina.

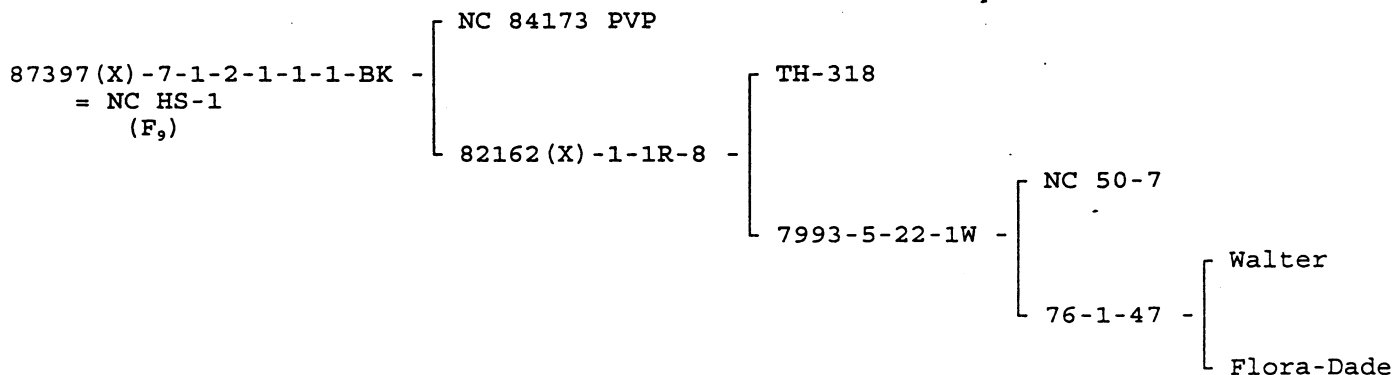
NC HS-1 has a vigorous determinate plant with non-curved foliage which provides good fruit coverage. Under good cultural conditions NC HS-1 outgrows a 3-foot stake height using the short stake, string weave system.

Fruit of NC HS-1 are deep oblate to flattened globe in shape and are symmetrical with a small, smooth blossom-end scar. Immature fruit are glossy, uniform green (v gene) and ripen to an acceptable red exterior and interior color with medium firmness. Fruit pedicels are jointed and separate easily from fruit during harvest. Fruit are highly resistant to radial and concentric crack and to weather check. NC HS-1 produces a heavy set of very smooth, medium to large fruit under a wide range of growing conditions.

NC HS-1 is resistant to verticillium wilt (Ve gene) and to races 1 and 2 of fusarium wilt (I and I-2 genes). NC HS-1 has the capability of producing heat tolerant hybrids with good fruit shape and a small blossom-end scar under a wide range of growing conditions.

NC HS-1 is being released in conjunction with release of the heat tolerant hybrid 'Sun Leaper' (NC HS-1 x NC 84173 PVP).

Breeder seed will be maintained by the North Carolina Agricultural Research Service. Small samples for trial and breeding purposes are available from R. G. Gardner, Mountain Horticultural Crops Research and Extension Center, Fletcher, NC 28732-9216. Application is being made for a Plant Variety Protection Certificate.



Pedigree of 'NC HS-1' heat tolerant tomato.

Johnny C. Wynne
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 Agricultural Research Service

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 Date