

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

Notice of Release of NC 30P Fresh-Market Plum Tomato

The NCARS announces the release of a new fresh-market plum tomato breeding line, NC 30P.

NC 30P resulted from selfing NC 034, the F₁ hybrid of NC ERB-7 x a tomato spotted wilt resistant (TSWV) selection derived from the tomato hybrid 'Amelia' (Fig. 1). Selection in segregating generations was for fruit and plant type resembling NC ERB-7 plum tomato combined with the *Sw-5* gene for TSWV resistance. Homozogosity for the *Sw-5* gene in NC 30P was determined by molecular marker testing and in field trials where TSWV occurred. NC 30P also has resistance to Verticillium wilt (*Ve* gene) and races 1 and 2 of Fusarium wilt (*I* and *I2* genes). It has moderate resistance to early blight derived from NC EBR-7.

Plant and fruit type of NC 30P closely resemble those of NC ERB-7. Plant growth habit is determinate. Fruit are highly elongate in shape with 2-3 (mostly 3) locules, have the crimson (*og^c* gene) for increased lycopene and have jointless pedicels. Immature fruit are uniform light green (*u* gene). Ripe fruit are medium in firmness and develop bright red exterior and interior color. Fruit are highly resistant to graywall and fruit cracking.

In a replicated vine-ripe harvest trial in 2006, where TSWV was present, NC 30P had marketable yield higher than the TSWV susceptible entries 'Plum Crimson' and NC 25P. Fruit weight averaged 4.4 oz./fruit and did not differ from other entries. Percent marketable grade of NC 30P was high. NC 30P is late in maturity.

NC 30P is useful as a parent in developing F₁ hybrids resistant to TSWV. It is segregating for the *ms-10* gene for male sterility linked to the green stem seedling market gene *aa*. The *ms-10*, *aa* combination was derived from NC ERB-7, the female parent of 'Plum Crimson', and eliminates the need to emasculate flowers of the female parent when making F₁ hybrid seed. NC 30P is being released in conjunction with release of the F₁ hybrid plum tomato 'Plum Regal' (NC 30P x NC 25P).

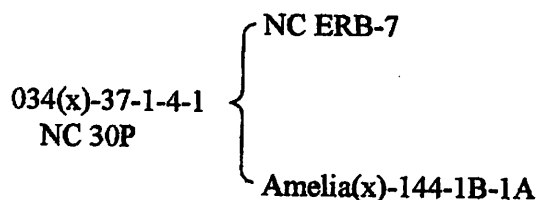


Fig. 1. Pedigree of NC 30P fresh-market plum tomato line.

Breeder seed will be maintained by the North Carolina Agricultural Research Service. A signed tomato seed transfer agreement, which can be downloaded at the website listed below, is required for recipients of seed of NC 30P. Additional information and pictures of the line are available at the following web site:
<http://www.ces.ncsu.edu/fletcher/programs/tomato/>.

Director, North Carolina Agricultural
Research Service, Raleigh, NC

7-21-08
Date