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

NOTICE OF RELEASE OF NC 8276 TOMATO BREEDING LINE

The North Carolina Agricultural Research announces the release of a new fresh-market tomato breeding line, NC 8276.

NC 8276 is an inbred line in the F_6 generation. Its pedigree includes two previous releases from the North Carolina fresh-market tomato breeding program, 'Piedmont' and NC 50-7, and the University of Florida cultivar 'Florida MH1' (Fig. 1).

NC 8276 has a determinate growth habit (sp gene). Foliage exhibits moderate adaxial leaf curl, similar to 'Florida MH1'. NC 8276 has the nippled blossom trait (n gene) and generally produces fruit with a pinpoint blossom scar. Non-ripe fruit have a uniform light green color (u gene) and have a glossy finish. Fruit pedicels are jointed. Fruit shape is deep oblate and generally symmetrical. Fruit remain very firm for an extended period after ripening and develop a uniform, bright red external and internal color free of white tissue. Jel color of ripe fruit is red. Season of maturity is early mid-season.

Total yield of NC 8276 was not significantly different from other lines in trial in 1988 and 1989. Because of its smooth shape and blossom scar and excellent resistance to fruit cracking, NC 8276 greatly exceeded cultivars and lines susceptible to these disorders in marketable and U. S. Combination Grade yields. Fruit size of NC 8276 is very large, with over 50% of the fruit greater than 3½" diameter in staked trials in North Carolina.

NC 8276 is resistant to races 1 and 2 (I and I-2 genes) of *Fusarium oxysporum* f. sp. *lycopersici* (Fusarium wilt) and to race 1 (Ve gene) of *Verticillium dahliae* (Verticillium wilt). NC 8276 has shown excellent resistance to fruit cracking and weather check over several seasons of trial. Some susceptibility to graywall has been noted under conditions of high nitrogen fertility and wet soil. Like 'Florida MH1' and other cultivars having curled foliage, NC 8276 is more susceptible to early blight than cultivars lacking the curled foliage trait.

NC 8276 is being released primarily for its use as a parent of the F_1 hybrid 'Mountain Spring', which is being released concurrently with NC 8276. However, its excellent crack resistance, fruit color and firmness along with its disease resistances should make it useful to other breeders. 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.

```
                                  |- Piedmont
                                  |
8276(X)-12-1-1A-BK        -       |
      F6                          |                |- Fla. MH-1
                                  |                |
= NC 8276                         |- 338-1W-2      -|
                                                   |- NC 50-7
```

Fig. 1. Pedigree of NC 8276 tomato breeding line.

Director, North Carolina Agricultural Research Service, Raleigh, NC

Date