Registration of Maize Parental Line T175

T175 (Reg. No. PL-326, PI 638594) is a white dent maize (*Zea mays* L.) parental line developed by the Tennessee Agricultural Experiment Station and released 1 Feb. 2005. T175 was released for its potential use in producing full season white maize hybrids and as a source of germplasm for maize breeding programs.

T175 was developed from a cross between T167 (West et al., 1988) and T173 (West et al., 2001) and is in the Lancaster Sure-Crop heterotic group.

The pedigree of T175 is T167/T173-F2–S7.

Selection for plant and ear health was practiced during the inbreeding phase for this line at Knoxville. T175 was evaluated in experimental hybrid yield trials at Knoxville, Spring Hill, and Milan, TN, in 2004 and 2005 (six environments). T175 × T177 produced an average yield of 12 269 kg ha$^{-1}$ (SE 268.8), with stalk lodging of 2% (SE 5.8), while Zimmerman Z1851W, a commercially available white-grained hybrid yielded 11 556 kg ha$^{-1}$ (SE 250.8), with stalk lodging of 14% (SE 4.9).

T175 is a late maturing line in our environment, rated 1100 in the AES system. Heat units to pollen shed were 1572 for T175, compared with 1520 for T173 in 2003–2004 in our nursery at Knoxville, TN. Plant and ear height of T175 were 2.0 and 0.9 m, compared with 1.9 and 0.8 m for T173. T175 has five to seven leaves above the top ear and the tassel has a central spike with 6 to 10 lateral branches. T175 has yellow anthers and green silks, turning sun-red after emergence. Flower synchronization is good with silks usually emerging 1 or 2 d after the onset of pollen release. T175 produce a few sun-red brace roots to the second node above the crown. T175 produces a large ear with 12 rows of medium sized, white kernels on a white cob.

Seed of T175 may be obtained from the Department of Plant Sciences, 252 Ellington Hall, 2341 Joe Johnson Drive, Knoxville, TN 37996–4562.

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References


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