toxin accumulation by USDA-ARS and the Mississippi Agricultural and Forestry Experiment Station in March 1999.

Mp715 was developed from Tuxpan by selfing for eight generations and selecting for reduced aflatoxin accumulation following inoculation of developing ears with an Aspergillus flavus Link:Fr. spore suspension (Zummo and Scott, 1989). In 1999, grain harvested from Mp715 contained 24 ng g⁻¹ aflatoxin, whereas grain from SC212m, a susceptible check, contained 1622 ng g⁻¹ aflatoxin. In crosses with other germplasm lines, Mp715 exhibited a high level of resistance to aflatoxin accumulation in 1996 and 1997. In 1996, grain from Mp715 × Mp313E contained 18 ng g⁻¹ aflatoxin, whereas grain from GA209 × SC212m, the susceptible check, contained 1532 ng g⁻¹ aflatoxin.

Mp715 is a late-maturing line with a maturity classification of AES 1200. It has yellow kernels and white cobs. It has not been evaluated for combining ability for yield.

Seed is available in 50-kernel lots to researchers upon written request to the corresponding author. It is requested that appropriate recognition of the source be given when this line contributes to research or germplasm enhancement.

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References


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REGISTRATIONS OF PARENTAL LINES

Registration of T173 Parental Line of Maize

T173 (Reg. no. PL-303, PI 613179) is a white dent maize (Zea mays L.) line developed by the Tennessee Agricultural Experiment Station. T173 was released 4 Jan. 2000 because of its potential use in producing full season white hybrids and as a source of germplasm for white maize breeding programs.

T173 was developed from a pedigree breeding program to convert lines with yellow grain to white grain. The pedigree of T173 is: \([\text{[(Mo17/Ga209//Mo17-F}_{2}/\text{Mo17}]-S}_{3}\] × \([\text{Mo17/Mp339//Mo17}-S]_{3}\)\]. The line was inbred for nine generations before bulking seed from several plants, and seed has been maintained by self-pollination since the original bulk was made. Ga209 and Mp339 are lines that were used in white maize hybrid production in the Southern U.S. during the 1960's (Fleming, 1974; Scott, 1993). On the basis of its pedigree, T173 is expected to derive 81.25% of its genes from Mo17. Hybrids produced by crossing T173 with T171 and other B73 derived white lines have been evaluated in experimental hybrid yield trials since 1995. Grain yield of an experimental hybrid with T173 as one parent averaged 10 410 kg ha⁻¹, compared with 9845 kg ha⁻¹ for a commercial check hybrid in yield trials in Tennessee from 1995 to 1999.

T173 is a full season line in our environment. Heat units to pollen shed in 1999 were 1540 for T173, compared with 1440 for Mo17. We have rated this line AES 1000 maturity. Plants of T173 are vigorous and similar to Mo17 in plant characteristics. The tassel of T173 has a central spike and 5 to 8 lateral branches. Pollen production is better than for base of each spikelet. T173 has yellow anthers. Silks usually emerge 1 d after the onset of pollen shed, and are yellow-green, turning red after emergence. Plants have 5 to 6 leaves above the ear leaf, and may produce a few sun-red brace roots.

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References


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