Registration of ‘Chesapeake’ Wheat


‘Chesapeake’ (Reg. No. CV-1011, PI 643935) is a soft red winter wheat (Triticum aestivum L.) that was jointly developed and released by the Maryland Agricultural Experiment Station, Department of Plant Science and Landscape Architecture, and the Virginia Agricultural Experiment Station in 2005. Chesapeake is named after the scenic bay that separates Maryland’s and Virginia’s shores. Chesapeake has performed well in Maryland and Virginia. It is a high-yielding cultivar with medium stature, excellent powdery mildew [caused by Blumeria graminis (DC) E.O. Speer f. sp. tritici Ém. Marchal] resistance and early heading date.

Chesapeake was derived from the cross VA91-54-222 (‘Roane’“S”) /‘FFR555W’//VA93-52-55 that was made in 1992 at Virginia Polytechnic Institute and State University (VPI&SU). Roane is a cultivar developed by VPI&SU (Griffey et al., 2001). FFR555W is a cultivar developed by FFR Cooperative. VA93-52-55 is an experimental line developed by VPI&SU with the pedigree ‘Massey’ (CItr 17953) (Starling et al., 1984)/‘Balkan’//'Saluda’ (PI 480474) (Starling et al., 1986). The population was advanced from the F2 to F5 generation using a modified bulk breeding method. Wheat spikes from the population were selected in Virginia in each generation (F2–F5) based on the absence of obvious disease, early maturity, short straw, and desirable head shape and size. Selected spikes were threshed in bulk, and the seed was planted the following year. Spikes selected from the F56, bulk were then selected and planted in separate headrows in the fall of 2000 at Beltsville, MD. Chesapeake was selected in 2000 as a bulk, headrows and assigned the breeding line designation. In addition to high grain yield, Chesapeake was selected for high grain quality with early head emergence and resistance to powdery mildew. Chesapeake was evaluated in the Maryland State Wheat Variety Tests for 3 yr (2003–2005) and in the Virginia State Wheat Variety Tests for 3 yr (2003–2005) at five to seven locations in Maryland under standard tillage regime for 3 yr (2003–2005). In these tests, the average grain yield of Chesapeake (4640 kg ha−1) was similar to that of ‘Sisson’ and 270 kg ha−1 lower (P < 0.05) than that of Roane. In these tests, the average straw strength (lodging score 0–9) of Chesapeake (0.8) was similar to that of Roane (0.8) in Maryland. Chesapeake was released by the Maryland Agricultural Experiment Station, Department of Plant Science and Landscape Architecture, and the Virginia Agricultural Experiment Station in 2005.

Chesapeake is a semi-erect growth habit. Plant color at boot stage 9–10) is blue-green, and a waxy bloom is present on the stem and flag leaf sheath. Anther color is yellow, middense, and awnless. Glumes have acute beaks. Kernels of Chesapeake are red, with a crease of medium width and mid-deep depth, and a large noncollared brush. Chesapeake has a soft wheat-rye chromosomal translocation.

In state variety trials conducted in Maryland, average grain yield of Chesapeake (4640 kg ha−1) was similar to that of the high-yielding cultivar USG 3209 (722 kg m−3). Head emergence of Chesapeake was 1 d earlier (ns) than that of USG 3209 and similar to that of Roane. USG 3209 has 3 d earlier than Roane (P < 0.05). In Maryland, average plant height of Chesapeake (82.5 cm) was 2.5 cm taller (ns) than that of USG 3209 and similar to that of Roane. Acreage (lodging score 0–9) of Chesapeake (0.8) in Maryland was similar to that of Roane (0.8)