



Registration of “Toprak” Bread Wheat (*Triticum aestivum* L.) Variety

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Toprak is a winter bread wheat (*Triticum aestivum* L.) variety developed by Trakya Agricultural Research Institute (TARI) and registered in 2023. Toprak is developed by crossing Basribey/Lagos-9/3/PBW343*2/Kukuna//Pastor/SLVS with TE7244-0T-0T-0T-43T-4T-0T through the pedigree method. The crossing was made in 2011 and the yield test began in the 2018-2019 growing year.

The spike of the Toprak (Figure 1) is long, white, smooth, with awn and medium compact. The flag leaf is medium light-green and with low glaucosity. Grain is oval, hard and red colour. Toprak is a tall cultivar, similar to Gelibolu. Plant height is between 84 and 108 cm depending on the growing conditions. It is early and as it has good adaptation ability, it has been grown throughout the Trakya-Marmara region and some other transitional-zone parts of Türkiye. It gives high yield both on fertile and less fertile soils. It has moderate resistance to winterkilling and is tolerant to medium drought conditions. Toprak is highly tolerant to stripe rust (*Puccinia striiformis* f. sp. *tritici*) and leaf rust (*Puccinia triticina*). It is tolerant to powdery mildew (*Erysiphe graminis* f. sp. *tritici*), and septoria leaf disease.

Its yield potential is high however, a high yield can be obtained if environmental conditions are favorable

and good agronomic practices followed. The highest grain yield obtained was 9474 kg ha⁻¹ in a variety testing experiment (Edirne location in the 2021-2022 cycle). The mean yield of the variety testing experiment was 8200 kg ha⁻¹ in Trakya growing conditions. The suggested planting rate is between 550-600 seeds/m².

Its grain quality is extremely good. The mean values of some bread-making qualities of the variety testing experiment (2021 and 2022) are; test weight 75.9-78.0 kg hl, thousand kernel weight 34.1-36.4 g, protein content 11.5-14.1%, sedimentation (Zel) 53-56 ml, gluten index 90.3-98.6%, gluten value 24.4-31.8%, alveograph energy value (W) 235-290 and flour yield 73-75%. The highest quality values in 2019-2020 growing seasons application of the variety testing experiment were; thousand kernel weight 39.9 g, test weight 80.9 kg, protein content 13.4%, gluten value 43.0%, gluten index 97.2%, grain hardness 55 and sedimentation (Zel) 71 ml.

Pre-basic and basic seeds of the Toprak cultivar have been produced by Trakya Agricultural Research Institute (TARI) and Trakya Birlik Seed Company. Certified seeds of the Toprak are produced by both private companies and state farms.



Figure 1. Spike and grain of the Toprak variety (Original)

References and Notes

Anonymous, (2023). Trakya Bölgesi Ekmeklik Buğday Tescil Raporu 1, Ankara 2023 (in Turkish).