



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

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Değirmen is a winter bread wheat (*Triticum aestivum* L.) variety developed by Trakya Agricultural Research Institute (TARI) and registered in 2023. Değirmen is developed by crossing Flm85/4/Sun371A*2/3/Chen/Ae.Sq//Weaver/5/Pehl//Rpb8-68/Chrc/3/SD-KM-44/Izgrev with TE7488-0T-0T-0T-9T-0T through pedigree method. The crossing was made in 2012 and the yield test began in the 2018-2019 growing year.

The spike of the Değirmen variety (Figure 1) is medium-long, white, smooth, with awn and medium compact. The flag leaf is medium dark-green and with medium glaucosity. Grain is oval, hard and red colour. Değirmen is a tall cultivar, similar to Gelibolu. Plant height is between 88 and 105 cm depending on the growing conditions. It is medium-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 resistance to winterkilling and is tolerant to medium drought conditions. Değirmen 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 10957 kg ha⁻¹ in a variety testing experiment (Edirne location in the 2021-2022 cycle). The mean yield of the variety testing experiment was 8408 kg ha⁻¹ in Trakya growing conditions. The suggested planting rate is between 500-550 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 73.8-77.6 kg hl, thousand kernel weight 37.7-45.4 g, protein content 11.5-15.0%, sedimentation (Zel) 49-69 ml, gluten index 93.3-99.8 %, gluten value 21-33%, alveograph energy value (W) 244-335 and flour yield 70-72%. The highest quality values in the 2019-2020 growing seasons application of the variety testing experiment were; thousand kernel weight 44.4 g, test weight 80.3 kg, protein content 14.3%, gluten value 42.5%, gluten index 93.8% and sedimentation (Zel) 67 ml.

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



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

References and Notes

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