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Screening of Bread Wheat Genotypes For Resistance to Crown and Root Rot Disease Causal Organism *Fusarium culmorum* (W.G. Smith) Under Irrigated Condition

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Aim of the study: *Fusarium culmorum* is a soil-borne fungus causing crown and root rot on different small-grain cereals, in particular wheat and barley. In order to control of this disease, application of fungicides are inadequate in some cases besides their hazardous effects for environment and living organisms. As an alternative solution to chemicals, development and screening the resistant wheat varieties has been emphasis in the plant defence studies.

Material and Methods: In 2015-2016, the study was conducted in Experimental Area of Bahri Dagdaş International Research Institute-Konya. In the study, totally 25 bread wheat genotypes at regional yield level were included to be evaluated for resistance to *F. culmorum* in irrigated field conditions. The genotypes, had developed for irrigated areas in breeding studies. The experiment was set up according to randomized complete block design with 4 replications for each entry. The wheat seeds were sown in the previously contaminated soil with *F. culmorum*. At the end of growing period, the resistance levels of genotypes to *F. culmorum* were determined considering the 0-10 scale.

Results: According to evaluation based on scale values, the plant genotypes were divided into 3 groups that were susceptible (≥3 scale value), moderately resistant (scale values between 1–3), and resistant (≤1 scale value). As a result, 9 genotypes were grouped as resistant, while 12 of genotypes were moderately resistant against *F. culmorum*. The rest of genotypes were taken to susceptible group with scale values above 3.

Keywords: *Fusarium culmorum,* Resistance, Wheat.