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The Effect of Soil Profile Depth on Fallow Efficiency Under Ankara Conditions

Oğuz BAŞKAN, İlhami ÜNVER Ankara Üniversitesi Ziraat Fakültesi Toprak Bölümü, Ankara - TÜRKİYE Abstract : The aim of this study was to compare the fallow efficiencies of shallow and deep soil profiles and to examine the effects of nitrogen fertilization on the grain yields in continuous wheat and fallow-wheat systems in the Ankara Region. The experimental study was conducted at the Beytepe (Lodumlu) Research Institute in two different fields. Soil moisture contents were determined at six depths between 0 and 90 cm in deep soil and four depths between 0 and 40 cm in shallow soil. Continuous wheat and fallow-wheat plots were fertilized with $(NH_4)_2SO_4$ in 2 kg/da and 4 kg/da N doses. The results indicated that the efficiency of the fallowing would increase with more water storage in the soil profile in the deeper profile. Fallow efficiency was found to be 18.43 % in the deep soil, whereas no significant differences occurred between fallowed and continuously cropped plots in the shallow soil. Distribution of precipitation had more effect on the grain yield than the annual total rains.

Key Words: Fallow efficiency, profile depth, nitrogen fertilization

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