

The Effect of Conservative Tillage on Physical Properties of Soil and Yield of Rainfed Wheat

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Abstract : In order to study the effect of conservative tillage on a number of physical properties of soil and the yield of rainfed wheat, an experiment in the form of a randomized complete block design (RCBD) with three replications was conducted in a field in Aliabad County, Iran. The study treatments included: T1) Conventional method, T2) Combined moldboard plow method, T3) Chisel-packer method, and T4) Direct planting method. During early October, the study soil was prepared based on these treatments in a field which was used for rainfed wheat farming in the previous year. The apparent specific gravity of soil, weighted mean diameter (WMD) of soil aggregates, soil mechanical resistance, and soil permeability were measured. Data were analyzed in MSTAT-C. Results showed that the tillage practice had no significant effect on grain yield ($p < 0.05$). Soil permeability was 10.9, 16.3, 15.7 and 17.9 mm/h for T1, T2, T3 and T4, respectively.

Keywords : rainfed agriculture, conservative tillage, energy consumption, wheat

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