



The effect of different soil tillage systems on soil physical characteristics and crop yield in maize and winter wheat crops from the Moldavian Plain, Romania

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Optimal crop rooting soil physical conditions are a result of complex interactions between soil strength and oxygen and water supply to plant roots. Spatial/temporal variability in soil properties can be critical in the evaluation of the effects of tillage management practice on soil and crop parameters. In this paper tillage were evaluated for theirs effects on soil physical properties. Tillage treatments were plough to 20 cm, plough to 30 cm, chisel and disc harrow applied to wheat in to been/ wheat/ maize rotation. The experiments have been conducted in the Didactic Station of the University of Agricultural Sciences and Veterinary Medicine – Iasi, Ezăreni Farm, during the period between 2002-2006, on a cambic chernozem with 3,7 % humus and pH 6.8. Tillage system modify, at least temporarily, some of the physical properties of soil, such as soil bulk density, penetration resistance, soil porosity and soil structural stability. All the tillage operation was significantly different in heir effects on soil properties. The results indicate that soil tillage systems must be adjusted to plant requirements for crop rotation and to the pedoclimatic conditions of the area.