

THE INFLUENCE OF TILLAGE ON SOME SOIL PHYSICAL PROPERTIES IN CENTRAL–NORTHERN AREA OF MOLDAVIAN PLATEAU

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Abstract

The trials are carrying out in three different locations from Central–Northern Area of Moldavian Plateau: Suceava, Secuieni–Neamț county, and Podu Iloaiei–Iași county. Their purpose is to establish the effects of tillage on soil properties and yield in oilseed rape crop (*Brassica napus* L). The experimental design has three factors (A x B x C type): A factor – location (Agricultural Research and Development Station of Suceava, ARDS Secuieni-Neamț county, ARDS Podu Iloaiei-Iași county); B – soil tillage (plowing at 20 cm, with chisel plow, and with disc harrow); C with 50 graduations representing 50 oilseed rape cultivars comercialised in our country by companies like Pioneer Hi–Bred Romania, Monsanto Romania, KWS Romania, Euralis Semences, Dieckmann etc. The sowing was realised using Plotseed XL, a seeder for field experiments (Wintersteiger, 2008). From august 2010 we are studying the evolution of soil bulk density (BD), total porosity (TP), aggregates water stability (WS) and their mean weight diameter (MWD) as influenced by tillage treatments in all three locations mentioned above. Soil samples were taken before tillage operations, right after sowing and before rapeseed wintering. Analyzing the results obtained, we observed significant differences between tillage treatments after sowing. These differences are lowering and loosing their significance in time because the soil tends to return to the state prior tillage operations.

Key words: oilseed rape, soil tillage, soil physical properties

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