

THE INFLUENCE OF DIFFERENT CONVENTIONAL AND CONSERVATIVE TILLAGE SYSTEMS ON QUALITATIVE INDICATORS OF THE SEEDBED FOR WINTER OIL SEED RAPE

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Abstract

Rapeseed crop has a very important role in world economy, being the third largest source of vegetable oil after palm and soybeans. It is very sensitive to soil compaction, because root growth, water and nutrient absorption are achieved with difficulty. The seedbed preparation ensures the lumps shredding, weed control, land leveling, introduction of fertilizers in soil and, essentially, creating a layer of loose soil, favorable for seed germination. The last tillage done before sowing has direct effects on the quality and quantity of the yield. The tillage activities by their nature must modify soil properties towards biological plant requirements without damaging its physical condition. The qualitative indices determined for the seedbed preparation are average depth of soil mobilization (D_a), soil crumbling degree (D_{sc}), soil loosening degree (D_{sl}), soil leveling degree (D_{ls}) and weed control degree (D_{wc}). The paper present the effect of soil tillage on seedbed qualitative indices for the rapeseed crop. The experiments were carried out at the Research and Development Agricultural Station, Secuieni, Neamt County, between 2012 and 2014. The results show that different tillage systems influenced the quality of the seedbed, with higher values for the conventional Plough+Combigerm variant and lower for the minimum tillage one, Disc+Vibromix.

Key words: soil, seedbed, tillage, qualitative indices
