



AGRORES

2019

BOOK OF ABSTRACTS



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Influence of soil type and compaction on yield of some varieties of winter wheat

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Abstract

Wheat has high demands in terms of fertility and physical properties of the soil. The most successful cultivation is on fertile soils, where pH is 6.8-7.2. The soil is the basic substrate of plant rooting, and root growth depends on the depth of the layer, plant species, soil compaction, moisture, etc. The aim of this paper was to determine the yield of different varieties of wheat depending on the soil type and compaction. The trial was set during 2016/17. and 2017/18. in the territory of south Serbia (territory of Leskovac municipality), on two different types of soil (alluvium and vertisol). Four varieties of wheat were included in the experiment (Darija, Avenue, Carica and Sosthene). Compaction was measured after sowing and after harvest of wheat, with penetrometer Eijkelkamp hardware version 6.0, software version 6.03. The soil type and variety significantly influenced the average yield of wheat. Significantly higher average yields of all varieties of wheat were gained on the alluvium, related to the vertisol. Varieties Avenue and Sosthene had the highest average yields that were significantly higher than yields of varieties Daria and Carica, among which there were no significant differences. The higher soil compaction of the soil in the ploughing layer was on vertisol related to the alluvial soil. These data on average yields and soil compaction indicate the benefits of individual soil types for the wheat production.

Key words: wheat, vertisol, alluvium, compaction, yield.