THE EFFECT OF DIFFERENT TILLAGE SYSTEM ON SOIL BULK DENSITY FOR THE WINTER WHEAT CROP AT R.D.A.S. SECUIENI

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Abstract

Climatic evolution from Romania, with trend toward heating and aridity, requires the application of new tillage variants, which ensure both soil fertility conservation and high yields. Winter wheat is a very important crop, but the more frequent droughts from August-September, determine great difficulties for seedbed preparation and good sowing. One of the most used indices for physical state characterization, with direct influence on soil air and water permeability, plant root development and microbiological processes is bulk density (BD). In order to emphasize the effect of conventional and conservative tillage on soil compaction degree, expressed by BD values, undisturbed samples were collected on 0-30 cm depth, from 10 to 10 cm, at sowing, during vegetation and at harvest of the winter wheat crop. The highest values were recorded for HDH 3.85+Vibromix and HDH 3.85+VRH and the lowest for the Plow+Combigerm variant.

Key words: bulk density, soil, tillage, wheat.