



ASPECTS REGARDING THE REDUCTION OF PENETRATION RESISTANCE OF SOIL AS A CONSEQUENCE SOIL WORKING

Florin Loghin*, Ionuț Căpățînă

"Transilvania" University of Brașov, 29 Eroilor Blvd., 500036 Brasov, Romania

Abstract

Soil penetration resistance greatly affects crop quality, the foresight resistance of various working parts of farm machinery and therefore energy consumption for the establishment of different cultures. The paper presents results of experimental determination of soil penetration resistance before and after deep raising work, made with the subsoiler. This paper presents the positive effects upon the soil structure in depth and to surface, the restauration of water circulation and the improvement of aeration improving in this way the development of the radicular system of plants. Also, in this paper it is reduced the hard-pan layer which leads to a decrease of energetic consumption to the other works which needs to be done with the role of attendance and presence of crops. The experimental researches have been developed within The National Institute of Mechanics of Agriculture from Bucharest, on three different types of soil. The raising equipment used for the experimental researches was equipped with working parts type flat chisel, and the soil compaction meter used to determine the penetration resistance to penetration is portable static type, made by Dickey - John firm from United States of America. The determination of penetration resistance was made also before the work of deep raising and also after it, in this way being established the influence of this work upon the soil properties.

Key words: deep soil loosening, hard-pan, soil compaction meter

Received: July, 2010; Revised: December, 2010; Accepted: December, 2010

* Author to whom all correspondence should be addressed: e-mail: loghinflorin@unitbv.ro; Phone: +40744338785; Fax: +40 – 0268472222