

CONSIDERATIONS ON SOME SEVERE LIMITING PROPERTIES OF THE SOIL FOR THE DEVELOPMENT OF THE ROOT SYSTEM IN VINES

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Abstract. The state of compactness is a complex characteristic of a soil resulting from its textural

characteristics and bulk density values. It is influenced both by the natural processes that contributed to the formation of the soil and by the agricultural works carried out. Our studies concern to the compactness state of saline soils performed on the Bejeneasa Farm, Cotnari vineyard from North - East part of Romania. The studied area is about 6 hectares. It is situated on the upper part of slope. The absolute altitude ranges between 152m and 172.5 m and the average annual precipitation and annual temperature values are 524.9 mm and 8.9°C. In order to highlight the causes that determined the weak growth of the vine on the slope with a slope of 8% and with the western exposure, 5 soil profiles were made in representative locations following the cutting clearing of the vine plantation. The soil profiles were made after cutting the vine stems due to the growing stagnation and the small obtained yields of the grapes. The soil profiles were located in the upper and lower parts of the slope, both in the part with uniform slope and on the deluvio-colluvial glacis located in the contact area with the land with lower slope. From each soil horizon, soil samples were collected for laboratory analysis. The analytical obtained data showed that the state of compactness of the saline soils is influenced by both soil formation processes and agricultural both during in the growing and in the cold season seasons. On the tracks of the wheels of agricultural machines, the range of values of the bulk density is wider compared to those recorded on the row of vines.

Key words: compactness, saline soils, vines