

Water, physical and physical-mechanical characteristics of the vertisols were investigated on seven soil profiles in the in the central part of the Republic of Macedonia (Štip, Probištip and Ovče Pole valleys). The investigated vertisols show very unfavorable water, physical and physical-mechanical characteristics, which obstruct the usage of these soils. In spite of the high water preservation, plants in these soils are not provided with enough water. Available water capacity is 12.32 mass %, or only 38 mass % of the whole moisture is available to plants. The retention curves are relatively close one to another. The greatest decline of the curves occurs at lower pressures. In dry sieving of the soil the aggregate fraction >10 mm is dominating (average 56.56%), which in the same time shows the lowest stability in water. That kind of structure makes these soils hard for tiling. The investigated samples of vertisols are highly plastic, with the plasticity index higher than 17, which significantly shorten the physical suitability of soil for tillage.

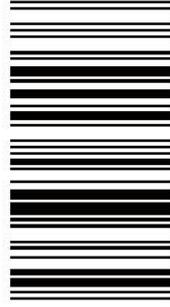


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TABLE OF CONTENTS

1. INTRODUCTION	1
2. MATERIALS AND METHODS	6
2.1. Description of the study area	6
2.2. Field research.....	6
2.3. Laboratory analyses	11
3. RESULTS AND DISCUSSION	14
3.1. MECHANICAL COMPOSITION	14
3.2. CLAY MINEROLOGICAL COMPOSITION	17
3.3. WATER-PHYSICAL AND PHYSICAL CHARACTERISTICS.....	21
3.3.1. Moisture retention (retention curves)	21
3.3.2. Aggregate composition (structure)	27
3.3.2.1. <i>Dry sieving</i>	28
3.3.2.2. <i>Wet sieving</i>	31
3.4. PHYSICAL-MECHANICAL CHARACTERISTICS	34
3.4.1. Plasticity (Atterberg limits)	35
4. CONCLUSION.....	39
5. REFERENCES.....	43