

Raglione, M. & Owczarek, M. 2005. The soils of natural environments for growth of truffles in Italy. – *Mycologia Balcanica* 2: 209-216.

Abstract. Results from all studies on soils where the main edible truffles occur naturally are assessed. For *Tuber melanosporum* soils, the main physical and chemical characteristics have been established in the field and in the laboratory. They are always well-aired and have an optimal particle aggregation, good water-drainage, the constant presence of a limestone skeleton, parent material composed of limestone detritus or intensely fractured limestone rocks. Their $\text{pH}_{\text{H}_2\text{O}}$, pH_{KCl} , organic carbon, and EDTA extractable Mn are fundamental parameters to define the suitability of a soil for this species. For *T. magnatum*, research to date has not been able to determine the main pedological parameters, but has managed to characterize parent material and geomorphological dynamics which lead to the formation of soils suitable for this truffle. Those soils are well-drained and show a great number of pores, with a bulk density always around 1 and constant humidity. For *T. aestivum*, research has been inconclusive because results have been so variable. That variability can be correlated with a strong genetic variability in this species which, in its several forms, has adapted itself to many soil environments. Not much is known about soil characteristics for *T. brumale*, except that it prefers soils much more humid than those of other truffles; water stagnation is frequent and EDTA extractable Mn is always much higher. Nearly nothing is known about *T. borchii*.

Key words: Italy, soil characteristics, truffle natural environment of growth, *Tuber*