

Horn, R., Van den Akker, J.J.H. and Arvidsson, J., (Eds.), 2000. Subsoil Compaction: Distribution, Processes and Consequences. Advances in GeoEcology 32, Catena Verlag, Reiskirchen Germany 462 pp.

Introduction

Soil compaction as one of the dangerous effects for sustainable landuse has already resulted in more than 30 Mha of compacted subsoils in Europe. The weight of machinery used on arable land is still increasing and may cause even more intense soil deterioration. Although many of the effects of subsoil compaction and ways how to prevent it are known in principle, processes like stress and strain propagation, their intensity and determination in soils, modelling of coupled hydraulic and mechanical processes, consequences of subsoil compaction like reduced aeration and rootability, increased surface runoff and soil erosion by water and wind, soil homogenisation, structure deterioration, and yield decline are still under discussion. In addition, the aspect of distribution of compacted soils world wide and their degree of compactness are still unknown. - Experts from more than 30 countries out of 4 continents discussed about the distribution, processes, and consequences of subsoil compaction during 3 international workshops partly sponsored by the European Union. The book will give an overview about the state of knowledge in the various countries, detailed information about some new theoretical approaches and it also defines specific methods, tools and database configurations in order to support the various organisations, decision makers, farmers and scientists to deal with the problem of subsoil compaction more precisely