Andreas Lehmann, Susanne David, Karl Stahr: TUSEC—technique for soil evaluation and categorization for natural and anthropogenic soils. Volume 85, ‘Hohenheimer Bodenkundliche Hefte’

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Andreas Lehmann

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The ‘TUSEC-book’ is an innovative manual for soil evaluation in the temperate zone, comprising English and German versions in one volume. New and innovative are the explicit consideration of anthropogenic soils with the TUSEC evaluation and the differentiation of the evaluation system into two evaluation methods for different levels of detail.

The publication starts with a short retrospection on soil evaluation and an introduction to the background of soil functions. Moreover, the restrictions and possibilities of schematic methods for soil evaluation are highlighted in some detail. A glossary is also added to the text.

According to the different levels of detail of the methods, the book is partitioned into two parts. The first part focuses on exact evaluation, which requires the input of primary soil data and some additional information. The second part comprises a low input method for soil evaluation for overview purposes based on the input of secondary soil data and further information. Such secondary data, for example, are information read out from hydrological maps or building ground maps but also information about the transport of soil material.

Both the part describing the detailed method and the part showing the overview method are again divided into chapters with step-by-step descriptions of methods concerning the evaluation of the widely known soil

functions. Every one of these chapters is introduced with principal explanations on the respective soil functions and descriptions of the specificities of the method are provided. Thereby, details on the methodological extensions, which are necessary for the evaluation of anthropogenic soils, are highlighted.

Whereas the chapters concerning the detailed evaluation method reflect well-tested procedures, only a beta version is available for the overview method.

The detailed procedures additionally include methods for the evaluation of soil performances and subfunctions. Hereby, soil performances are understood as being soil functions implicating a specific economical value for town planning. Two soil performances are provided. The first is concerned with the suitability of soils for alternative storm water management, while the second involves the ability of soils to cool overheated cities. For the latter, a table showing the cooling performance in kWh/m² is provided for 70 German locations. For each location, eight soils with different hydrological regimes are taken into consideration. Also, methods to evaluate some subfunctions are added to allow a land use specific soil evaluation in a detailed manner.

All in all, the ‘TUSEC-book’ is a comprehensive manual for soil evaluation based on profound knowledge, also including a great deal of background information. Therefore, it could be recommended for everyone dealing with activities concerning land-use.

The book, comprising 217 pages, is published as volume 85 in the ‘Hohenheimer Bodenkundliche Hefte’ and can be ordered by sending a mail to kstahr@uni-hohenheim.de or by way of a fax to +49-711-4592-3117. The price including shipment is 10.50 EUR.

A. Lehmann (✉)
Institute of Soil Science and Land Evaluation (310),
Hohenheim University,
Fruwirthstraße 47,
70593 Stuttgart, Germany
e-mail: as@uni-hohenheim.de