

BOOK REVIEW

WILLIAM DUBBIN. 2001. **Soils**. (ISBN 0-565-09148-4, pbk.). Iowa State University Press, 2121 South State Street, Ames, IA 50014, U.S.A. (Orders: 800-862-6657, 515-292-015—distributed for the Natural History Museum, London). \$19.95, 110 pp, 97 color photos, 19 b/w photos, 10 drawings, 1 color map, 8 1/4" × 9 1/4".

Contents.—Preface; The author; Soils—the nuts and bolts; Soil taxonomy and geography; Soil biology; Soil fertility; Soil use and misuse; What lies ahead?; Glossary; Index; Further information.

As stated in the preface, "The soils that cover the Earth's surface determine, to a large extent, the prosperity of those who depend on them for the production of food and fibre. ... More recent examples of soils degradation emphasize the strong link between soil quality and human welfare. Sustained prosperity therefore depends on a thorough understanding of soils coupled with sound management practices."

This small volume is a good beginning for gaining such an understanding and appreciation for this "indispensable natural resource." The book provides a brief, yet understandable and well-illustrated introduction to a complex subject. It does not attempt to go into great depth about the details of soil science. Rather, it gives a basic presentation of the field that is accessible, informative, and interesting to the intelligent lay person. For example, the introductory chapter, "Soils—the nuts and bolts," covers a variety of important basics such as soil formation, parent materials, soil minerals, mineral weathering, soil texture, organic matter, porosity, and water in soils.

The chapter on "Soil taxonomy and geography" is particularly helpful. Currently, there are two main hierarchical classification systems of the world's soils. One system (referred to as UNESCO-FAO) was developed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) jointly with the Food and Agriculture Organization (FAO), while the other, called *Soil Taxonomy*, was developed by "a team of international scientists and the U.S. Department of Agriculture." Clear descriptions and photographs of the 12 orders of the *Soil Taxonomy* system, and a table comparing this system with the UNESCO-FAO classification, bring satisfying clarity to what can sometimes be a confusing array of names. The numerous excellent color photographs are particularly helpful in visualizing the various soils being discussed in the text.

As someone living on the Blackland Prairie of Texas, whose soils have been devastated by years of misuse and now increasing development, it was very pleasing to see a whole chapter, "Soil use and misuse," devoted to issues of soil conservation. Concise but informative discussions of erosion, the buildup of salts in soils, and soil pollution highlight important issues in soil management and conservation. Also, such special focus topics as "Salinity 'down under' (Australia)," "Bioremediation—nature's chimney-sweep," and "Famine in Africa" give real world examples and a human face to soil conservation. In addition, conservation is a theme incorporated throughout the book—for example, there is a special section on eutrophication ("Too much of a good thing—eutrophication") in the chapter on "Soil fertility."

In several sections I had the feeling I wanted more—additional information and details. That's probably a positive thing. As many teachers will attest, if you can interest a student so they want to learn more on their own, you've won half the battle. Indeed, the book only intends to be an understandable introduction to a large and complex discipline, and it clearly succeeds in that goal. It is a brief yet helpful overview of the field and should provide increased understanding to a wide audience. Individuals wishing more in-depth knowledge will appreciate a page at the end of the book with a list of more detailed soil science references as well as a number of web site addresses.—George M. Diggs, Jr., Dept. of Biology, Austin College, Sherman, TX 75090, and Botanical Research Institute of Texas, Fort Worth, TX 76102, gdiggs@austinc.edu.



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