Soil Biology

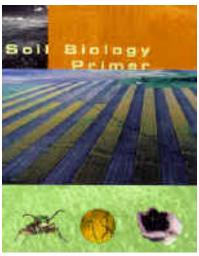
Overview

The creatures living in the soil are critical to soil quality. They affect soil structure and therefore soil erosion and water availability. They can protect crops from pests and diseases. They are central to decomposition and nutrient cycling and therefore affect plant growth and amounts of pollutants in the environment. Finally, the soil is home to a large proportion of the world's genetic diversity.

Soil Biology Technical Notes

NRCS Soil Biology Technical Notes are a series of technical publications designed to provide additional information about soil biology.

The Soil Biology Primer



The *Soil Biology Primer* is an introduction to the living component of soil and how it contributes to agricultural productivity, and air and water quality. The Primer includes units describing the soil food web and its relationship to soil health, and units about bacteria, fungi, protozoa, nematodes, arthropods, and earthworms. It is suitable for a broad audience including farmers, ranchers, agricultural professionals, resource specialists, conservationists, soil scientists, students, and educators.

Starting with The Soil Food Web, use the navigation links above to access the web-based version of the *Primer* and additional resources. This on-line version includes all of the text of the original, but not all of the images of the soil organisms. The full story of the soil food web is more easily understood with the help of the illustrations in the printed version.

Copyright restrictions: Many photographs on this site cannot be used on other web sites or for other purposes without explicit permission from the copyright owners. For reproduction requests of copyrighted (credited) images, please contact the Soil and Water Conservation Society at pubs@swcs.org. The text, graphs, tables, photos, and graphics from USDA sources may be used freely; however, please credit the Soil Biology Primer or this web site. Also, as a courtesy, e-mail the webmaster of this site to let us know how you are using this material.

<u>Clip art from the Primer</u> is available for downloading.

Printed Version

Printed copies of the Soil Biology Primer may be purchased at the Soil and Water Conservation Society online store at www.swcs.org.

How to Cite the Soil Biology Primer

Citation for this web page:

Soil Biology Primer [online]. Available: soils.usda.gov/sqi/concepts/soil_biology/biology.html [access date].

Either of the following are correct citations for the current edition of the booklet:

Tugel, Arlene, Ann Lewandowski, Deb Happe-vonArb, eds. 2000. *Soil Biology Primer*. Rev. ed. Ankeny, Iowa: Soil and Water Conservation Society.

Soil and Water Conservation Society (SWCS). 2000. *Soil Biology Primer*. Rev. ed. Ankeny, Iowa: Soil and Water Conservation Society.

Citation for the first edition of the booklet:

Tugel, A.J., A.M. Lewandowski, eds. 1999. Soil Biology Primer. NRCS Soil Quality Institute, Ames, IA.

Acknowledgements

The former Soil Quality Institute of the Natural Resources Conservation Service, with assistance from the Conservation Technology Information Center, provided leadership for this project. The Natural Resources Conservation Service and the Soil and Water Conservation Society thank many individuals, including the following, for their contributions.

Authors

Elaine R. Ingham Andrew R. Moldenke, Oregon State University Clive A. Edwards, The Ohio State University

Editors

Arlene J. Tugel, NRCS Soil Quality Institute
Ann M. Lewandowski, NRCS Soil Quality Institute
Deb Happe-vonArb, Soil and Water Conservation Society

Designer

DesignGroup Inc.

Illustrations

Nancy K. Marshall, Marshall Designs

Reviewers (Not all reviewed all chapters)

Jayne Belnap, National Park Service
Edwin Berry, USDA-ARS, National Soil Tilth Lab, Ames, IA
David C. Coleman, University of Georgia
Jeff Herrick, USDA-ARS, Las Cruces, NM
Ann Kennedy, USDA-ARS, Pullman, WA
Dennis Linden, USDA-ARS,St. Paul, MN
Jean Molina, University of Minnesota
Kate Scow, University of California, Davis