FOR MORE INFORMATION

COMPOSTING AS A TOPIC FOR HIGH SCHOOL SCIENCE INVESTIGATION

Trautmann, N.M., T. Richard, and M.E. Krasny. 1996. ***Composting in Schools***. WWW site at:
http://www.cfe.cornell.edu/compost/schools.html

This WWW site includes detailed information on compost science and engineering, as well as articles about weird and unusual composting, frequently asked questions, a composting quiz, and bulletin boards for posting messages to other teachers or students.

Krasny, M.E. and N.M. Trautmann, executive producers. 1996. ***It's Gotten Rotten***. Produced by Photosynthesis Productions, Inc. Ithaca, NY.

A 20–minute video designed to introduce high school students to the science of composting, highlighting the biology of the invertebrates and microorganisms that decompose organic matter. Students are shown designing and using both indoor and outdoor composting systems, observing living organisms, and using finished compost to grow plants. Available from:

Cornell University Resource Center
7 Business & Technology Park
Ithaca, NY 14850
Phone (607) 255–2090
Fax (607) 255–9946
E-mail: Dist_Center@cce.cornell.edu

or

Bullfrog Films
Box 149
Oley, PA 19547
Phone (800) 543–FROG
Fax (610) 370–1978
E-mail: bullfrog@igc.org

COMPOSTING FOR WASTE MANAGEMENT

Bonhotal, J.F. and K. Rollo. 1996. ***Composting…Because a Rind Is a Terrible Thing to Waste***. Cornell Waste Management Institute. Ithaca, NY.

A handbook and two videos designed to help institutions such as schools to implement food scrap composting. Available from Cornell University Resource Center (address above).

Bonhotal, J.F. and M.E. Krasny. 1990. ***Composting: Wastes to Resources***. Cornell Cooperative Extension. Ithaca, NY.

A guide for educators and volunteers leading youth aged 9–12 in composting and related activities. Includes plans for eleven types of outdoor composting systems. Available from Cornell University Resource Center (address above).

Dickson, N., T. Richard, and R. Kozlowski. 1991. ***Composting to Reduce the Waste Stream: A Guide to Small Scale Food and Yard Waste Composting***.

Explains how to construct and maintain a compost pile. Outlines factors that affect the composting process including aeration, moisture, and temperature. Illustrations, tables, diagrams, and step-by-step instructions for constructing compost bins. Available from:

NRAES
152 Riley-Robb Hall
Cornell University
Ithaca NY 14853
Phone (607) 255–7654
Fax (607) 254–8770
E-mail: nraes@cornell.edu

Martin, D.L. and G. Gershuny, eds. 1992. ***The Rodale Book of Composting***. Rodale Press. Emmaus, PA.

An updated version of Rodale's classic book for small-scale outdoor composting. Includes composting instructions, as well as the history of composting, relationships between compost and plant health, and recommendations for applying compost to lawns, gardens, and house plants.

Witten, M. 1995. ***Scraps to Soil: A How-To Guide for School Composting.*** Association of Vermont Recyclers. Montpelier, VT.

A guide for teachers and students in grades 3–6 who are interested in composting their school's food and landscaping wastes. Although not aimed at the high school level, the guide outlines the process for setting up a school-wide food scrap composting program. Available from:

Association of Vermont Recyclers
PO Box 1244
Montpelier, VT 05601
Phone (802) 229-1833

CHEMISTRY

Golueke, C.G. 1992. Bacteriology of composting. ***BioCycle*** 33(1): 55–57.

Kayhanian, M. and G. Tchobanoglous. 1992. Computation of C/N ratios for various organic fractions. ***BioCycle*** 33(5): 58–60.

PHYSICS

Haug, R. 1993. Thermodynamic Fundamentals. pp. 95–120 in ***The Practical Handbook of Compost Engineering***. Lewis Publishers, Boca Raton, FL.

MICROBIOLOGY

Alexander, M. 1991. ***Introduction to Soil Microbiology***, 2nd ed. Krieger Publishing Co., Malabar, FL.

Beffa, T., M. Blanc, and M. Aragno. 1996. Obligately and facultatively autotrophic, sulfur- and hydrogen-oxidizing thermophilic bacteria isolated from hot composts. ***Archives of Microbiology*** 165: 34–40.

Golueke, C.G. 1992. Bacteriology of Composting. ***BioCycle*** 33(1): 55–57.

INVERTEBRATES

Coleman, D.C. and D.A. Crossley, Jr. 1996. ***Fundamentals of Soil Ecology***. Academic Press, San Diego.

Dindal, D.L. 1990. ***Soil Biology Guide***. John Wiley & Sons, New York.

Dindal, D.L. 1971. ***Ecology of Compost: A Public Involvement Project***. State University of New York, College of Environmental Science and Forestry. Syracuse, NY.

The classic reference on food webs in compost piles. Available from:

Office of News and Publications
122 Bray Hall
ESF
1 Forestry Drive
Syracuse, NY 13210
Phone (315) 470–6500

Johnson, C.E. 1980. The wild world of compost. ***National Geographic*** 157: 273–284.

Mallow, D. 1990. Soil arthropods. ***The Science Teacher***. 57(5): 64–65.

WORMS

Appelhof, M. 1982. ***Worms Eat My Garbage***. Flower Press, MI.

The original book of instructions for setting up and maintaining a worm composting system. Available from:

Flower Press
10332 Shaver Rd.
Kalamazoo, MI 49002
Phone (616) 327–0108

Edwards, C.A. and P.J. Bohlen. 1996. ***Biology and Ecology of Earthworms***. Chapman Hall. London, UK.

STUDENT RESEARCH

Cothron, J.H., R.N. Giese, and R.J. Rezba. 1993. ***Students and Research: Practical Strategies for Science Classrooms and Competitions***, 2nd ed. Kendall/Hunt, Dubuque, IA.

CURRENT COMPOSTING RESEARCH

Compost Science & Utilization. The JG Press, Inc. Emmaus, PA.

A quarterly peer-reviewed journal that presents results of research on the science of compost production, management, and use.