Using Garbage to Teach Science

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**Introduction:** Neither new to agriculture or technology, composting is as old as the earth itself. It is the very process that decays leaves and organic debris in nature. Humans discovered composting and its benefits early in their relationship with agriculture. Perhaps one of the first people to document composting was Marcus Cato, a Roman farmer and scientist. Cato utilized compost as a fundamental soil enhancer over 2000 years ago (The Compost Resource Page, 2002).

As a biological process wherein microorganisms convert organic waste materials into a soil-like material, compost today is viewed as the ultimate recycling process by homeowners, municipalities and commercial operations. As landfills around the world are filling up and garbage incineration continues to be a great source of air pollution, composting offers a partial solution to the issue of waste disposal. By addressing the solid waste issue, composting provides a way of instilling in students a sense of environmental stewardship (Cornell Composting in Schools, 2002).

Agricultural educators have introduced bits and pieces of composting information to their students. As a teaching tool in the classroom or in outdoor land laboratories, composting provides an excellent hands-on tool for introducing plant science and applied biological systems competencies and agricultural industry skills. The rapidly growing urban populations of the world demands an ever-improving system for handling waste. Composting offers a valid and practical solution to that challenge and can also provide new career and entrepreneurial opportunities for agricultural education students.

**Purpose:** The purpose of this project was the development of a Teacher Reference Unit (TRU) on composting.

**Major Points:** The Instructor Reference Unit: Composting was developed to be an easily used tool in the modern day agriscience classroom. Concise, current, and effortlessly adaptable material is included on CD-ROM and instructors can quickly tailor the information to fit their own curriculum needs.

Table of Contents:
1. Understanding the history and benefits of composting
2. The composting process: How does it work
3. Identifying methods of composting
4. Selecting raw materials
5. Building an indoor composter
6. Understanding the value of farm/commercial composting
7. Building an outdoor composter
8. Composting and the world’s environment

**Conclusion/Educational Importance:** From an educational standpoint, composting provides real-world, hands-on opportunities for students to be introduced to competencies such as understanding plant and seed germination requirements, examining the interaction of biological systems within the environment and even managing a plant disease control program. The instructor who chooses to present the Instructor Reference Unit: Composting will be a wise and popular teacher. The program's adaptability is one of its finest features. The increasing use of technology in schools and teaching methods will allow the Instructor Reference Unit: Composting to become a custom curriculum for every agriscience teacher.