

Composting as a Component of Sustainable Agriculture: Developing & Delivering Composting Information at a Critical Time

Summary

Management of nutrients is critical to keeping livestock farms sustainable. Composting is one tool that can help manage manure nutrients and provide other benefits. There are many successful approaches to composting being used on farms. "Farm-Based Composting: Manure & More" is a 38-minute video that highlights 14 farm operations and six different composting technologies from low to high technology. Special emphasis is placed on equipment that is already found on farms and retrofitted to perform compost tasks. Compost specific equipment, rent/lease equipment and high technology compost operations are also featured. This video can be used in its entirety or as short individual case studies.

Introduction

Objectives/Performance Targets

Overall: Work with farmers, agricultural educators, and farm assistance agencies in the northeast to encourage composting as an economically and environmentally sound component of sustainable farming. Specific objectives are:

1. Increase composting on farms as a tool to manage manure, carcasses and off-farm clean organic residuals and to produce a value-added product.
2. Illustrate the potential for composting of animal manure to address environmental concerns such as nutrient management, water quality, pathogens and odors.
3. Demonstrate the feasibility of using existing farm equipment to compost on farms.
4. Develop awareness of the use of composting methods to dispose of animal carcasses and show farmers and their advisors how it can be done.

Materials and Methods

An advisory committee of agriculture people was recruited to meet the first goal, to produce the video "Farm-Based Composting: Manure and More." The committee included representatives of different links in the educational process: farmers, Cooperative Extension Agents, NRCS technicians, NYS Dept of Environmental Conservation, Empire State Development, Center for Ecological Technology, NYS Farm Bureau, NYS Dept of Agriculture and Markets, Northeast Sustainable Agriculture Research & Education (NESARE), Pro Dairy and watershed associations. The advisory committee guided the video process and assisted with the implementation of the education/outreach program.

Farm compost operations were chosen to highlight different technologies, use of equipment, and economic scenarios. After shooting, video footage was transcribed and the story line came together. The advisory committee convened and commented, changes were made to add more information about the farms, type of animal manure, number of animals, technology used and location.

The video was ready for distribution February 2001. A promotional plan was developed and a three-pronged approach implemented. Promotion initially started as the video was produced and promoted at public events. The Natural Resource, Agriculture, and Engineering Service (NRAES) and the Cornell Waste Management Institute (CWMI) have promoted the video on web sites and through publications/newsletters as well as meetings and conferences.

Results and Discussion/Milestones

Producing the video, convening and engaging the advisory committee and recruiting farmers to participate in the video set the educational process in motion. As the video was being produced, CWMI and Center for Ecological Technology (CET) spoke with different groups about the resource and scheduled dates where it would be highlighted. Many of the events

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reached agriculture advisors who in turn were able to get the information to farmers. Farmers are also reached through events, meetings and articles. Over 2000 farms, agencies, compost producers, and advisors were reached in this time period of the grant. Many of the impacts of this video will not be realized for a few years, though with over 200 videos being used this quickly, we will see how useful the information is in the next few years. Farmers and butcher operations are already composting because they have used this video along with others resources available at Cornell and other universities.

This video provides the opportunity to take farmers and their advisors on "virtual field trips" and to reach more people with the information. It allows farmers to learn through their most preferred method--seeing for themselves. "Farm-Based Composting: Manure and More," is a 38-minute video that highlights 14 farm operations and six different composting technologies from low to high technology. Special emphasis was placed on equipment that is already found on farms and retrofitted to perform compost tasks. Compost specific equipment, rent/lease equipment and high technology compost operations are also featured. The video illustrates the potential for composting of animal manure to address environmental concerns such as nutrient management, water quality, pathogens and odors and will develop awareness of the use of composting methods to dispose of large animal carcasses. This video can be used in its entirety or as short individual case studies.

CWMI and NRAES have marketed the video by news release and catalog. The news release went to about 200 newspapers nationwide. The video was featured along with other news publications in NRAES 2001 Horticulture Catalog. The catalog was inserted in the March 2001, edition of the Vegetable Growers News; they have a circulation of ~15,000. In addition, the catalog was mailed in March 2001, to extension county offices in the following states: WA, OR, MN, WI, MI, IL, IN, AR, OH, KY, TN, NC, SC. The video was shown on large screen at the NRAES Manure Management Conference, Rochester, NY, to 250+ conference participants. The next NRAES marketing effort will be to NRCS offices nationwide as well as other waste related mailing lists. To date we have sold 200+ copies.

A survey of a small number of agricultural educators was completed. Of nine educators that were surveyed, most were using it with farm audiences at nutrient management workshops. They have also added it to their lending library where they have had to secure several copies because of demand. It also had an unexpected boost because of the difficulty farms and butchers are having getting rid of carcasses and butcher residuals. CWMI has received funding from NYS Department of Economic Development, Northern New York Agriculture Program and American Association of Meat Processors (AAMP) to produce a full video on the subject of composting carcasses and butcher wastes as well as demonstrations and pathogen testing.

Impact of Results/Outcomes

1. Conference Presentations and Workshops: Presentations have been made to Agriculture Extension Agents, NRAES Manure Conference, Certified Crop Advisors, American Meat Processors, NYS Energy Research & Development Authority, NYS Farm Bureau, Poultry Industry Association, American Dairy Science Association, NYS Rural Water Association, NRCS, NYS Organics Recycling and Compost Council, Cornell Cooperative Extension, NYS Solid Waste Federation, BioCycle, and the National Recycling Coalition.

2. Publications: Promotional information was provided for publications. The video was promoted in Extension newsletters, NYS Farm Bureau, NRCS and other industry publications. To make best use of the video and make it more available to farms, agriculture educators have added them to their lending libraries and farms are signing it out.

3. Website: The video is listed on CWMI, NRAES, SARE and other websites. It has also been announced through National Extension, Concentrated Animal Feeding Operation (CAFO) list serve, US Composting Council and other list serves as appropriate. CWMI had 317,357 hits (January-December 2001) on their web site: <http://www.cfe.cornell.edu/wmi>.

Economic Analysis

N/A

Outreach and Dissemination

Over 1800 people were reached through workshops and conferences.

Areas Needing Additional Study

Since cows produce as much manure as milk we must realize that there will be a cost to managing that manure. There has been an increased interest in composting with the advent of the CAFO regulations, farms of all sizes are seeking assistance. There is certainly a cost to incorporating composting into nutrient management schemes but there are also many benefits. Benefits include odor and volume reduction, readily available nutrients and organic material, the ability to sell nutrients off-farm compensating for some of those costs and ability to dispose of mortality on-farm through composting. CWMI will continue to work with farms on their compost quality, management, use on-farm, value added uses and marketing. We are currently testing manure compost products on 30 farms and data from that project will be available in 2002. We hope to address concerns about pesticide, herbicide and copper pass through in compost in the future.