

2008 PROGRAM WORK TEAM ANNUAL REPORT

Managing Wastes: Composting and Land Application

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Activities, Accomplishments, Outcomes and Impacts:

The Managing Wastes PWT continues to engage diverse stakeholders, including: government agency personnel who are responsible for managing waste residuals, regulating wastes and nutrients, assisting the agricultural community and funding waste-related research and outreach; livestock farmers; compost producers; NGOs, private consultants, waste management companies as well as Cornell Cooperative Extension educators and Cornell faculty and staff from several colleges and departments.

One of our staff jokes that this committee should be called “People Working Together” and that is truly the essence of what steers our research and programming. Waste management is part of every industry, and each day we realize that wastes from manure to food scraps can be managed as assets. One of the important roles Cornell Waste Management Institute (CWMI) plays is convening people interested in waste management so that we can work together to affect change. Our stakeholder involvement took a few different turns this past year. The main issue groups gathered around food residuals, use of organic residuals as livestock bedding and management of mortality and meat residuals in disasters and on a routine basis. Because the subject of waste is so vast and organic residuals so varied, sub groups convened around other topics as well. The impacts of waste management on soil quality have also been identified as topics of concern in previous years, and CWMI continues to work to address issues related to contaminant sources, soil testing and interpretation of test results.

NYS DEC requested that CWMI partner with them to convene seven food scrap management roundtables throughout NYS. CWMI gathered information and provided technical assistance to over 350 people and reinforced the state waste hierarchy; reduce (smarter purchasing/planning), reuse (food recovery), recycle (compost) and then landfill/incinerate. State and local government, Cornell Cooperative Extension, agriculture industry, institutions, industry, food recovery organizations and schools participated. A steering committee for the larger group compiled the information and has started putting plans in effect to respond. Three grants have been written to secure funding to increase the ability to characterize and better redistribute “would be waste”. A course will be held in May 2009 to educate people on diverting and adding value to their organic waste. More education is needed in food scrap recycling so old but current educational materials are seeing an increase in use. Case studies are being updated and written to give guidance to those needing examples. We get 100s of calls from other institutions asking about Cornell’s compost efforts. We have always had information available, but the updated compost scenario, including establishment, collection, growth, composting and value added product, is posted on our web site to provide a more complete picture.

Another PWT goal, managing mortalities through composting, continues to be a focal point for research and outreach. NYS and the US have seen changes in mortality management services offered. Composting as a management tool has its place in CAFO plans, emergency response, disease outbreak and disasters and routine mortality. CWMI presented information at five CAFO meetings that addressed over 480 farm managers and ag advisors. Every state must have an animal mortality response plan for disease outbreaks. Educational materials were developed in collaboration with NYSDEC and NYS Dept of Ag and Markets on a compost response to an Avian Influenza outbreak. For quick access, resources (including a how-to video clip) are

available on the web. Information about Natural Rendering: Composting Poultry Mortality is available for downloading as a 12p illustrated fact sheet, poster and 6-minute video because in an emergency we may be occupied with other outbreaks. In 2009, a third national conference will address Management of Animal Carcasses, Tissue and Related Byproducts with CWMI leading the symposium coordination and content. CWMI is assisting in a study to look at the quality and quantity of leachate that is emitted from mortality compost piles. This research will help Department of Transportation, NYSDEC and Watershed groups to assess environmental impacts of different processes. Train the trainer mortality composting workshops are underway to establish more educational teams in the NE to help implement mortality composting. Forty of 60 educators have been trained to date (with 1 more training planned in 2009).

The use of dried manure solids as dairy barn bedding is of increasing interest to farmers in NYS. Four collaborative projects involving Cornell University (CWMI & the Vet School) and dairy producers investigated this practice, and CWMI continues to provide outreach to the participating farms and to other dairy farms. Results from studies for feasibility as it relates to herd health, production and how frequently bedding needs to be changed are issues of concern. Over the project period more than 50 farmers and industry leaders were convened multiple times to direct the research, discuss research results and facilitate outreach. Study results have been presented at state and national conferences, articles have been published and results and discussion posted on CWMI's web site. One related research project based in Wyoming County, Composting Bedded Pack Barns, is just reaching completion. In two open house programs over 220 people visited and gained information to better serve livestock bedding needs.

A topic that we have been engaged in over many years is soil quality, which is important to waste management because of the spectrum of products that might be applied to and affect soils. Concerns about soil contamination range from impacts of the use of treated lumber or pesticides, to the impact of spills of fuel oil or gasoline, to the application of biosolids. To help address these concerns, continued funding allows CWMI to work with CCE educators across NYS, as well as many faculty and agencies, in identifying contaminants of particular concern and developing guidance materials addressing what to test for, how to test soils and how to interpret test results. Dr. Murray McBride, an environmental toxicologist and chemist with Department of Crop and Soil Sciences, took over the directorship of CWMI with the retirement of Ellen Harrison and will continue to explore aspects of soil quality. Additionally, in 2008 Hannah Shayler joined CWMI to focus on how research and education programs can best address issues of concern to soil quality.

Through all of these programs, CWMI collaborates with other Cornell departments to play a major role in addressing the generation and use of wastes in agriculture and communities. CWMI delivers research-based knowledge around the world. Our newly updated web pages (cwmi.css.cornell.edu) received over 620,500 visits. We share key information via email with a 5200-person mailing list. In 2008, CWMI extended our reach by working with Extension educators from more than 42 counties. By working with over 80 Extension educators, government personnel from numerous agencies, farmers and faculty in both NY and other states and other stakeholders, CWMI efforts are directly informing appropriate policies and putting knowledge into practice.