

FY 2013 PROGRAM WORK TEAM ANNUAL REPORT

1. Full name of your Program Work Team (PWT):

Managing Wastes: Composting and Land Application

2. Please list names, affiliations and e-mail addresses of the PWT Co-Chairs: (With an asterisk [*], please indicate the co-chair responsible for finalizing this report.)

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Activities, Accomplishments, Outcomes and Impacts:

The Managing Wastes PWT had a very active year, with three different forums where research and implementation gaps were identified and information transferred. This PWT is represented by a broad band of interested stakeholders, including livestock farmers, compost producers, government agencies, other universities and colleges, NGOs, private consultants, waste management companies, Cornell Cooperative Extension educators and Cornell faculty, staff and students from a number of departments. This broad band of interested parties works with CWMI and the Managing Wastes PWT to identify needs in order to continue to address waste related issues.

Effectively managing and reducing waste can turn unwanted waste products into resources while avoiding disposal costs and reducing demand for landfill space. There is demand for research and information on organic residual management. Many of our stakeholders have interest in the use of organic residuals as value-added products for use in agriculture, horticulture and for energy production and erosion control, as well as homes, schools and communities. Government regulators from many states serve on the PWT and work with CWMI, to answer questions that affect regulation.

One of the important roles CWMI plays is convening people interested in waste-related topics, bringing regulators, educators and stakeholders together to solve waste-related problems. For several years, the focus had been primarily on agricultural wastes, but in the last couple of years, our stakeholders indicated interest in re-energizing our education programs on small to medium scale organics management. Homeowners, schools, restaurants, businesses and small municipalities are all seeking ways to manage their organic residuals either on-site or close to home. CWMI has helped facilitate

more on-site composting over the last year by working with various PWT stakeholders in schools, towns and villages across NYS. For example, , CWMI, along with the Development Authority of the North Country (DANC) has been involved with facilitating composting in school cafeterias in Jefferson, St. Lawrence and Lewis counties, also in Seneca county with CCE. The goal for teaching students in schools is kids will learn in school and then implement at home and hopefully composting on site becomes the new normal.

In addition, the Managing Wastes PWT held three events to address ways to manage organic residuals. The first event took place at the Stakeholders Consortium Meeting in March on Cornell's campus in Ithaca. Ten members of the Managing Wastes PWT attended this event and others participated through e-mail of emerging trends in NYS that should be tracked and engaged via research and extension programming. In keeping with the mission of our PWT, these needs included diversion of organics, specifically food waste, from landfills through education that would instill values to make separation and diversion a "cultural" norm, increasing capacity for this diversion, finding uses for paper mill fiber waste, adding value to manure and finding more markets for recycling agricultural plastics. Those who attended added their voice to the questions posed by the consortium to strategize for the coming year.

The second and third events grew from repeated inquiries from stakeholders to have a repeat of the PWT's 2012 workshop on composting basics and tour to see composting in action, in another part of the state. In August, a two-day workshop and tour took place with collaborators including CCE, Sustainable Cortland, and the Cortland County Soil and Water Conservation District. Forty participants from around the New York State and Connecticut, Florida and Ontario, Canada attended the workshop. There were sessions on the basics of composting, using co-composter (<http://compost.css.cornell.edu/CoCompost.html>) and producing compost for various markets by CWMI. Cortland County SWCD presented information on siting and maintenance and NYS Department of Environmental Conservation discussed rules and regulations for compost facilities. Two compost facility operators from large-scale municipal programs gave overviews of their programs and representatives from USDA, Rural Development and NYS Agriculture and Markets talked about funding opportunities for composting. The following day, participants toured five facilities that are managing organic residuals in a variety of ways: (1) a village composting facility, (2) an aquaponics farm on Main Street that is using a variety of sustainable practices including vermicomposting, (3) a diversified organic farm that composts its manure from its organic dairy, (4) a horse farm that includes food scraps from the local school and college with horse manure, and (5) road-killed carcass composting at the NYS DOT facility.

CWMI conducts targeted research, provides programming and assists in policy development on many waste topics including recycling, composting, digestion, waste reduction and agriculture waste management. At the March Stakeholder's Consortium Meeting one of the poll questions asked was "How does our work build on and influence policy?" One of our stakeholders, a NYSDEC regulator, indicated that "A lot of decisions are made in an hour just based on what the people in the room know". Therefore, it is important to pass along information to policy-makers, even on an informal basis so that it is in their head when they are in those situations. They often also help guide the research to answer those questions. This particular regulator uses information gleaned from the Managing Wastes PWT to help set direction and influence policy in the solid waste area.

CWMI continues to work with NYSDEC and many others to help implement the Solid Waste Management Plan (SWMP) for NYS. As indicated in the March Consortium meeting, building additional infrastructure to manage more organics is a priority. CWMI's Compost Facility Map (<http://compost.css.cornell.edu/maps.html>) helps facilitate the movement of organic feedstock to compost facilities; over 10 new facilities are managing more organics and eight more schools are managing organics either on-site or diverting to a large scale or municipal facility. Businesses that transport pre and post-consumer waste from small restaurants to large compost facilities are cropping up in NY as well and are being listed on the map.

Our continued interactions with community stakeholders through gardening events and discussion forums, urban farming workshops and responding to information requests by email and phone have clearly indicated that our "Healthy Soils, Healthy Communities" and soil quality resources (<http://cwmi.css.cornell.edu/soilquality.htm>) are in demand and being used frequently. Work continues to help gardeners, farmers, and others make informed decisions about contamination in soils and use best management practices for healthy and safe gardening.

Managing mortalities through composting continues to be a focal point for research and outreach. Composting as a management tool has its place in CAFO plans, emergency response, disease outbreak and disasters, as well as routine mortality. CWMI, along with Oklahoma State University and North Dakota University have recently developed a Livestock and Poultry Mortality Management Learning Module for use by educators and ag instructors. This USDA NIFA funded project was initiated with a focus on young and beginning livestock and poultry producers and those that advise or educate them. The curriculum includes: a short narrative, FAQs (including brief FAQ YouTube videos), fact sheets, web content, multimedia, quiz questions, in-class assignments, suggested contacts and a PowerPoint presentation. All of these materials can be found on the National eXtension website at <http://www.extension.org/68315>. CWMI also taught a three-hour course on Mortality Composting at the 2013 Water Quality Symposium for the NYS Conservation District Employees' Association and a two-hour course at the Agriculture In-Service for Cornell Cooperative Extension Agents.

CWMI collaborates with other Cornell departments to play a major role, particularly regarding characterization and use of wastes in agriculture and communities. CWMI delivers research-based knowledge around the world, and shares key information via a 5,000 person e-mail list. All resource materials and videos are accessible through eCommons@Cornell. The CWMI website, Blog and eCommons received over 620,000 hits. Through conferences, workshops and trainings, CWMI reached 1,200 people with a total of 3,670 contact hours. CWMI's reach continues to expand as we worked with Extension educators from 42 counties and across the nation as well.