

**Managing Organic Residuals
Program Work Team – Annual Meeting Summary
Cornell Waste Management Institute**

Date: May 31, 2012

Location: Farm Credit East, Washington County, Greenwich, NY

Purpose: The purpose of the PWT is to gain guidance from participants on what direction CWMI should take in research and outreach to be able to answer stakeholders' questions, as well as to provide updates on current programs and share newly developed resources.

Meeting Summary: The annual PWT meeting drew a lively group of 30 diverse stakeholders together. This year's meeting discussed 1) Connecting organics with users, 2) Composting – Shekinah Ranch in Ohio, municipal efforts, legislation and marketing, 3) NY's Solid Waste Management Plan, 4) update on CWMI projects and, 5) requests for research and/or information.

Tour: K.A. Sunset View Farm (Sean Quinn Farm) – Schaghticoke, NY. Tour given by Josh Nelson and Brian Jerosé of Agrilab Technologies.

List of Attendees

Affiliation	Name
<u>ACT Bioenergy, LLC</u>	<u>David Dungate</u>
<u>Agrilab Technologies</u>	<u>Joshua Nelson</u>
<u>Ashfield, MA</u>	<u>Holly Westcott</u>
<u>Cayuga Compost</u>	<u>Mark Wittig</u>
<u>Collard City Growers</u>	<u>Abby Lublin</u>
<u>Cornell Cooperative Extension Hamilton County</u>	<u>Nancy Welch</u>
<u>Cornell Cooperative Extension Washington County</u>	<u>Aaron Gabriel</u>
<u>Cornell Cooperative Extension Westchester County</u>	<u>Anna Snider</u>
<u>Cornell Cooperative Extension Wyoming County</u>	<u>Joan Petzen</u>
<u>Cornell University Crop and Soil Sciences</u>	<u>Muhammad Shafiq</u>
<u>Cornell University Crop and Soil Sciences</u>	<u>Janice Thies</u>
<u>Cornell Waste Management Institute</u>	<u>Jean Bonhotal</u>
<u>Cornell Waste Management Institute</u>	<u>Mary Schwarz</u>
<u>Country Folks</u>	<u>Katie Navara</u>
<u>Delaware County Dept of Public Works</u>	<u>Susan McIntyre</u>
<u>Devine Gardens</u>	<u>Tina Jacobs</u>
<u>Ecovative Design</u>	<u>Lucy Greetham</u>
<u>Montgomery-Otsego-Schoharie SWMA</u>	<u>Barbara Corrigan</u>
<u>New England Organics</u>	<u>Glen Knecht</u>
<u>New England Organics</u>	<u>Jeff Brinck</u>
<u>New England Organics</u>	<u>Richard Hill</u>
<u>NYS Dept of Environmental Conservation</u>	<u>Gary Feinland</u>
<u>NYS Dept of Environmental Conservation</u>	<u>Sally Rowland</u>
<u>Shekinah Ranch</u>	<u>Angela Campbell</u>
<u>Shekinah Ranch</u>	<u>Pastor Donovan Larkins</u>
<u>Skidmore College</u>	<u>Paul Lundberg</u>
<u>Skidmore College</u>	<u>Riley Neugebauer</u>
<u>Troy City Council</u>	<u>Rodney Wiltshire</u>
<u>Troy, NY</u>	<u>Victoria Christof</u>

Issue Discussions:**Connecting organics with users:**

- Hamilton County has a huge amount of woodchips that need a home. Where can they go and how do we make the connections? How do we deal with movement from one location to another?
- At one point, Washington County had put together a compost network for organic connections, but that is out of date.
- Biomass trader at <http://www.biomasstrader.org/NY/> was suggested as a possible way of connecting biomass with users. It is free to post items. However, research has shown that for things like this to be successful, they need about 200 people populating it and right now there are only about 50. Why is it not working?
- One real limitation is the cost of transportation. It was suggested that if there was the opportunity to link transporters with the site, it would make it more attractive. That is, if you could find the item, and then be able to find how to transport it, the service may get used more.
- Are there regulations about hauling organics? In Ohio, there are several imposed by NRCS. In NY, manure and compost do not traditionally require a permit because they are a product, not waste. However, feedstocks such as woodchips may be a problem due to insects and disease:
 - There are some quarantine counties in NY where the movement of wood products is restricted (either in or out)
 - However, 1-inch chips can be transported anywhere.
- Mesa Reduction in Auburn, NY: consultants/engineers that reduce things – truck a lot of organics around NY State. The contact person is Matt McArdle.

Focus on Compost and Composting:

- Shekinah Ranch in Ohio – This ranch has 50 horses from which they are collecting and composting manure on a 20 x 30 pad to heat 5,000 gallons of water for raising Tilapia, but they are having a little trouble with it (temps are not getting above 100 F) and wanted to do some brainstorming about why. The following were suggested by various participants:
 - Woodchip plenum underneath or more woodchips in the blend, and more uniformly mixed may allow more air in – may be too dense to produce heat.
 - Shape of the pile may be wrong to keep the heat in.
 - Possibly add trichoderma as an accelerant for composting.
 - Check <http://compostpower.org/> which is a not for profit educational organization with interest in capturing heat from composting.
 - Charring may be helpful. Information can be found at International Biochar Initiative: <http://www.biochar-international.org/>
- Municipal Composting
 - CWMi is working with Watervliet, RPI and other places/municipalities to see what they are doing and looking to find ways to help.
 - The city of Troy has identified the need to cut down on MSW. There has been a lot of urging from residents to better manage their waste. The newly elected City Council wants to put Troy out there as a city that takes sustainability seriously. Part of the task is to identify all the technical and physical ways in which composting can be implemented in the municipality. Waste is being shipped

across the Hudson which costs money. The same waste can also generate revenue. They would like to make it work and save the taxpayers money. There has been a lot of interest from businesses to get on board. In addition, Troy could be a regional center in Rensselaer County for other communities.

- There is a Citizens Working Group on Composting in Troy that is just beginning to get a handle on what their assets are: a brownfield site, 3 colleges and universities, large group of people that want to see it happen. Potential for many uses: lots of community gardens. It is a concentrated community area, so it won't have to go far. There are lots of landscapers. They feel that this is the time to start and that Troy could be a model.
- It was suggested that Troy look to other cities for models of municipal composting.
- It also doesn't need to be all or nothing – you can target certain things. Such as farms can take bakery waste. Neighborhoods can also design their own plans.
- It makes sense to keep things on-site, but it is also important to recognize that centralized facilities may be needed. Don't discount them. There is a place for on-site composting, but it doesn't handle ALL of the organics that people may have and thus there will be need for a large scale facility. Remember too, that it takes time. When Delaware County decided to put in their facility, it took 10 years until they actually put waste in the plant.
- Colleges
 - Some are having a hard time convincing the “powers that be” that composting is a good idea – will it make sense financially, etc.
 - With colleges, there's a certain amount of competition so if you can have a contest then grant money and good press may follow. This, in turn, can lead to alumni support, which will help in getting the college officials to accept it.
- Don't forget to celebrate the small successes.
- There's a movement of people that are interested about all sorts of issues that center around food: security, local foods, disposal of food that cannot be served or fed to animals and other food issues. There's incredible power in this generation because each person is a mobile marketing tool.
- The Farm Bill could be an impetus – to make composting part of the big picture.
- Incentivizing can help: create a differential between old and new practices – put financial incentives in place to change habits – mostly to businesses.
- Legislation
 - Will the group support something on the legislative side? What made recycling succeed...it was a law. If the community pushes for this, then it might happen.
 - If there is a ground swell in the public that says “this is what we should do”, then there will be a NEED for the regulatory community to respond to this to be able to get the companies that can help put up money so it will get done. We need to tell our legislators that this is what we want.
- Marketing
 - On the legislative side, there's a whole host of people that have the power to say no, and in general, ONE that can say yes. For marketing purposes (i.e. getting compost used) you need to find the one who can say yes and get him to think it's his idea all along. Once that person has said yes, then work on the others.
 - Gary says that a fellow he knows has a bunch of compost and nobody wants it. May need to find other uses for it. Compost blankets for erosion control Compost socks, etc. Demonstration projects can help with those things.
 - Many DOTs in other states are using compost in their specs. Texas, Washington.

- Incorporate into the curriculums so that compost is part of the norm.
- Contaminants: Need to weigh risks of what feedstock are included because what goes in is what comes out.
 - Screen things when they come in and reject feedstock that interferes with the end use for your product.
 - We test for what we are concerned about; heavy metals, select pathogens generally. Specific testing for drug and hormones only happens when we are specifically looking for it because of problem or concern.
 - Pesticides are being scrutinized more by NY as to end use of whatever is being sprayed. That is they will not be approved for use in NY if they will end up being in the feedstock and stay in the compost or final product.
- Vision of connecting organics recycling to create high quality compost to create high quality food is the vision that needs to be exploited. Along with a campaign from educational institutions, we can get it done. It's not just about waste management it's about healthy and green living.

New York State's Solid Waste Management Plan:

- How does the state want to move forward in solid waste?
- Beyond Waste has been adopted – go back to where our roots are – start with waste reduction and reuse first. Product stewardship, etc. However, there's an emphasis on organics in this one: Many initiatives for recycling organics – We're in good company with NE states that have recently put regulations in place to ban organics or to require facilities within so many miles to send to composters.
- Vermont just passed organics landfill plan – pushed by Highfield's Center for composting – Close the Loop campaign. If food scraps diversion is raised from 5% to 80%, can feed 200,000 chickens – use of simple facts that show how diversion can change things (not just waste management, but as an agricultural tool). Uses community based social marketing. <http://www.highfieldscomposting.org/index.htm>
- Skidmore is looking for opportunities to put case studies together. They have a lot of data. They are interested in Bokashi – how do we network together to figure this out. Does it make sense to ship it somewhere since they're on a train line, or do they keep everything on campus?
- Troy is looking at Pay As You Throw

Anaerobic Digestion:

- NYSERDA has money – cost of energy is the driver for anaerobic digestion.
- What is fracking going to do to this – as there may be a cheap influx of energy from natural gas.
- The big problem currently is getting food waste into the digester before it starts smelling.
- At the farm level, digestion is for bedding and odor control. Much more than the electric. Tipping fee makes it pay as well. However, if they got a price for their energy, it would be a 5-year return rather than 10.

Update on CWMI projects:

- Need to work on compost in erosion control, compost socks and blankets.
- Have been doing a lot of work on paper fiber – looking for more beneficial uses – field trials.
- Master gardener trainings.
- Home composting fact sheet and revamped slide show are available on the web site.
- Continue with mortality composting work. Pharmaceutical drugs in composting.

Requests for Research and/or Information:

- Horse bedding recycling for pelleting into horse bedding.
- A problem that Hamilton County is having is that people are afraid that composting is going to attract bears. How do we get the public to agree to understand well run composting and bears?
- Tipping fee is an issue. What should it be? How much less than the landfill? How do we get people to separate more organics?
- Demonstration projects of compost blankets, socks, roadside use of compost.
- Carbon footprint of composting.
- Charring: Janice Thies has an article that Lauri will e-mail to the group. Others can request it.

Tour of A.W. Sunset Farm that is using IsoBar Technology (Heat Capture and Aerobic Composting Renewable Energy Technology):

<http://www.agrilabtech.com/index.html>

K.A. Sunset View Farm is a heifer grower operation that currently raises heifers for 8 different farms. As heifer growers, they have a huge demand for hot water due to the need for milk replacer and sanitizing pails, equipment, etc. Heating the water with gas was becoming prohibitive. Since they had a large supply of manure that they were already composting, they explored using the heat of composting to produce energy for the farm. Working with Agrilab Technologies, LLP, and with some grant money they were able to set up a system in which they mix hutch bedding/manure (35% solids) and separated heifer manure (17% solids) as feedstocks for the compost. During composting, negative aeration draws the heated vapor down into ductwork that is then run over the IsoBar array to transfer thermal energy to a hot water reservoir. This particular system is designed to hold 60 days of material (60 thermophilic days). The hot water is then distributed where it is needed. The system captures 120,000 BTU/hour. When compost is cleaned out, it is used as bedding or matured to use on the soil.

Agrilab Technologies is working on converting this technology so that it can be containerized and driven to a facility.