ForceMatters
The Organics Newsletter for Florida
Florida Organics Recycling Center for Excellence
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FORCE Composting Demonstration Project Update and Results

The **FORCE On-farm composting pilot** that began in June 2010 was completed this past November. The project focused on composting pre-consumer vegetative food waste with animal bedding at Sweetwater Farm, a certified organic farm located in Tampa, Florida. The vegetative food waste was provided by Tampa General Hospital, Florida's second largest hospital.

The composting demonstration was exempt from Chapter 62-709 under the exemption for "normal farming operations" which include composting or anaerobic digestion of yard trash, manure, or vegetative wastes generated from off the farm, for use on the farm, as part of agronomic, horticultural or silvicultural operations.

Kessler Consulting, Inc. (KCI) worked collaboratively with Sweetwater during the active composting phase of the project. KCI monitored each of two demonstration compost windrows twice weekly throughout the active composting phase, which lasted almost 60 days. Temperature monitoring showed that both windrows sustained thermophilic temperatures above 131 degrees for over two weeks to easily meet the time-temperature-turning regime necessary to kill pathogens.

At the end of active composting, each windrow was broken down, thoroughly mixed, moved to a curing area to be formed into separate piles, and allowed to cure and mature an additional period of time. Temperature monitoring continued and each windrow was turned twice during the approximately 70 day curing period.

Approximately 12 cubic yards of finished compost were produced during the demonstration. Lab analysis of the finished product demonstrated that the composting method employed effectively killed pathogens. Testing determined that the compost was very stable, mature, and suitable for a wide range of potential uses at Sweetwater Farm.

TGH is presented with vegetables from Sweetwater Farms.

Meanwhile, **the FORCE Pre-consumer Food Waste project** has completed the active composting phase and has moved into the curing phase. This demonstration project was conceived as a model for what can be accomplished under the revisions to Chapter 62-709 that enable registration facilities to compost source-separated pre-consumer food waste generated by supermarkets. Supermarkets are a major source of food waste in Florida.

Publix Supermarkets contributed pre-consumer vegetative food waste from three of its stores. The food waste was collected by Republic Waste Services of Florida and hauled to the composting facility at the Waste Resource Management North Central Landfill site in Polk County. The demonstration employed outdoor, unaerated windrows turned with a front-end loader using two different mix ratios and two turning methods (standard turning to meet FDEP disinfection standards versus minimal turning).

Approximately 100 cubic yards of feedstock material was formed into four windrows. The windrows remained in the active composting phase for approximately 60 days. Curing continued for another 30 days. The cured compost was screened to remove any remaining debris and produce a consistent product. Approximately 62 yards of compost was produced.

The Florida Organics Recycling Center for Excellence (FORCE) is a joint partnership between the Department of Environmental Protection, Sumter County, and public and private researchers.

ForceMatters* is written and produced by *Kessler Consulting, Inc.

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FORCE Composting Demonstration Project Update and Results (cont'd)

The project has demonstrated that the addition of food waste to yard trash significantly enhances and accelerates the composting process. It also demonstrated that both compost turning methods described above can meet the FDEP pathogen-reduction standard of <1,000 most probable number per ram (MPN/g) of fecal coliform. It produced compost that meets FDEP Class A classification standards for unrestricted distribution and use.

Pre-consumer food waste feedstock.
Result: Nutrient-rich, marketable compost

Legislature Overturns Crist's Veto of HB569

In a special, three hour session on November 16, the Florida legislature overturned Governor Crist's June veto of HB569 that repeals Florida's ban on disposing of yard waste in landfills. The ban had been in place since 1988. The repeal passed 114—5 in the House and 39—0 in the Senate. Florida is the first state in the nation to repeal a yard waste landfill ban.

67 companies and organizations from 20 states and the District of Columbia had written to urge Governor Crist to veto the bill. Over 400 letters were sent in response to the efforts of Florida Green and Mulch not Method. Governor Crist's veto came on June 1, 2010 and was hailed by environmental organizations.

The override of the veto drew reactions from environmental organizations in other parts of the country. The Missouri Recycling Association called the repeal "...a step backwards in the fight to curb greenhouse gas emissions and avoid the dangerous implications of human -induced global warming."

22 other states have yard waste landfill bans, many of which have been in place for over 20 years. During this time the bans have significantly supported the growth of composting and compost facilities. The US Composting Council (USCC) reported that in 1988 the US composted .5 million tons; by 2008 that figure had grown to 21 million tons. 650 compost facilities were operating in 1988, whereas 3,500 were operating in 2010. The repeal of yard waste landfill bans poses a potential threat to compost facility operations by reducing available feedstock.

Attempts to repeal bans have been unsuccessful so far in Georgia, Iowa, Michigan, and Missouri. Some proponents of repeal cite the opportunity to capture methane (landfill) gas generated by the yard waste. However, the EPA spoke out against this argument when it opposed the repeal of Georgia's landfill ban, saying, "There are documented inefficiencies in landfilling yard trimmings to generate methane for energy." The EPA estimates that much of the gas is released into the atmosphere and is detrimental to the environment.

The EPA also successfully opposed the attempt to repeal Michigan's yard waste landfill ban, noting that landfill bans "..are some of the reasons that the national recycling rate has been increasing since the mid-1960's and currently (is) 33.2%. Approximately 25% of all materials recovered for recycling in the U.S. each year is yard waste."

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Florida Compost Operator Training Course Results

Members of the FORCE Project Team (Miriam Zimms, Peter Engel, Darren Midlane) presented a free, Florida specific training workshop at three locations around the state: Polk County, Hillsborough County, and the City of Tallahassee. Fifty-three persons attended the day and a half workshops between January 6 and 14. Each participant received a comprehensive workbook of learning materials and resources for future reference and support. In addition, attendance at the course qualified for 7 SWANA CEU's.

The audience was well mixed between those employed by the private sector and employees of publicly owned facilities or programs. Approximately 30 percent were either yard waste or compost facility operators. Over 60 percent reported that their interest in composting comes from their current involvement in yard waste or composting operations in some capacity.

Attendees participated in a full, first day classroom session that included topics such as:

- Florida revised regulations,
- feedstock characteristics and selection,
- materials handling,
- active composting,
- post-processing, monitoring and testing,
- odor control,
- diagnosis and solutions for optimal composting,
- compost marketing. and community relations.

On the second day, Polk County students toured the compost facility adjacent to that landfill; Hillsborough and Tallahassee students watched a video of the facility. In both cases, the groups asked questions and engaged in lively discussion.

Participants were asked to complete a short online survey to provide the Project Team with valuable feedback to be used in gauging interest in additional training and planning potential future events. Survey responses were overwhelmingly positive. 100% agreed or strongly agreed the lesson content was pertinent, clear, and well organized and the instructors were well prepared, knowledgeable, and communicated the subject matter in a clear manner. Similar results were expressed about the workbook materials that students took away from the training. 94% strongly agreed that the materials would be useful to them in the future.

Jack Crooks, City of St. Petersburg said, "The workshop provided a comprehensive basic training on composting." Paul Bermillio, Waste Management, said the workshop gave him "...a better idea of how the operation would work and what to expect." Valerie Brown, City of Dunedin thought the workshop "...provided a good overview of composting that I found useful. I will utilize the information in the future."

Half of the respondents expressed a need for field experience in composting and another 44% expressed a need for additional technical assistance in the future. 94% expressed an interest in attending additional compost facility operator training in the future. The FORCE team appreciates everyone's participation and feedback about the course.

The FORCE project team wishes to thank the Solid Waste Association of North America (SWANA) for their assistance in developing the course materials. Several slides from the SWANA three day Managing Composting Operations were included in the FORCE lesson Modules. If you would like additional information about the SWANA composting course, please visit their website at http://swana.org/tabid/36/Default.aspx.

The FORCE Project Team also wishes to thank the sponsors who provided a box lunch for all participants. Thank you to Consolidated Resource Recovery and Waste Management for your generous support.

FORCE affiliates will receive an announcement when the twelve lesson modules from the workshop will be uploaded to the FORCE website in the near future.

Polk attendees listen intently to the instructors

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Forms Required Under New Compost Regulation

The revisions to Chapter 62-709 enable certain organics processing facilities (those that process source-separated vegetative materials, source-separated animal by-products, manure, and yard trash) to operate under an annual registration rather than through the permitting process.

At this time, all *new* applications must be submitted in hardcopy, paper format. **New applications are not yet eligible to be submitted electronically via the FDEP registration portal.**

The forms required under the new legislation can be accessed at the following pages on the DEP website:

Application for a Permit to Construct/Operate A Solid Waste Management Facility for the Production of Compost— *http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-701/reduction/62-709.901(1).pdf*

Annual Report for a Solid Waste Management Facility Producing Compost Made from Solid Waste— *http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-701/reduction/62-709.901(2).pdf*

Application for Registration and Annual Report of a Yard Trash Transfer Station or a Solid Waste Organics Recycling Facility— *http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(3).pdf*

Application for a Permit to Operate an Organics Recycling Pilot Project— *http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(4).pdf*

Instructions and information regarding the required supporting documentation may be found on or with the form.

For additional information or answers to your questions, contact Francine Joyal, DEP at

FDEP Yard Waste Registration Portal—A Clarification

The Department of Environmental Protection is now accepting electronic submission of registration applications and annual reports. At this time this option is available ***for registration renewals only*** (not new registrations) and submittals of the annual report for those facilities that process only yard trash. Registration application for facilities composting vegetative wastes, animal byproducts or manure, or blending manure or for *new* yard trash processing facilities must to be submitted to the Department on paper at present.

To access the portal for electronic submission, please go to http://www.floridaforce.org

Why Join a Composting Organization?

Many local and national organizations such as the United States Composting Council (USCC), Solid Waste Association of America (SWANA), and Recycling Florida Today (RFT), include support for the growth and application of composting in their mission statements. Why should you consider joining one of these organizations?

These organizations, and others like them, offer educational and training opportunities such as the SWANA three day Managing Composting Programs course held at SWANA conferences. This course prepares you for the Composting Certification exam. Learn more at *http://swana.org/Education/Educate/Training/CourseCatalog/RecyclingSpecialWaste/ManagingCompostingPrograms/tabid/804/Default.aspx*

Conferences, tradeshows, and other events offer you opportunities to network with others, learn about new trends, legislation, equipment, and technologies. The organization's website offers convenient access to information and resources all year round.

To learn more and/or to join an organization, visit their website, submit your application, and start enjoying the benefits of membership!

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Food for Thought

Florida's goal to recycle 75% of total MSW by 2020 surpasses all other states' recycling goals, but we lag behind many states that achieve high recycling rates in our implementation of recycling programs and practices. If we are to achieve anything even close to the ambitious 75% target, we should look at the practices of high achieving states and adopt those most applicable to our own situation. Above all, we must move from a *waste* management to a *resource* management strategy.

According to recent waste composition studies conducted by Kessler Consulting, Inc. (KCI), organic waste makes up approximately 20% of the total MSW generated in Florida. That figure rises to 30% or more if non-recyclable paper is included. And in hurricane years that portion can be significantly greater. Organics recovery must be part of our state's recipe for success. Yet, according to the FDEP, we currently recover only 26% of our organic waste* and most of what is recovered is yard trash chipped and ground for mulch, fuel, and alternative daily landfill cover. We have only four permitted composting facilities in operation and they process virtually no food waste. And our legislature recently overturned a ban on yard waste landfill disposal (except for facilities that capture landfill gas for beneficial use) that had been in place for over twenty years. We have a lot of catching up to do.

Other states with high recycling rates implement innovative organics resource management strategies that link compost, soil quality, water quality, and resource protection. Twenty-two states continue to ban yard waste disposal in landfills. Massachusetts is considering a food waste ban as well. Several states with landfill bans report yard trash recycling rates of 70% or more.

At least thirty state Departments of Transportation (DOT) have specified compost or related products for use in their projects. California, Texas, and Washington have designed integrated, multi-partner programs to institutionalize the use of compost and mulch throughout their DOT operations. Florida's DOT has made limited use of compost and mulch, although a 2008 study made recommendations designed to increase usage.

California, Texas, and Washington are also among the states that have adopted the U.S. Composting Council's (USCC) Seal of Quality Assurance program to certify that compost and mulch suppliers are marketing high quality products. Quality standards support the market for compost products and the growth of organics recovery through compost processing. Florida does not participate in any compost quality certification program.

Several states operate programs to expand food waste composting on farms, but no coordinated program to promote on-farm composting exists in Florida. Food waste composting in Florida would benefit from more activity such as FORCE's recent pre-consumer food waste demonstration project.

Other innovative strategies used by high achieving states include grant programs for infrastructure development and programs that require best management practices in new construction. For example, Washington requires new construction projects to amend soil with compost in order to protect waterways.

Florida can make progress toward achieving our 75% goal by developing its own programs such as those already in place in other states. Restoring the ban on yard waste disposal and extending it to include all landfills would be a good first step in the right direction.

This article draws upon research included in "The Greening of Florida: A Solid Waste Management Roadmap" prepared for the City of Tallahassee by Kessler Consulting, Inc. (December 2009)

*FDEP 2007 Annual Report

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Organics Recovery Facility Case Studies

FORCE has put together case studies of permitted compost, registered yard waste/vegetative food waste facilities, and biosolids composting facilities. These case studies are being published on the FORCE website and are planned to be featured in upcoming articles about Florida's organics recycling programs.

Please visit the FORCE website www.floridaforce.org to learn more about some of the organics processing facilities operating successfully in Florida today.

Organics Recycling Provides Revenue Source

MSW Management (January/February 2011) recently published an article which discussed the income potential of an efficient, commercially sized composting operation. Citing the old adage "One man's trash is another's treasure", the author offers recyclers a new source of revenue to make up for dwindling supplies of scrap metal and aluminum.

The article provides a comprehensive overview of aerobic composting, with particular focus on feedstocks and using the proper mixture of "green" versus "brown" organic materials, particle size, moisture content, oxygen flow, and temperature. Other topics include site design, static pile versus turned windrow composting, and proper monitoring.

Case studies include examples of permit requirements and potential markets for the finished compost product.

Source: MSW Management January/February 2011: Green in More Ways Than One

Upcoming Events

GreenTrends 2011
June 1-3, 2011
Plaza Resort & Spa
Daytona Beach, FL
http://www.floridagreenbuilding.org/greentrends

RFT Annual Conference and Exhibition
June 5-7, 2011
Lido Beach Resort
Sarasota, FL
http://www.recyclefloridatoday.org/events.html#2011ac

SWANA Florida Sunshine Chapter Summer Conference
June 12—14, 2011
Sheraton Grand Sea Resort
Clearwater Beach, FL
http://s106960635.onlinehome.us/swana/events/conferences.asp

FNGLA Annual Convention
June 23—26
La Playa Resort
Naples, FL
http://www.fngla.org/events/annual-convention/

59th Annual Florida Turfgrass Association Conference & Show
September 14 - 16, 2011
PGA National Resort and Spa, Palm Beach Gardens, FL
https://www.ftga.org/calendar/2011-09-14/59th-annual-conference-show

FFVA's 68th Annual Convention 2011
September 18—20, 2011
The Ritz-Carlton, Palm Beach, FL
http://www.ffva.com/iMISpublic/Events2/Core/Events/eventdetails.aspx?iKey=CON_11

USGBC Greenbuild 2011
October 4—7
Toronto, Canada
http://www.greenbuildexpo.org/Home.aspx

For more information on FORCE or organics recycling in Florida, please call/visit/email:

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