

Minutes of the Technical Awareness Group Meeting (2nd meeting)
For the Seaweed Composting Research
Supported by the Hinkley Center for Solid and Hazardous Waste Management

Meeting held, July 14, 2021, 10:00 to 11:30 am (eastern)
Meeting Participation was through Virtual Connection
Registration was required to attend this meeting via Zoom

Attendees:

Speakers:

Afeefa Abdool-Ghany, University of Miami
Amanda Oehlert, University of Miami-RSMAS
Helena Solo-Gabriele, University of Miami
Peter Swart, University of Miami-RSMAS
Trent Blare, University of Florida-IFAS-Homestead

Attendees via computer webinar:

Amede Dimonnay, Broward Engineering and Permitting Division
Ana Pak, Hinkley Center for Solid and Hazardous Waste Management
Ana Zangroniz, Florida Sea Grant Extension Agent for Miami Dade-County
Ashley Smyth, University of Florida, Tropical Research and Education Center in Homestead
Chris Snow, Consolidated Resource Recovery, Inc.
Christopher Perry, Florida Department of Environmental Protection
Danielle Jimenez, Division of Environmental Resource Management (DERM)
David Cardenas, Miami Dade County Parks, Recreation and Open Spaces
El Kromhout, Florida Department of Environmental Protection
John Schert, Hinkley Center for Solid and Hazardous Waste Management
Kimberly Moore, University of Florida, IFAS-Fort Lauderdale
Ligia Collado-Vides, Florida International University
Mark Almy, City of Fort Lauderdale
Mark Richard, Miami-Dade County Parks
Mary Beth Morrison, Solid Waste Authority of Palm Beach County
Nandra Weeks, Geosyntec Consultants
Patti Emad, Division of Environmental Resource Management (DERM)
Roland Samimy, The Village of Key Biscayne
Samir Elmir, Florida Department of Health in Miami-Dade County
Shelly Krueger, University of Florida, Florida Sea Grant Agent for Monroe County
Tom Morgan, Miami-Dade County Parks
Vincent Encomio, Florida Sea Grant Agent for Martin and St. Lucie County

Agenda
Hinkley Center for Solid and Hazardous Waste Management TAG Meeting
Sargassum Composting

Date: July 14, 2021

Time: 10:00 am to 11:30 am (Eastern)

Location: Virtual

1. Welcome and introductions
2. Year 1 Updates
 - a. Tumbler Composters, Phase I
 - b. Hallandale Compost piles, Phase II
3. Year 2 Updates
 - a. Motivation, Background and Objectives for Hinkley Study Year 2
 - b. Plans for Year 2
 - i. Objective
 - ii. Approach for Phase I
 - iii. Approach for Phase II
4. Next Steps
5. Additional questions and answers, wrap up
6. Adjourn

Questions: hmsolo@miami.edu

Note: Registration was required to attend this meeting via Zoom

Minutes

Questions, Answers, and Comments (After item 2 on agenda, Year 1 Update)

1. Q: Are the piles in the laboratory setting outside, covered, or exposed and how often are they turned?
A: For Phase I, the tumbler composter phase, they were located outside, but in a shaded area and were turned and sampled every two weeks. For Phase II, the compost piles set up at the City of Hallandale were located outside in an open area in a space at the Department of Public Works. These piles were also turned every two weeks and sampled as well. Samples are always collected after the piles are turned.
2. Q: What was the temperature you were recording in the compost piles?
A: The piles at the City of Hallandale were reaching temperatures of about 115°F. For the tumbler composters, the temperature was not reaching this level. This can potentially be because it was located in a covered area and not directly in the sun as the piles were.
3. Q: How much of the Sargassum is epiphytic with invertebrates? The compost might be including animals that may be using valuable nutrients. Are there plans for isotope analysis to check it out?
A: We are checking out the contribution of these components as we evaluate the C:N content and isotopic composition.
4. Q: The material that was collected was fresh, just arrived, or was already decomposing?
A: For the tumbler composters, the material was collected from the City of Fort Lauderdale from their compost pile. They have an area where they place the Sargassum that was collected daily and this was where the Sargassum for the tumbler composters was collected. The piles at the City of Hallandale was started with Sargassum collected fresh off the beach. It was a mix of fresh and decomposing Sargassum.
5. Q: Were there issues with odor or animal vectors with the sargassum piles?
A: When visiting the facility in Fort Lauderdale, there was no smell or insect vectors. At Fort Lauderdale, the pile is covered with a layer of sand and dirt to minimize the vectors. In terms of this project, the piles at the City of Hallandale only experience some flies. Other than that, there have been no animals when the piles were visited. When you get really close to the piles, you do experience a smell, but only if you are really close to it.
6. Q: Any heavy metals found in the radish plants?
A: In terms of testing the radish that was harvested we freeze dried them and are waiting to get the samples back to homogenized them. They are in the process of being analyzed.
7. Q: Are there soil samples being taken around the compost piles at the City of Hallandale?
A: The piles are located on a grassy area, but soil samples have not been collected from around the piles. It would be interesting to see the impacts of “natural” flushing through rainwater to the land around the pile.
8. Q: Is there any value from washing or unwashing the Sargassum?
A: The end product for both recipes tested is not much different from each other. The only major parameter that was significantly different was the conductivity or salinity. Washing the Sargassum did yield a lower salinity throughout Phase I when compared to all other recipes. For the metals analysis, we are still trying to figure out the best

digestion method. Preliminary results from the nutrients analysis yields that there is not much difference between the washing and unwashing of the Sargassum.

9. Q: What is happening at large scale composting facilities that minimizes the odor from decomposing Sargassum as compared to what is going on at the beach?

A: The main difference between the beach environment and the large composting facility is the constant or periodic turning of the piles at the large composting facility. Oxygen is being introduced into the pile, making it aerobic. Sargassum influxes on the beach are either removed when in large amounts buried on the beach. Constantly burying the Sargassum and compacting it does not allow much air to be introduced. Also, when the Sargassum makes its way onshore and is beached it brings other marine animals with it, that will also begin to decompose and add to the smell.

10. Comment: From a practicality standpoint, based on the results of the studies, it would be interesting ultimately to create an application that would give potential recipes for those who are composting sargassum - alternative materials to add to achieve different results for the compost (based on intended use), and to what proportions, for different purposes.

Questions, Answers, and Comment (After item 3 on agenda, Year 2 Update)

1. Q: Are there plans for doing metals testing for Year 2?

A: The focus of Year 2 is not the quality of compost that can be produced. It is more focused on the economic feasibility of creating large scale composting facilities. The Fort Lauderdale operation is really good for understanding the economics of the full-scale composting process and so that's really the focus of what we're doing and Year 2 is to look at more the economics aspects. Year 1 is more focused on quality issues.

Comment: Adding a predictability aspect to the economic analysis is important since this resource mainly affects the coastlines during the summer months. It is not a constant source that will be accessible year round. When marketing this product (Sargassum Compost), we have to ask ourselves if we are going to have a sufficient supply to meet demand.

Questions, Answers, and Comment (After item Next Steps Presentation)

1. Q: Have you reached out to any of the analytical labs in the state of Florida to talk about metals analysis or digestion? When you get to the point of running the analysis to meet the DEP guidelines, you'll have to follow a certain method.

A: That is a good point because results may have regulatory implications. Sending some samples to an outside lab can help answer the question. There are probably recommended standards that we can compare to translate between the techniques we are using and what the certified lab is using.