



NYSP21 Supports OWARECO, LLC with Organic Waste Reduction & Conversion

Located in Mt. Vernon, New York, OWARECO, LLC (Organic Waste Reduction & Conversion) (OWARECO) specializes in organic and food waste management solutions. Their focus is to provide innovative waste reduction and conversion system technologies that assist government agencies, institutions, businesses and municipalities with cost reduction and achieving solid waste diversion.¹

Challenge

OWARECO is the New York State distributor and installation company for IVS Ecovim technology. This technology is a standalone system that dehydrates and mechanically agitates food and organic wastes, producing a solid output material and water condensate. Food waste and other organic materials (e.g. napkins) are feedstock for the IVS Ecovim system where they undergo the dehydration process, producing both a solid and liquid byproduct.

New York State Pollution Prevention Institute (NYSP21) supported OWARECO with assessing their IVS Ecovim-66 organic waste dehydrator system. OWARECO wanted to analyze the potential end uses of the dehydrated food waste material as well as perform a comparative analysis of the IVS Ecovim-66 system vs. established food waste management pathways in terms of energy use, greenhouse gas (GHG) emissions and cost.

Solution

NYSP21's engineers and OWARECO utilized Rochester Institute of Technology's (RIT) resources to install the IVS-66 system dehydrator system in one of RIT's labs. NYSP21 and OWARECO were able to process seven different sources of food waste through the dehydrator over the course of several weeks. The food waste sources included a hospital, grocery store, cafeteria, food bank, and a restaurant. NYSP21 processed each food waste type using the IVS Ecovim-66 system and further assessed the material characteristics, processing energy requirements and market compatibility.



IVS Ecovim-66 System

The assessment included: chemical characterization, energy utilization and associated greenhouse gas (GHG) emissions, and a cost comparison of the IVS Ecovim-66 organic waste conversion technology vs. other food waste management options. The options for comparison included: composting, dehydration, anaerobic digestion and landfilling.

Results

NYSP21's assessment resulted in key findings relative to possible utilization of the dehydrated food waste produced by the IVS Ecovim-66 system.

CHALLENGE

- With assistance from NYSP21 OWARECO wanted to assess their IVS Ecovim-66 organic waste dehydrator system; analyze the potential end uses of the dehydrated food waste material, as well as perform a comparative analysis to established food waste management pathways

SOLUTION

- NYSP21 and OWARECO processed seven different sources of food waste through the dehydrator over the course of several weeks
- NYSP21 processed each food waste type using the IVS Ecovim-66 system and further assessed the material characteristics, processing energy requirements and market compatibility

RESULTS

- NYSP21 determined the IVS Ecovim-66 dehydrated food waste was compatible with the following end-use markets: fish feed, cattle feed, pyrolysis, pellet fuel and compost supplement
- The IVS Ecovim-66 system provided the most competitive cost for food waste processed and sold for secondary use, as compared with composting, anaerobic digestion and landfilling
- With respect to Energy and GHG emissions, the IVS Ecovim-66 ranked second best out of four food waste management pathways analyzed: composting, dehydration, anaerobic digestion and landfilling
- OWARECO anticipates the addition of 12 NYS jobs, supporting applications of the IVS Ecovim-66 system



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Potential Markets:

Based on the parameters analyzed, the IVS Ecovim-66 dehydrated food waste was compatible with the following end-use markets:

End Use	Compatible
Compost	Potential
Fish feed	Yes
Cattle feed	Yes
Pyrolysis	Yes
Pellet fuel	Yes

Energy and GHG Emissions:

With respect to Energy and GHG emissions associated with the processing of food waste, the IVS Ecovim-66 ranked second best out of four food waste management pathways analyzed: composting, dehydration, anaerobic digestion and landfilling.

Cost:

The IVS Ecovim-66 system provided the most competitive cost for food waste processed and sold for secondary use, as compared with composting, anaerobic digestion and landfilling.

The IVS Ecovim-66 system may further provide unique benefits over incumbent food waste management options, including mitigating space, odor reduction and vermin concerns. OWARECO anticipates the addition of 12 NYS jobs, supporting applications of the IVS Ecovim-66 system

¹<http://www.owareco.com/>

TESTIMONIAL

"It has been a pleasure working with the NYSP2I team at the Rochester Institute of Technology (RIT). The third-party assessment of the IVS Ecovim by-product is invaluable to OWARECO and to the exploration of sustainable waste management practices and closed loop food systems. The comprehensive character analysis and comparative assessment provided us with a clearer knowledge of the by-product, end-use applications and market potential. This project specifically helped to identify areas for new market development and clarify a vision for expansion. These research findings are significant and we greatly appreciate the technical and professional support provided by NYSP2I."

- Leah Alexander, COO
OWARECO, LLC

NYSP2I PARTNERS



New York Manufacturing Extension Partnership

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