Bio-Digester Grant Program

A Partnership between the Delaware Solid Waste Authority & Keep Delaware Beautiful

Reducing Food Waste in Delaware Through On-Site Digestion

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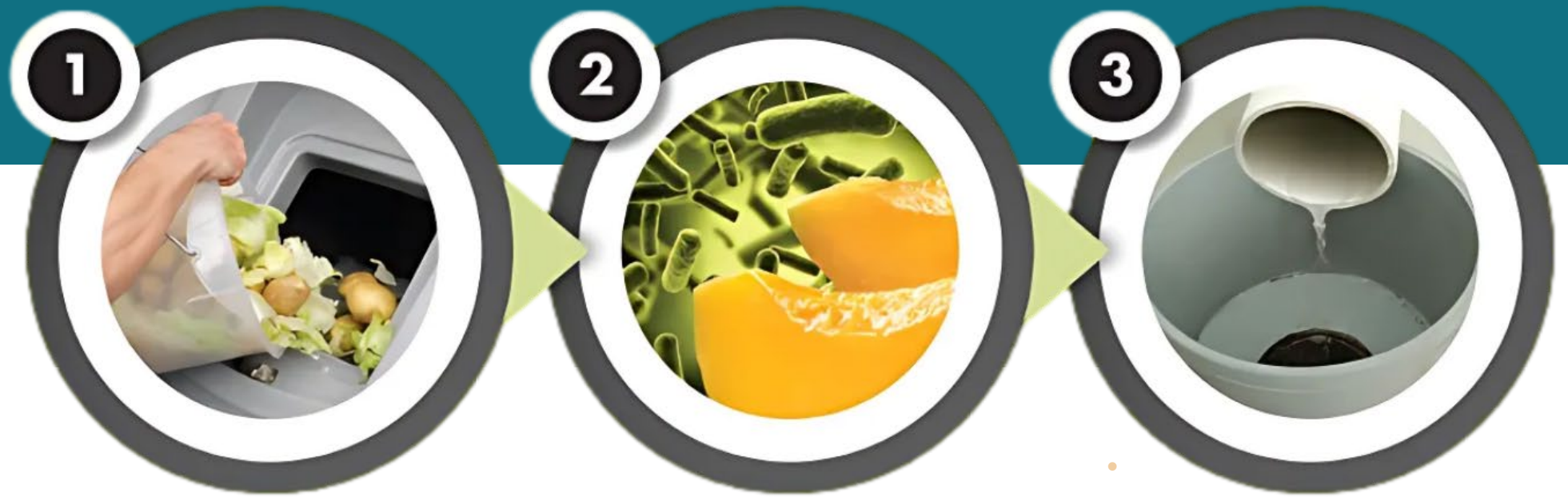
DSWA
DELAWARE SOLID WASTE AUTHORITY

Delaware's Food Waste Challenge

- Analysis of Organics Diversion Alternatives
  September 2017
- Statewide Solid Waste Management Plan
  Adopted February 25, 2021
- Unsuccessful Food Waste Composting operations
- Desire to promote a successful, simple on-site food waste management project
- Selection of an on-site biodigester system

On-site Biodigester Systems



Food waste is added throughout the day. The digester can process most food items with no grinding or pre-processing.

Aerobic digestion technology uses a proprietary blend of microorganisms to naturally break down food waste into liquid form.

- Once broken down (within 24 hrs), food waste is safely discharged as wastewater, fully diverting it from landfills.

First step – Pilot Study

University of Delaware study 2019–2021

- Small-scale BioHiTech digester installed in laboratory
- Bench scale digester constructed for more controlled testing
- Grotto Pizza installation and operation

Study Summary

- Significant reduction of food waste to landfill
- Reduced cost of disposal
- Easy to operate
- Minimal impact on sewer and WWTP

Additional notable benefit

- Greenhouse Gas (GHG) reduction due to no trucking (with air emissions) needed

UNIVERSITY OF DELAWARE

Program Launch

- Partnership with Keep Delaware Beautiful
- Funding provided by DSWA
- Use of BioHiTech and ORCA biodigesters supplied by Earth Bio Technologies, Glenside, PA

4 Grants Awarded

- 2023 — $35,000 to:
  - Janssen Market (Groceries), Greenville, DE
- 2024 — $35,000 to:
  - Christiana Hilton, Newark, DE
- 2025 — $35,000 each to:
  - Food Bank of Delaware, Newark, DE
  - Food Bank of Delaware, Milford, DE

KEEP DELAWARE BEAUTIFUL

Grant Recipients

2023: Janssen's Market – Greenville, DE

- BioHiTech Revolution Seed model
- Can process up to 500 lbs/day of food waste
- Located in storage room
- Mostly spoiled vegetables from store and food preparation waste from the Café
- Sewer discharge to Wilmington Wastewater Treatment Plant
  - WWTP has an anaerobic digester
    - Produces gas used for:
      -boilers
      -generators producing electricity

Grant Recipients

2024: Christiana Hilton – Newark, DE

- BioHiTech Revolution Seed model
- Can process up to 500 lbs/day of food waste
- Located in kitchen
- Mostly food preparation and storage waste, and also food scraps from customers
- No bones or meat

- Sewer discharge to Wilmington Wastewater Treatment Plant
  - WWTP has anaerobic digester
    - Produces gas used for:
      - boilers
      - generators producing electricity

- In 2024 they processed 15,650 lbs of food waste
- Still in operation today
- Minor odor problem was fixed by improving discharge connection to the sewer

Grant Recipients

2025: Food Bank of Delaware – Newark

- ORCA model
- Can process up to 800 lbs/day of food waste
- Located in warehouse space near back door of Café
- Mostly food preparation waste from Café, also post-consumer and spoiled food donations
- Sewer discharge to WWTP
  - WWTP has anaerobic digester
    - Produces gas used for:
      - boilers
      - generators producing electricity
- May– July 2025 processed 24,200 lbs of food waste
- Still in operation today and used 5 days/week

Grant Recipients

2025: Food Bank of Delaware – Milford

•ORCA model

•Can process up to 800 lbs/day of food waste

•Located in warehouse space near back door of Café

•Mostly food preparation waste from Café, also post-consumer and spoiled food donations

•Sewer discharge to Kent County Wastewater Treatment Plant
KCWTP does not have an anaerobic digester

May– July 2025 they processed 23,300 lbs of food waste

Still in operation today and used 5 days/week

IMPACTS

On-Site Biodigester Benefits

- Cuts food waste to landfills
- Lowers disposal costs
- No trucking = fewer GHG emissions
- Simple to operate with training
- Supports energy recovery at WWTPs with anaerobic digesters

Caution Notes

- Requires proactive staff use
- High turnover makes training challenging

THANK YOU

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