

Organics Management Guide Submission

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Select the Primary Entity Type Please identify the category that best represents your project: Academic Institutions

Questions:

- 1. Background: Provide context for the program, project, or policy — why it was developed, when it began, and the problem or opportunity it addresses.**

New Jersey's Solid Waste Recycling Enhancement Act (REA) Higher Education Research Grant Program funds projects that support the objectives of the state Recycling Enhancement Act (N.J.S.A. 13:1E-96(b)(5)). This program provides grants to institutions of higher education for recycling demonstration, research or education, including professional training. Funding for this program comes from the \$3.00 per ton tax on solid waste accepted for disposal or transfer at solid waste disposal facilities, as established in New Jersey's Recycling Enhancement Act.

In 2019, the New Jersey Department of Environmental Protection (NJDEP) developed voluntary guidelines for K-12 schools and higher education institutions to reduce, recover, and recycle food waste. These guidelines serve as a roadmap for schools seeking to manage their food waste and introduce students to best management practices in the hope of impressing environmentally aware and sustainable habits that may last a lifetime. The School Food Waste Guidelines were updated in 2024 to provide up-to-date resources so schools can implement strategies to reduce, recover, and recycle surplus food and waste by highlighting best management practices that may be used.

In 2020, The Sustainability Institute at The College of New Jersey, in partnership with Sustainable Jersey and Rutgers New Jersey Agricultural Experiment Station, implemented a project to reduce food waste and increase reuse in K-12 schools. The project team researched and designed a model food waste diversion and composting program and conducted pilot studies at three schools to assist in the creation of a comprehensive food

waste toolkit for K-12 schools and support schools in achieving relevant actions in the Sustainable Jersey for Schools Certification program, which recognizes K-12 schools for their sustainability efforts.

2. Summary: Briefly describe the initiative, including its goals, location, and primary outcomes.

To develop a model program, the project team conducted research on best practices for food waste reduction programs in K-12 schools. Three pilot studies were conducted to test the model. The pilot schools were selected through a competitive process and represented north, central, and southern New Jersey. Each school received a \$25,000 grant that covered the cost of an onsite food waste composter. Information gleaned from these programs was used to implement food waste recycling and recovery in cafeterias. Specific strategies included share tables, donation plans, offer-over-serve practices, longer lunch times, on-site composting, and various education and outreach strategies, including classroom lessons, increased signage, and a Food Waste Warrior campaign. The project team analyzed the results of the three pilot studies and provided recommendations, which helped to inform the creation of resources for the Reduce, Recover and Recycle Food Waste – Sustainable Jersey Toolkit for K-12 Schools (Toolkit). This toolkit provides detailed instructions and resources on how to implement a food waste management program that can be scaled and replicated. As a result of this project, new food waste actions were also created and integrated into the Sustainable Jersey for Schools Certification Program and a statewide education and outreach campaign was also implemented. As a result of this project, participating schools achieved a 45% collective reduction in the amount of food waste generated in one school year.

3. Percent of Overall Diverted Material: If available, include data or estimates on the portion of the community or organization’s total diverted material no longer associated with the waste stream that this program or policy addresses.

The combined enrollment of the three schools was 1,750 students. Before the food waste reduction interventions, the schools generated an estimated total of 62,150 pounds of food waste from the lunch program in a school year. After the interventions, there was a 45% reduction in the amount of food waste generated (approximately 34,036 pounds of food waste in one school year). Approximately 92% (or 31,680 pounds) of this waste was composted using the purchased commercial composters. The schools were also able to recover approximately 21,300 pounds of unopened food brought to the share tables.

Recovered food was either taken by students or redistributed to outside food recovery organizations.

- 4. Key Program Elements or Policy Provisions: Describe the structure and main components of your program or policy. Explain the investments origins (who, how much). Please include as many of the following elements as applicable: What types of materials are being managed? (e.g., surplus recoverable foods, food scraps, wasted food. How are these materials managed? Who is responsible for managing them? (Organizations, agencies, businesses, or other entities) What products are generated, and how are they utilized or managed? (e.g., compost, animal feed, energy products) Who funds the management of these materials? (Funding sources, grants, partnerships) Who generates these materials? (Identify the origin: households, institutions, businesses, etc.)**

This program focused primarily on pre- and post-consumer food waste generated in school cafeterias.

For pre-consumer food waste, cafeteria staff received training in proper source separation of food waste generated in the kitchen, which was collected in 5-gallon buckets to later be composted. Additionally, an offer-over-serve program was implemented, where students were given the choice of which food they can place on their food tray, instead of being served a set meal, which gave students the opportunity to refuse food that they knew they would not eat. If students did not eat everything on their tray, they also had the opportunity to place unopened food on a share table, where other students could take it, further diverting food from the trash.

For post-consumer waste, students were trained to help other students properly source separate food scraps to later be composted in an on-site composter through a Food Waste Warrior campaign. Additionally, once per day, custodial staff collected food waste from the bins and placed the waste into the on-site composters. Volunteer school faculty were trained on how to use the finished compost and manage the materials. The finished compost was used in school gardens, community gardens, and community tree plantings.

While the three schools that participated in these pilot studies were able to purchase on-site composters using funds received through this grant program, the Toolkit also acknowledges other strategies for managing food waste, including sending food waste to an off-site food waste recycler or using aerobic composting and vermicomposting (worm bins).

Funding for the initial purchase of the commercial composters, bins, and training material was provided by the NJDEP's REA Grant Program. With this infrastructure in place, minimal funding is needed to maintain the programs.

- 5. Regulatory Impact: Describe how laws, policies, regulations, and/or code have affected your program or project. This may include positive, negative, or neutral impacts. Consider noting which regulations apply, how they influenced implementation or operations, any challenges or barriers encountered, and how compliance requirements shaped program decisions.**

This project supports the state's goal to reduce the amount of food waste generated in 2017 by 50% by the year 2030.

- 6. Measurable Increase in Supply: Include data or qualitative outcomes showing growth in collection, diversion, or reuse volumes if available.**

See "Percent of Overall Diverted Material" section above.

- 7. Behavior Change: Describe whether the initiative resulted in measurable behavior change and explain how you determined this. If behavior change occurred, outline the strategies that proved most effective. Please include any available data or evidence that supports your findings.**

The program was successful in achieving food waste reduction as part of the pilot studies, as described above, conducted at the three participating schools. Longer-term behavior changes were not evaluated as part of this project.

- 8. Benefits and Impacts (Economic, Environmental, and Social): Describe the economic, environmental, and social sustainability impacts of the program, policy, or initiative. This may include both positive and negative outcomes. You may address impacts such as costs or savings, job creation, waste reduction, emissions, resource conservation, community engagement, equity, or public health. Please include data or qualitative observations where available and note any trade-offs or challenges.**

Based on the amount of food waste diverted from the trash in the pre-intervention versus post-intervention audits, it is estimated that in one school year, the three schools combined avoided 207,720 pounds of CO₂e of greenhouse gas emissions, saved 44.400 kilowatt-hours of energy, saved 5,562,300 gallons of water, and saved \$45,193 on fruits, vegetables, and milk.

9. How Stakeholder Buy-In Was Achieved: Explain how the program gained support from key stakeholders (e.g., government agencies, businesses, residents, nonprofits).

School custodial and food service staff initially regarded food waste management as extra work. Stakeholder buy-in was achieved by streamlining food waste processes and providing more resources to reduce the amount of clean-up work associated with the program. Additional collection bins and strainers to separate liquid and solid food waste were purchased, and garbage disposals in sinks were installed to further process the separated liquid food waste. Reducing clean-up work and having custodial staff do food waste tasks only once per day promoted buy-in.

10. Stakeholders' Perspectives and Dynamics at Play: Highlight collaboration dynamics, challenges, or differing stakeholder interests and how they were addressed.

Not specified.

11. Lessons Learned: Share what worked well, what didn't, and recommendations for others seeking to replicate your approach.

Many lessons were learned throughout the project. Staff and students learned the value of sharing excess food with their community and diverting food waste. Students were given the opportunity to make smart food purchasing decisions based on what they will actually eat to reduce the amount that is wasted. They also learned about decomposition of food and the use and maintenance of compost material.

Additionally, through student surveys, the project team learned that students felt they did not have enough time during lunch to finish eating their meals. With just ten additional minutes added to school lunchtimes, the schools observed a 30% decrease in the post-consumer portion of food waste.

Other schools in the state now have the opportunity to model their programs after these schools using the lessons learned in the pilot studies and resources provided in the Toolkit.