



CASE STUDY

NYSP21 Supports Three Grocery Stores Across NYS Evaluate Their Food Waste, Developing a Self-Guided Tool as a Result

Throughout 2016 and 2017, the New York State Pollution Prevention Institute (NYSP21) worked with companies across New York State to conduct several food waste assessments. These waste studies involved the tracking of food waste over a period of time to determine the amount, sources and causes of waste generation. As a result of each assessment, facilities gained essential information that helped them identify opportunities to reduce and better manage their food waste. Examining the details of a waste stream can help identify and prioritize solutions to reduce food waste generation and divert excess food and food scraps from landfills; thus putting the food/food scraps toward more beneficial options: feeding hungry people, feeding animals, anaerobic digestion and composting. Additionally, as a result of this work, NYSP21 developed a series of [self-guided tools](#) to enable businesses and institutions to conduct their own assessments.

As part of this project, several businesses were assessed from the grocery sector. The three stores studied were located in the Rochester, Syracuse and Albany regions. Two of the stores are a part of large chains in population-dense areas. The third store was a single, small, family-owned grocery store in a suburban area. The assessments are summarized below.

CHALLENGE

Sixty-three million tons of food is wasted in the US each year; over 80% of which goes to landfills. The retail sector contributes 8 million or 13% of the total amount of food waste generated in this country. The handling and disposal of this food waste results in a large financial burden. To reduce food waste and better manage excess food and food scraps, it helps to first understand the sources and causes of wasted food; the benefits of which are lower operating costs, helping the environment, and feeding hungry people.

SOLUTION

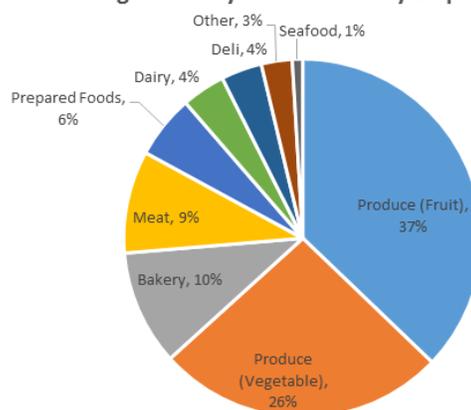
NYSP21 conducted one-day food waste assessments at each grocery store. The work performed involved collecting and measuring food waste on-site, evaluating results, and a summary that outlining key findings and improvement opportunities. Through this process, NYSP21 developed a [self-assessment toolbox](#), to guide grocery stores through conducting self-assessments. By creating a standard method that documents requirements at each step of the assessment (collecting waste, information to record, etc.), meaningful and actionable data can be gathered in a short amount of time.

RESULTS

Characterization

NYSP21 examined food waste generated by each grocery store by department, e.g. bakery, produce, and deli. The graph shows the three stores' average weight of food waste by percentage, organized by department. Although the stores have different sizes, locations, and store practices, each one had very similar percentages of food waste streams by department. NYSP21's self-assessment tool, described above, automatically generates charts similar to the one below, along with several others that can aid your analysis.

Average Grocery Food Waste by Department



CHALLENGE

- The retail sector contributes 8 million or 13% of the total amount of food waste generated in this country
- The handling and disposal of this food waste results in a large financial burden
- It is difficult to better manage food waste without understanding what is being generated and from where

SOLUTION

- NYSP21 conducted one-day food waste assessments, which included collecting and measuring waste on-site, at three separate grocery stores
- NYSP21 evaluated results and summarized key findings and improvement opportunities for each store

RESULTS

- NYSP21 developed a [self-assessment toolbox](#), to guide grocery stores through conducting self-assessments
- On average across all three stores, produce was the largest source of food waste; accounting for 63% of the food waste stream on average
- All three stores were already actively working to reduce, donate, and/or divert more food waste from landfills

Produce was the largest source of food waste; accounting for 63% of the food waste stream from the three stores. Produce waste is often high because of perishability and the frequency of misshapen or discolored produce. Food waste from the bakery and meat departments were the next largest sources, accounting for an average of 10% and 9% of the food waste stream, respectively. Products from both the meat and bakery departments have relatively short sell by dates to ensure that they are sold at peak quality and freshness.

Existing Food Waste Management Practices

Source Reduction: In some instances, stores created a short sale rack for items that were near their sell by dates, tracking what was wasted on a day-to-day basis to fine-tune purchasing and production amounts.

Donation: Each store had some established practices to reduce and/or divert food waste. Donation was a common occurrence, but donation rates and source departments (e.g. bakery, meat, and prepared foods) varied widely between the stores ranging from 5% to 50% of the total amount of excess food and food scraps stream by weight.

Diversion: By implementing a culture around food waste management, practices can be successfully expanded to all departments. For example, when one supermarket expanded its food waste program from donation and rendering to also include composting, they were able to increase their diversion rate by 70%.

Improvement Areas

Improvement opportunities identified by NYSP21, include the following:

Source reduction:

- Increase data driven decision making to improve forecasting. This includes characterizing waste streams and reducing targeted priority areas
- Reduce what is on display and use mirrors to
- Use irregular or discolored food in prepared foods



Food donation:

- Work with local food banks and pantries to donate food to those in need
- Preserve products by freezing them until the local food organization is able to pick them up
- Evaluate if additional food could be donated. Many food banks prioritize receiving nutritious items like produce

Diversion:

- Talk with current waste hauler about adding organics to their pickup service
- Use a rendering service to dispose of fats and oils in a beneficial way
- Visit NYSP21's [NYS Hauler Listing](#) to find the closest organics hauler

Assessing how much food waste is generated at a grocery store can be a very informative activity to identify areas where source reduction, donation, or diversion could be implemented; potentially lowering cost. Using actual data from many of our prior assessments, NYSP21 has developed a [Self-assessment Toolbox](#), which helps maximize your knowledge and minimize your effort to assess your food waste. This tool will provide you with necessary guidance to conduct your own food waste assessment at your grocery store.



NYSP21 PARTNERS

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¹ https://www.refed.com/downloads/ReFED_Report_2016.pdf

