**2017 Case Study**

# Johnson County
## Department of Health and Environment

Intern: Rachel Lasseter
Major: Biological Systems Engineering
School: Kansas State University

### *Company background*

The Johnson County Department of Health and Environment (JCDHE) hosted a Pollution Prevention (P2) intern to identify source-reduction opportunities at facilities that had elected to work with JCDHE. The objective was to use the identified opportunities in developing a "Food Waste Prevention Best Management Practices Guide" for industrial kitchens in Johnson County. Best management practices identified by the intern included any practice or policy from a facility that prevents food from going to a landfill. Goals of the project were to find commonalities among facilities' food waste streams, to implement written procedures on conducting food-waste assessments at large-scale industrial kitchens in Johnson County, and to educate facilities' staff on source reduction. JCDHE plans to use the project information to promote waste prevention through source reduction, to build awareness about food waste, and to develop food-waste reduction policies.

Four facilities collaborated with JCDHE to have the intern visit their sites, observe their processes, and document policies in place at each kitchen. Two of the facilities have contracts with a national food service provider that provides clients with menus set by an affiliated dietitian and that are compliant with national standards such as the National School Lunch Program. Another facility hosts several vendors with different meal options, plans to be zero-waste-to-landfill by 2025, and has a dedicated large-scale composting facility on-site.

### *Project background*

The Environmental Protection Agency's food-recovery hierarchy prioritizes actions that facilities can implement to prevent wasted food and divert over-production. The hierarchy designates source reduction as the most preferred food-recovery solution for landfill diversion, followed by diversion to hungry people, feeding animals, industrial uses, and then, composting. JCDHE and the intern used this hierarchy to evaluate priority recommendations for the project partners.

The intern conducted food-waste assessments and staff interviews to find a baseline of the waste streams. Each assessment process differed based on facility type, meal plan options, and serving style (whether self- or employee-served). Typically, the served food was weighed and then compared to the weight of either uneaten (returned) food, or food that reached its hold time. The collected data was used to assess baseline food waste and to calculate the main sources of waste. Analysis of the baseline and sources of waste led to recommendations that would aid facilities in pre-consumer food-waste reduction.

### *Incentives to change*

Some of the facilities receive public funds and have a responsibility to use those funds efficiently. Their food service provider is committed to sustainable practices and is participating in an EPA program to reduce food waste through source reduction. Managers at the participating facilities have demonstrated commitment to sustainability through initiatives on their respective campuses, and their relationships with JCDHE.

***Projects reviewed for P2 potential***

"Right-size" food portions
For facilities that contract with the national provider, existing policies and procedures from the food service provider have already minimized pre-consumer food waste. However, by surveying clients at these facilities each quarter to analyze their preferences, management could reduce serving sizes of disliked items, as long as such changes account for regulations regarding meal size and calorie intake. Each 1 percent reduction of portion size could save up to $3,300.

Train on food-waste tracking & source reduction
At a facility housing several vendors, most of the food waste originated from hold-time expiration or overproduction. While reviewing waste-tracking sheets, discrepancies were identified and the manager expressed concerns about proper training for employees, since reducing pre-consumer food waste relies on staff cooperation. Extra training could reduce 7,800 wasted pounds.

Develop made-to-order options
The intern determined that food hold times led to wasted burger patties throughout the day. Switching from pre-set production to a make-to-order model could save 172 pounds of red meat annually and $3,268 in retail costs.

Cut production during slow times;
At the same facility, the intern identified over-production of pizza during hours with few customers. A 10 percent production cut during those times could save 753 pounds of pizza per year and $7,525 in retail costs.

Implement waste-tracking sheets;
End-of-day markdown
The final facility experiences most of its waste during closing when employees must dispose of unsold food. Implementing waste-tracking sheets could save the facility up to $5,100. Decreasing prices two hours before closing should increase the amount of product sold during off-peak hours.

JOHNSON COUNTY KANSAS

*Summary of 2017 P2 intern recommendations for Johnson County*

| Project description | Annual estimated environmental impact | Annual estimated cost savings | Status |
|---|---|---|---|
| "Right-size" food portions | N/A | $3,300 per 1% reduction | Recommended |
| Train on food-waste tracking & source reduction | 7,800 lbs. | N/A | In Progress |
| Cut production during slow times | 753 lbs. | $7,525 | In Progress |
| Develop made-to-order options | 172 lbs | $3,268 | Recommended |
| Implement waste tracking sheets | 440 lbs. | $5,100[1] | Implemented |
| End-of-day markdown | N/A[2] | N/A[2] | Recommended |
| **Total savings** | **9,165 lbs. food waste** | **$19,193** | |
| **GHG reductions** [3] | **16 metric tons $CO_2e$** | | |

[1] ReFED Website Waste Tracking and Analytics Solution
[2] Not calculated for the facility
[3] EPA WARM Tool- Version 14