Intern Name: Casera Pinto
Major: B.S. Environmental Engineering
Minor: Climate Science
School: University of Washington, Seattle
Business: Taylor Farms Northwest - Kent, WA
Industry: Food Manufacturing and Processing
WASI Project: Water Usage and Waste Output Reduction

Company Description

Taylor Farms is a premier processor of salads and healthy fresh foods supplying many supermarket chains and food service restaurants in the United States. It's headquartered in Salinas, CA, operates twenty-six processing plants nationwide, and employs over 20,000 workers.

Taylor Farms Northwest, located in Kent, WA, has over 500 employees and is focused on the deli food production sector of Taylor Farms. The packaged foods are stored in a refrigerated warehouse until shipped to the retail outlets.

Incentives to change

Taylor Farms Northwest's "Healthy Environment, Healthy Community, Healthy Business" motto guides its commitment to environmental sustainability. They look for opportunities to invest in continuous improvement and sustainability initiatives, focusing on reducing water usage, waste output, and resource consumption.

Project Description

This project analyzed the plant operations to reduce waste output and water usage at Taylor Farms Northwest. The WASI intern identified inefficiencies by engaging with various departments assessing current production workflows, tracing waste streams, observing overnight sanitation practices, and proposing targeted improvement projects in multiple areas.

Recommendations

Water Reduction Projects

The WASI intern identified several water usage projects that could save Taylor Farms over $200,000 and reduce water consumption by 18.7 million gallons annually if implemented. These projects have a 6-month return on investment (ROI) period or shorter. The top recommended projects include:

- During processing, Taylor Farms uses ice to keep food fresh and cool quickly. Replacing water-cooled ice machines with air-cooled condensers will save $78,446 annually and reduce water consumption by nearly 10 million gallons.

- Installing volumetric shut-off valves on the hoses used to sanitize barrels can save Taylor Farms over 5.5 million gallons of water and over $44,000 a year. These valves will shut off after dispensing a preset volume of water allowing employees to attend to other tasks uninterrupted. This project has been approved and is pending purchase.
- Cleaning production floors uses standard hoses and trigger handle nozzles. Water brooms use pressurized water to clean production floors and can be used for pre-rinsing, post-rinsing, and sanitizing. Taylor Farms has ordered two brooms to test on a trial basis. If the trial is successful, they will purchase eight additional water brooms saving 1.4 million gallons of water and $11,000 annually.

Table 1: Water usage projects that could save Taylor Farms money and reduce water consumption.

Recommended P2 Actions	Cost to Implement	Estimated Annual Costs	Annual Savings	Water Use Reduction (gal)	Status
Replace old, water-cooled ice machines with new air-cooled condensers	$39,000	$900	$78,446	9,855,000	Approved
Install volumetric shut-off valves on hose lines to fill barrels on the production floor	$13,547	$6,773	$44,162	5,548,000	Approved
Install auto shut-off valves for 5 wash tanks currently left running overnight	$2,500	$2,500	$10,169	1,277,500	Researching
Use water brooms for sanitation of floors	$2,999	$2,999	$11,287	1,418,025	Trial is in-Progress
General maintenance, fixing leaky ball valves	n/a	n/a	$478	60,000	Approved
Extend the water changeover for the apple machine tank from daily to every 5 days	n/a	n/a	$81	10,220	Approved
New wire and hoop trash cans designed for the production floor to reduce dolly wastage	$15,000	$45,000	$58,540	570,313	Approved

Waste Output Projects

The WASI intern identified four waste reduction projects that could save Taylor Farms over $286,000 annually if implemented. These projects had an ROI period between 1 month and 18 months.

The top reduction opportunity would be to install electric hand dryers in bathrooms and hand wash stations eliminating single-use paper towels. Eliminating the paper towels could save $14,000 a year and eliminate 900,000 ft^2 of paper towels or approximately 40,000 lbs. of solid waste.

Table 2: Identified waste reduction projects to save Taylor Farms over $286,000 annually.

Recommended P2 Actions	Cost to Implement	Estimated Annual Costs	Annual Savings	Waste Reduction	Status
Install hand dryers to replace single-use paper towels	$19,705	$1,330	$14,400	900,000 ft^2 paper	In-progress
Add trash cans to improve waste segregation and source separation	$3,000	$9,000	$10,530	117,000 lbs. green waste	Approved
Expand existing contract w/ Republic Services - send compostable waste and wastewater sludge	n/a	$64,800	$96,000	10,008 lbs. wastewater sludge	Researching
Expand existing contract w/ K&S Recycling to include recycling pallet film plastic	n/a	$18,691	$165,827	3,900,000 ft^2 plastic film	Researching

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