Project Overview

P3 Intern: Tyler Wehling
Major: Mechanical Engineering
School: University of Nebraska-Lincoln

Company Background

Smithfield Foods is one of the largest food processing companies in the world, and the largest producer of pork products in the US. Employing over 55,000 people and growing revenue to over 29 billion dollars, Smithfield continues to grow domestically and internationally. Smithfield Omaha is a cooking and packaging plant producing salami, pepperoni, and other dried meats. The product is received as unprocessed pork to then be ground, baked, cured, and packaged. With over 200 employees, the facility produces around one million pounds of product a week.

Project Description

During the summer of 2023, Partners in Pollution Prevention intern Tyler Wehling was assigned to Smithfield Omaha to help reduce waste and utility consumption. The main areas of focus were the compressed air system, water waste, and lighting. The recommendations made aim to refine the current Smithfield operation and reduce wasteful practices.

Pollution Prevention Benefits

The recommendations provided to the Smithfield Omaha facility aim to reduce the environmental footprint of the operation by reducing waste and implementing environmentally friendly practices. The reductions in electricity, water, and natural gas help the company with its sustainability promise to be good stewards of the environment.

Results

The pollution prevention benefits and results done by the intern are summarized in Table 1:

Table 1: Pollution Prevention Benefits and Results of the Project

Recommendations	Tangible/Material Savings (Annual)	Annual Cost Savings	Payback Period
Lighting Occupancy Sensors	129,560 kWh Electricity	$7,383	1.6 years
Compressed Air Leak Management	297,800 kWh Electricity	$13,370	0.5 years
Compressed Air Management Plan	184,354 kWh Electricity	$13,200	1.1 years
Retirement of Drum Fans	73,584 kWh Electricity	$4,481	0.04 years
Flow Limiting Valves in Stuffing	1,380,576 Gallons of Water, 403.5 DTH Natural Gas	$13,370	0.03 years
Total Monetary Impacts:		**$51,804**	
Total GHG Emission Reduction:		**675.2 $MTCO_2e$**	