

## Project Overview

**Intern:** Will Dudley

**Major:** Biological Systems Engineering

**School:** University of Nebraska-Lincoln

**Hometown:** Worthington, Mn

### Company Background

Smithfield Foods began in Smithfield, Virginia in 1936, and today is the world's largest pork processor and hog producer. Their facility in Lincoln, Nebraska was constructed in 1910, employs approximately 500 people, and produces mainly ham, bacon, hocks, and other specialty pork products.

### Project Description

During the summer of 2017, P3 intern Will Dudley performed an environmental assessment of the Lincoln Smithfield facility to reduce solid waste going to the landfill, decrease water usage, save money, and generally be more efficient. Dudley worked primarily with the Environmental Coordinator of the plant. In the assessment, recommendations for Environmental Management Projects (EMP's) were provided, each with detailed assumptions and calculations provided. The intern also worked on other projects for the P3 program throughout the summer.



### Pollution Prevention Benefits

After the assessment was conducted, the following potential EMPs were identified. These opportunities are presented in Table 1. If these recommendations are followed, the Lincoln Smithfield facility has the opportunity to cut annual costs by nearly \$90,000, reduce their water usage by 5.3 million gallons, and reduce their solid waste going to the landfill by 1,100 tons. These recommendations could also reduce the greenhouse gas emissions from the facility by nearly 310 Metric Tons of CO<sub>2</sub>e.

**Table 1: Summary of Potential Environmental Management Projects**

<b>Project</b>	<b>Tangible Benefits</b>
Miller Coolmate Water Coolant System	<ul style="list-style-type: none"><li>• 5.1 Million Gallons of Water Reduced</li><li>• Payback Period: 6 Months</li></ul>
Barrel Washing Project-GamaJet	<ul style="list-style-type: none"><li>• 207,000 gallons of water</li><li>• Payback Period: 3.6 years</li></ul>
Recycling Initiative	<ul style="list-style-type: none"><li>• 1,100 Tons out of landfill</li><li>• 51% reduction in waste going to landfill</li></ul>
Paper Towel Strategies	<ul style="list-style-type: none"><li>• 144 Ton Reduction in solid waste sent to landfill</li><li>• Payback Period: 2 months</li></ul>
<b>Total Potential Money Saved</b>	<b>\$90,000</b>