

Project Overview

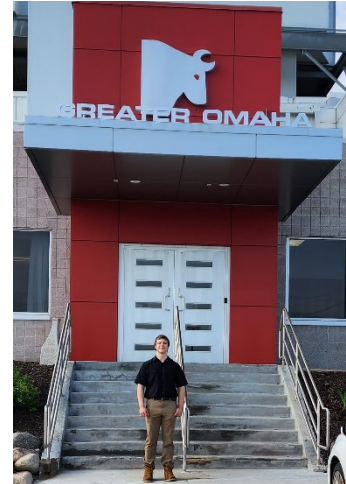
P3 Intern: Harrison Smith

Major: Biosystems Engineering

School: University of Nebraska-Lincoln

Company Background

Greater Omaha packing is a large beef packing plant located in Omaha, Nebraska. The company has been in the beef business since 1920 and is committed to continual quality and improvement. On average, the plant processes 2,300 cattle a day, producing products that are distributed locally, as well as across the world. Beef products are shipped across every U.S. state and over seventy countries around the globe. Greater Omaha is recognized globally for its quality products and innovation in food safety.



Project Description

Greater Omaha is a company that strives for improvement and greatness in all aspects of their business. Improving plant efficiency and environmental impacts are among these goals. The major goal of this summer project was to identify utility usage across the plant and provide pollution prevention (P2) benefits. Plant utility usage was analyzed, as well as specific plant processes, containing to the fabrication side of the plant. Data was collected using a variety of different methods to justify possible P2 suggestions for the company.

Pollution Prevention Benefits

Pollution prevention recommendations were suggested to reduce water, natural gas, and/or electricity use throughout the plant. Some of these recommendations have negligible capital costs and provide significant savings and environmental impacts. Non-quantifiable recommendations were also provided to Greater Omaha for potential opportunities in the future with further investigation. The pollution prevention benefits for this project can be found below in Table 1-1 if these recommendations are implemented. It should be noted that the annual cost savings are based on Nebraska industry averages and do not include unquantifiable recommendations. Additional indirect or intangible benefits include:

- Reduced refrigeration costs
- Decreased future maintenance costs
- Improved and uniform machinery

Results

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

Table 1: Summary of Pollution Prevention Benefits of the Project

P2 Category	Annual Cost Savings	Annual Usage Savings
Natural Gas	\$80,300	12,400 DTH
Electricity	\$8,900	128,905 kWh
Water	\$0	84,000 gal
Carbon Dioxide Equivalent	-	1,085 MTCO ₂ e
Total	\$89,200	