

Intern: Samuel Hansen

Major: Biological Systems Engineering

School: University of Nebraska-Lincoln

Company Background:

Greater Omaha Packing is a moderately large beef processing plant located on “L” Street in Omaha, Nebraska. The plant averages a daily load of 2,300 cattle each day, producing boxed beef primal that are distributed locally and globally. Greater Omaha Packing has been around since 1920 and has become a leader among beef packing plants, providing the highest quality beef in the world.

Project Description:

Greater Omaha is curious about their impact on the environment and their water and energy usage. One of the main objectives for this project was to reassess the amount of water used in the facility between 2014 and 2016. Having this comparison allows Greater Omaha Packing to determine how the recommendations have affected their water usage and how that subsequently affected their cost savings. For this project, data was collected using flowmeters installed in the plant, portable ultrasonic flowmeters, and electricity data loggers. A secondary goal was to suggest additional relevant pollution prevention (P2) opportunities to reduce water and energy use that would benefit Greater Omaha Packing through cost savings.

Pollution Prevention Benefits:

Several pollution prevention suggestions were given that could reduce the amount of water and energy used in the plant. Some of the suggestions have minimal investment costs and provide substantial annual cost savings. Other suggestions have intangible benefits for Greater Omaha Packing but still have significance if implemented. The total estimated pollution prevention benefits from this project are listed in Table 1 below, assuming all suggestions are implemented Great Omaha would reduce **44,500,000 gallons**, **112,300 DTH**, and **6,080 MTCO₂E annually** saving them **\$873,000 annually**.



Table 1. Pollution Prevention Benefits		
P2 Category	Annual Cost Savings	Annual Usage Savings/Reduction
Water	\$265,000	44,500,000 (gal)
Natural Gas	\$608,000	112,300 (DTH)
Carbon Dioxide Equivalent	-----	6,080 (MT CO ₂ E)
Total	\$873,000	