Intern: Courtney Kinser
Major: Senior, Biological Systems Engineering
School: University of Nebraska-Lincoln

Company Background:
Tyson Fresh Meats of Lexington is a large beef packaging plant that has continually worked to expand and upgrade their facility since first opening in 1990. They supply a large volume of beef and beef products, processing an average 4,500 head a day. Tyson was recognized as a Top Green Provider for the year of 2016 by global food supply chain publication *Food Logistics.*

Project Description:
The major goal throughout the summer of 2016 was to quantify and examine the facility's water, electricity, and natural gas usage. The primary focus was to evaluate water and energy usage at specific process sites in terms of head slaughtered in order to account for the total usage, in addition to the continuous baseline usage. Water data was collected with a portable ultrasonic flow meter and analyzed in conjunction with data previously collected by UNL.

Pollution Prevention Benefits:
Recommendations for several pollution prevention opportunities were provided that act to reduce water and energy usage for the plant. Many of these suggestions require little to no initial cost, whilst providing measurable savings and reduced consumption of resources. Direction is also provided to Tyson regarding recommendations that are small and easily adapted, or that with further investigation may result in measurable benefits. Natural gas reductions are an indirect result of decreased water usage. Estimated savings for quantified pollution prevention recommendations are summarized in Table 1 below.

Table 1. Pollution Prevention Impact

Category	Annual Cost Savings	Annual Reduction of Resource
Water	$31,678	62,360,785 gallons (gal)
Natural Gas	$189,512	71,514 (MMBtu)
Carbon Dioxide Equivalent	-	3,896 metric tons ($MTCO_2E$)
Total	**$221,190**	