

WEST LIBERTY FOODS, LLC



JUSTIN WILLIAMS
MECHANICAL ENGINEERING
THE UNIVERSITY OF IOWA

COMPANY PROFILE

West Liberty Foods is a meat processing and slicing company with four locations: West Liberty, Iowa; Mount Pleasant, Iowa; Tremonton, Utah; and Bolingbrook, Illinois. The West Liberty plant has 850 employees and is in operation 16 hours per day, 5 days per week with some weekend shifts, as required. All four plants have received ISO 14001:2004 certification. Additionally, three of the four plants have been third-party verified as "Landfill Free," meaning less than 1 percent of their waste is sent to the landfill. The newest facility in Bolingbrook is also approaching Landfill Free status.



PROJECT BACKGROUND

Currently, West Liberty Foods determines unit production cost by dividing total cost among the production lines based on the amount of product that is produced by each line. The purpose of the 24-week intern project is to create a template to determine the actual production costs and environmental and safety impacts of each production line. The template would allow West Liberty Foods to replicate the analysis and quantify the production costs and impacts of each product line.

INCENTIVES TO CHANGE

West Liberty Foods strives to be a good steward of the environment in all areas of their operations. The company has received numerous awards for outstanding environmental performance and continues to seek improvement opportunities. Gaining a better understanding of the environmental impacts of production will be useful as the company strives to maximize the efficiency in which it operates and achieve environmental excellence.

RESULTS

The production line for the cold-cut trio consists of eight distinct processes. These include Evisceration/Cutup, Pre-Blending, Blending, Stuffing, Cooking, Cooling, Slicing/Packaging and Ship-Out. This line was selected as the model for development of an assessment template that can be replicated across the remaining production lines by the company.

Life Cycle Analysis: The intern first created a process map to identify all the equipment associated with the cold-cut-trio production line. A life cycle and cost assessment was then conducted to quantify total operating costs of the process. Costs considered include energy usage, water treatment and disposal, compressed air, steam, refrigeration, plant ventilation, chemicals, and labor. Considerations for determining life cycle costs included purchasing, production and disposal.

Next Steps: During the second 12 weeks of the project, the intern will continue to take measurements to determine how much of each resource is attributed to the production of cold-cut-trio. The overall manufacturing of the cold-cut-trio is divided into eight distinct stages. The resource usage in each stage will be individually audited taking into account the source and destination. Upon completion, the life cycle impacts and true cost to manufacture this product will be understood.

The assessment data will be used to develop a model for calculating the life-cycle impacts and costs for the other product lines. The model will allow West Liberty Foods to replicate the analysis and quantify the production costs and impacts of each product line.

Understanding the resource usage and production costs could enable the company to maximize the efficiency of their production lines and improve bottom line savings.

