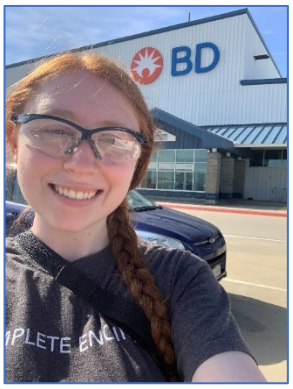
Project Overview



Industrial Placement Intern: Sidney Matthias

Major: Civil Engineering

School: University of Nebraska-Lincoln

Company Background

Beckton, Dickinson, and Company (BD) East Columbus, NE is a medical tool manufacturing plant with two separate production plants: Pharmaceutical Systems plant, which specializes in glass syringe manufacturing, and the North American Molding Center, which produces a variety of medical tool pieces out of resin molding.

Project Description

The Environmental, Health, and Safety Leader at BD sought assistance in the summer of 2021 to analyze waste disposal streams throughout the plant. BD East is currently tracking their recycling practices as the plant works toward a zero-landfill waste production process. Therefore, a variety of waste streams were tracked, quantified, and implementations made for decreased land-fill disposal and overall waste decrease.

Pollution Prevention Benefits

Diverting waste to landfills increased BD's overall recycling rate. The resin recycling specifically will increase the avoidance rate by 4.5%. The other solid waste recycling will increase it by 2.67%. All of the implementations provide waste reduction in various aspects of plant production. Some of these recommendations require equipment to be purchased and installed and plant property. Others require training and awareness to BD associates.

Results

The pollution prevention benefits and results are summarized in Table 1 below:

Table 1: Pollution Prevention Benefits and Results

P2 Category	Annual Cost Savings ($/yr.)	Waste Eliminated (per year)
Resin Recycling	$19,800	151,200 lbs.
Single-Use Plastic Recycling	$4,140	2,000 lbs.
Food Waste	$2,880	48,000 lbs.
Solar Panel Energy	$570	21,350 kWh
Total:	**$27,390**	**201,200 lbs.**
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