JBS USA

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MARSHALLTOWN

COMPANY BACKGROUND

JBS is a pork-processing facility located in Marshalltown, Iowa. In 2007, JBS bought Swift & Company and became the largest animal processer in the world. The company is headquartered in San Paulo, Brazil, and has more than 120,000 employees in 140 different facilities. The Marshalltown plant is one of three pork facilities owned by JBS and is the third largest pork processer in the United States. More than 2,400 employees are located at the Marshalltown facility, which produces food-grade meat and other products.

PROJECT BACKGROUND

JBS incorporates continuous improvement strategies into its environmental performance. This is the company's second year of participation in the Pollution Prevention Intern Program. The goal of this year's project was to assess chemical usage at the JBS facility and develop processes to improve the efficiency and effectiveness of chemical usage on site. The intern focused on the development of standard operating procedures for on-site chemical management.

INCENTIVES TO CHANGE

JBS currently spends a considerable amount on chemicals from various suppliers. Adopting standardized procedures will enable JBS to accurately track inventory and product usage and become more efficient in the chemicals they utilize and purchase. Standardizing the storage procedures could help reduce the risk of spills and improve safety. These efforts will assist JBS with becoming more eco-friendly as the company continues to make progress in environmental sustainability.

RESULTS

Implementing Inventory Management Processes: Improved inventory management can save companies significant time, money and materials, as tighter controls reduce the likelihood of unnecessary ordering, overstocked resources and obsolete materials. Updated processes were developed for JBS that could help optimize inventory management. Recommendations included development of standard operating procedures for redeveloped inventory processes and inclusion of "first in, first out" (FIFO) strategies.

Trolley Wash: Trolleys are used to transport animals throughout the production area. After every use, the trolleys are cleaned before returning to the production floor. The current cleaning process uses excessive cleaning chemicals and hot water compared to what the cleaning process actually requires. Development of a standard operating procedure for cleaning trolleys will optimize the use of cleaning materials, saving chemicals, water and energy.

Centralized Storage: Chemicals are stored on site throughout the production area. Some are stored in the same department area where they are used; others are stored where space is available. Without convenient, designated storage locations, there is a higher likelihood of misplaced inventory, resulting in over-ordering and extra costs. By reorganizing, creating a centralized storage location and utilizing back inventory, the company reduced purchases by more than $30,000 this summer and adopted a more efficient ordering process.

Switch to New Polymer: Polymer is one of the chemicals used in the on-site wastewater treatment plant to effectively treat wastewater from production processes before it is discharged to the city. This project identified a polymer that is expected to be more efficient than the current polymer. The new polymer is currently undergoing full-scale testing to confirm the successful sample testing already shown. Switching to the new polymer could allow JBS to utilize approximately 42 tons less polymer per year.

Switch to Bulk Polymer: Polymer is currently purchased in 275-gallon totes and delivered on site approximately every two weeks by semi-trucks that must be unloaded and transported to storage by JBS staff. If the chemical vendor is running low, partial delivery trips occur more frequently, increasing labor requirements. The intern identified that polymer purchased through JBS's chemical vendor can also be purchased in bulk. Buying in bulk would cost less per pound and the polymer could be ordered less frequently. There are two working bulk tanks in wastewater, each capable of holding 2,000 gallons. If these tanks were filled with polymer, reordering would take place less than once per month. This would make ordering easier, less time-consuming and save on labor costs for unloading and transporting to storage, which could save the company several thousand dollars annually.

CONVENTIONAL AIR POLLUTANTS AND GREENHOUSE GASES DIVERTED IN STANDARD TONS

Total for all sectors					
CO_2	SO_2	CH_4	N_20	CFC	PM-10
302.75	0.69	48.16	64.66	11.55	0.11

PROJECT	ENVIRONMENTAL RESULTS	STATUS
IMPLEMENTING INVENTORY MANAGEMENT PROCESSES	6 TONS CHEMICAL	RECOMMENDED
TROLLEY WASH	1,919 GALLONS WATER 52 GALLONS CHEMICAL 1,325 KWH	IMPLEMENTED
CENTRALIZED STORAGE	8.6 TONS CHEMICAL	IN PROGRESS
SWITCH POLYMERS	42 TONS CHEMICAL	RECOMMENDED
BULK POLYMER	REDUCED	RECOMMENDED