



# Kemps Minneapolis



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## Organization Background

Kemps is a dairy company that was founded in 1914 in Minneapolis by William Kemps and Walter Lathrop. The company started as just an ice cream company but expanded to produce multiple dairy products. Kemps' Minneapolis facility produces packaged milk and cream and opened in 1979. There are currently 120 employees at this facility, and there are 1,200 employees located throughout the Midwest at various Kemps facilities.



*“Over the course of the summer, working as a MnTAP intern was a very rewarding experience. I enjoyed working with industry professionals and learning more about the manufacturing industry. I am grateful for the opportunity MnTAP and Kemps-Minneapolis have given me and the chance to lead a project and see the positive impacts my work has made.” ~ SS*

## Project Background

Through regular operations, Kemps discharges approximately 1,200,000 gallons of milk annually to the wastewater drains; and 233,000 gallons of milk to human food by-product at a cost of over \$500,000 a year. The goal of this project was to focus on product conservation, and identifying where there is product being lost. Recommendations were also to be formed to work on reducing significant areas of product loss.

## Incentives to Change

Currently, there is a large amount of product that is lost and goes down the wastewater drains. This project will look at key processes where milk is lost to focus on reducing the amount that goes down the wastewater drains. Milk has high levels of chemical oxygen demand (COD) and total suspended solids (TSS), so reducing the amount that is going down the drain can decrease the strength charges imposed by the local wastewater regulator.

## SOLUTIONS

### Implement Best Practice for Filler Shutdown

The process for shutting down a Federal filler varies between operators, which can lead to a significant amount of milk being dumped down the wastewater drains if the filler is not shut down properly. It is recommended that best practice sharing is implemented to have the more experienced operators help train the less experienced operators on how to properly shut down the Federal fillers at the end of a run. Implementing this solution will reduce the amount of milk that is discharged to floor drains, allowing for greater packaging of milk for sale and the potential for reduced costs associated with wastewater strength charges.

### Install Conductivity Probe Prior to Filler Bowl

The current process for starting up the Federal fillers is to run sanitizer through the filler and follow the sanitizer with milk as a rinsate. The milk pouring out of the filler is then tested manually by the filler operator to determine when all the sanitizer is out, and the operator manually

# Solutions

turns off the pump for the filler once it is determined that the sanitizer has been removed. Kemps could install a conductivity probe inline prior to the filler bowl that will automatically shut off milk from pumping into the filler once it senses that there is no longer any sanitizer left in the filler bowl. Installing probes on the lines leading to the four Federal fillers would lower milk loss to floor drains and increase profitability while decreasing high-strength wastewater discharges.

## Implement Tag System to Improve Oversight of Reworkable Product

Reworkable product is currently moved to the rework area once a week, during reset days, and is marked by a flipped-over bottle. When the amount of rework exceeds the size of the rework area, reworkable product is stored elsewhere in the cooler, often sitting in the cooler for too long and causing reworkable product to be missed and require off-site reprocessing as human food by-product. MnTAP recommends that Kemps implement different colored and shaped tags to mark rework and slop, so that rework can be easily seen throughout the cooler rooms and brought to the correct area. An additional employee may be necessary to ensure that reworkable product is handled appropriately; however, reworking the product that is currently reprocessed off-site would significantly reduce costs and environmental impacts associated with the process.

*“Like our Farmer Owners, we strive to be as sustainable as possible while delivering the highest quality product to our consumers. Our operation is complex, and Sean was thorough and detail-oriented when learning our operation and creating solutions to fight our biggest battles in the war on waste.”*

*~ Tony Gorman, Production Manager  
Kemps, Minneapolis*



Recommendation	Annual Reduction	Annual Savings	Status
Implement Best Practice for Filler Shutdown	29,000 gal milk	Revenue: \$35,000 Strength Charges: \$11,700	Recommended
Install Conductivity Probe Prior to Filler Bowl	94,000 gal milk	Revenue: \$114,000 Strength Charges: \$38,000	Recommended
Implement Tag System to Improve Oversight of Reworkable Product	233,000 gal milk 1.24 metric tons of CO <sub>2</sub>	\$123,000 + \$284,000 product saved	Recommended

**MnTAP Advisor:** Kevin Philpy, Senior Engineer