



DAIRIES

“I need to meet my quality specifications on first pass in order to achieve my production targets.”

Reducing milk fat losses by 1% can generate savings of over \$250,000 per year at a dairy processing 150 million pounds of milk per annum.

What if...

- You could **identify the process units in your dairy where the largest milk losses were being incurred?**
- You could **standardize milk to +0.1% milk fat** on a consistent and repeatable basis?
- You could **improve your product output** by eliminating downtime in critical operating units?

Do you have the control you need to run your Dairy at its operational best?

As an operations manager, you have three distinct business drivers you must balance as you operate your dairy:

1. Producing high quality, consistent products that are safe for your customers
2. Maximizing your plant's profitability by efficiently converting raw milk into desirable end products
3. Protecting the safety of your workers and the environment in which we live

Managing these oftentimes conflicting goals is what you get paid for. Sacrificing product quality for increased production will have disastrous effects on your brand; while conversely, focusing solely on quality could leave you producing at rates which fall far short of your production goals. Of course meeting production and quality targets cannot be achieved in a vacuum. We must produce our products without risking the safety of our employees or environment. Harmonizing these goals is the challenge of any dairy manager.

Operations managers we talk to tell us about challenges like these:

“My profits are weakened by milk losses that I cannot identify.”

It's no secret. In any dairy, cream is money. Transforming raw milk into consumer products requires multiple steps which can include separation, standardization, pasteurization, evaporation and batching. In any of these processes, cream loss occurs but unless you are measuring what goes in and comparing it to what comes out, you'll never be able to identify from which process excess losses are coming.

“Our costs are higher than they should be due to our inability to consistently hit quality targets on the first try.”

Quality in most dairy products is a function of the butterfat content. Obviously, other factors are important too, but hitting the correct target on cream is critical. Too little and our customers will rightly complain. Too much, and we end up giving away valuable product with no incremental revenue! This is a delicate balance and the ability to zero-in on the targeted fat content can have a huge impact on customer satisfaction and the bottom line of any dairy.

“Unplanned shutdowns and bottlenecks keep me from meeting our optimal production targets.”

As the demand for most dairy products continues to grow, the pressure to produce more products from our existing assets grows as well. Unplanned shutdowns due to malfunctions and rework required due to process upsets hamper our ability to maximize dairy throughput. Minimizing shutdowns requires reliable equipment and a proactive plan to maintain it. Eliminating rework requires reliable instrumentation to ensure that recipes are consistently controlled and properly adjusted to account for raw material quality variations.

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IDENTIFY SOURCES OF MILK LOSS

Identifying where milk loss is occurring in any dairy requires precision metering at all inter-unit transfer points. Rosemount and Micro Motion flowmeters provide unmatched accuracy which can closely monitor the inputs and outputs from critical operating units, allowing you to see where in the process your losses are occurring. Rosemount Magnetic meters provide excellent flow measurement and are designed to meet the strict demands and challenging environments of a dairy. When temperatures change or milk fat concentration varies, Micro Motion Coriolis meters can provide additional benefits of direct mass and concentration measurement, further strengthening your ability to identify loss points in your plant.



CONSISTENTLY PRODUCE HIGH QUALITY PRODUCTS ON SPEC, FIRST TIME

Raw materials, like milk and syrups, can vary in qualities such as milk fat or sugar on a day-to-day or tank-to-tank basis. Blindly using the same recipe without accounting for these changes can lead to final products that do not meet specification. By using Micro Motion Coriolis meters to measure both **flow and concentration** of your raw materials, flow rates and quantities can be adjusted automatically to account for minor quality differences that could have major impacts on your final product.

ELIMINATE UNPLANNED SHUTDOWNS TO IMPROVE PLANT THROUGHPUT

Many unplanned shutdowns can occur in a dairy. For example, a simple truck scale malfunction can prohibit receipt of raw milk at the loading bay or a malfunctioning timing meter in the pasteurization loop can delay your entire production line. Micro Motion and Rosemount flow meters have no moving parts which means they can operate for years without failing. In addition, features like dual-sealed transmitters and diagnostics like Smart Meter Verification ensure that your meter is safe from washdowns and operating as it did on the day it was built.

“We have not had one problem with our magnetic flowmeters or our T-Series meters since we installed them four years ago. That’s why I buy Rosemount and Micro Motion; I never have to worry about reliability.”

*Dave Foley, Senior Plant
Engineering Technician
Perry’s Ice Cream*

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