



INCREASED PRODUCTIVITY THROUGH BETTER CLEANING

A Solution Story

Ecolab's next-generation cleaning program helped a European dairy customer reduce CIP cleaning time, increase productivity and improve effluent water conditions

CHALLENGES

- > Inefficient cleaning of membranes resulting in decreased productivity and throughput of whey
- > Extended CIP cleaning cycles that wasted time, water and energy
- > High effluent load causing stress on the waste water plant

SOLUTION

Ecolab conducted a trial of its new **Ultrasil™ MembraneCARE 2.0** during the CIP cycles at two UF sweet whey processing systems. This next-generation cleaning program is designed for dairy manufacturers producing premium-quality products. The program expertly combines newly developed alkaline, acid and patent-pending enzyme cleaners which reduced CIP cycle time, improved cleaning results, effluent profile and productivity, while saving water and energy.

RESULTS

**Ultrasil™
MembraneCARE
2.0**
helped
this
customer...



Decrease each CIP cycle by **15 min.** offering additional capacity worth **\$140K USD** per year for the two systems

Reduce **97%** Phosphate by **93%** Nitrate by **93%** in effluent water

Increase production flux by **14%** worth **>\$656K USD** per year for the two systems



SOLUTION

Technology
+
People
=
**OPTIMIZED
PRODUCTIVITY**

Ecolab's **Ultrasil™ MembraneCARE 2.0** is a proprietary CIP membrane cleaning program, designed for dairy manufacturers producing premium-quality products, that expertly combines alkaline, acid and patent-pending enzyme cleaners, all of which are biodegradable as used. These innovative chemistries are formulated without Phosphoric Acid, Nitric Acid, NPE, EDTA and Chlorine, which minimizes environmental impact.

At this customer's sweet whey processing plants in Europe, Ecolab's new membrane cleaning program significantly improved productivity almost immediately after changeover. After the first CIP cleaning cycle, the membranes were found to be more effectively cleaned in a shorter amount of time. Enhanced cleaning helped production flux improve by 14% resulting in \$656,000 USD annually in incremental profits. In addition, the CIP cycle time was decreased by 15 minutes, offering additional free capacity and flexibility valued at \$140,000 USD per year. By optimizing CIP membrane cleaning, Ecolab helped this customer meet the growing demand for high-quality dairy products and their overall growth goals.

Ecolab is the global leader in membrane cleaning and care. A dedicated team of scientists work at the company's Center of Excellence for Membrane Technology in Monheim, Germany. They collaborate with Ecolab R&D and field technicians globally to ensure successful deployment of new innovations. At this plant, Ecolab's technical specialists provided personalized service and on-site training to help ensure the safe and proper use of the chemistries and demonstrate how this innovative cleaning program can help achieve productivity goals and extend asset life, while saving time, energy, water and waste.



**Key Production
Improvements** →

	Plant 1	Plant 2
Membrane Feed Pressure	↓ 22%	↓ 33%
Membrane Flux	↑ 4.7%	↑ 23%
Incremental Profit / Year	↑ \$373K USD	↑ \$282K USD

Ecolab North America
Global Headquarters
1 Ecolab Place
St. Paul, MN 55102-2233
United States of America
Tel: +1-800-352-5326

Ecolab Europe
GmbH
Richtistr. 7
8304 Wallisellen
Switzerland
Tel: +41 44 877 2001

Ecolab Asia Pacific
Regional Headquarters
2 International Business Park
#02-20, The Strategy Tower 2
Singapore 609930
Tel: +65 6505 6868

Ecolab Latin America
Regional Headquarters
Avenida das Nações Unidas 17.891
6o Andara
São Paulo-SP, 04795-100 Brazil
Tel: +55 11 5644 6554

