



BREWERY ELIMINATES POST-SANITIZER RINSING AND IMPROVES MICRO RESULTS WITH SYNERGEX



CH-1899

Customer reduces water usage and saves 296 hours/year while maintaining beer quality

CHALLENGE






A large brewery followed the common industry practice of rinsing its fermentation tanks and lines after sanitizing them with chlorine. Post-sanitizer rinsing is intended to remove potential residue that could damage beer flavor or cause undesired oxidation.

The brewery's goal was to eliminate chlorine sanitizing to reduce long-term equipment damage and effluent treatment expenses. They wanted to switch to a peracid-based sanitizer, but had concerns about employee safety.

SOLUTION

Ecolab partnered with the brewery to replace the chlorine sanitizer with the Synergex program. The brewery and Ecolab carefully reviewed all elements of peracid safety and handling.

To minimize risk, the brewery had a flavor panel test beer samples to confirm that taste was not impacted by the switch to Synergex. A full implementation of the Synergex program with conductivity measurement in fermentation tanks and lines followed. After one month with Synergex, the plant's positive micro results gave them the confidence to eliminate their post-sanitizer rinse.

CUSTOMER IMPACT	eROI SM	ANNUAL ECONOMIC IMPACT
Improved microbial data across the board	 PRODUCT QUALITY	Improved beer quality metrics
Eliminated post-sanitizer rinsing practice, saving the customer 6 hours per week Removed annual acid wash in brewery	 PRODUCTIVITY	Saved 296 hours of rinsing time per year Reduction of time and labor-intensive process, including acid chemistry
Reduced brewery water usage by 46%, saving 110,739 HL/year	 WATER	Saved approximately \$11,400/year
Partnered with Ecolab to determine safe handling practices, applying the Synergex quick connect	 SAFETY	Elimination of potential capital expense of installing \$45,000 exhaust hood
Reduced chlorine to the drain	 WASTE	Saved costs associated with chlorine in effluent
Overall eROI:		More than \$56,000/year

eROI is our exponential value: the combined outcomes of improved performance, reduced costs and sustainable impact delivered through our services and programs.

RESULTS

Improved Results On Key Microbial Populations

Aerobic Wild Yeast (AE WLD) improved from 50% Total Percent Conformity to 82% over the course of the trial period, with several higher values measured during that time. Anaerobic Total Count improved from 44% to 64% Total Conformity over the trial. Beer Spoilage Organisms (YNBC) improved from 29% to 91% over the course of the trial, even after the post-sanitizer rinse was eliminated. Average Percent Conformity overall shows a linear and increasing trend during the trial period. Synergex use started at the end of October, with complete elimination of the post-sanitizer rinse in December.

Eliminated Post-Sanitizer Rinsing and Reduced Water Usage By 46%

The plant eliminated post-sanitizer rinsing after a flavor tasting panel confirmed that using Synergex did not impact beer quality. Eliminating post-sanitizer rinsing reduced the plant's water usage by 46% and saved 110,739 HL per year. The plant was also able to eliminate a labor-intensive annual acid cleaning process, saving time, labor and acid chemistry.

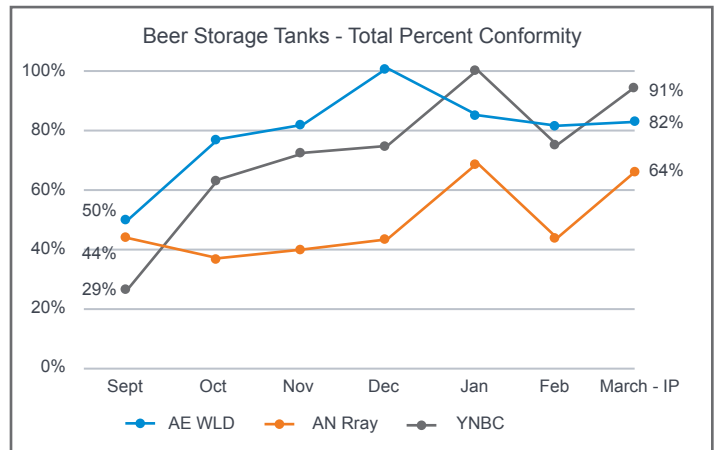
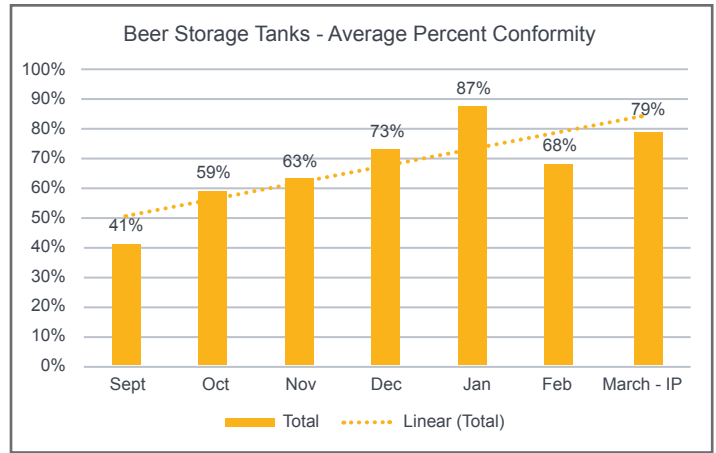
Partnership Toward Improving Employee Safety

Ecolab worked with the customer to determine the most critical aspects of environmental and employee safety that were hindering their ability to phase out chlorine. Risks were defined and mitigated through Synergex's quick connect closure, saving capital that the brewery originally

YNBC improved from 29% to **91%** over the course



PRODUCTIVITY



WATER



SAFETY

CONCLUSION

The innovative Synergex program paired with Ecolab service and expertise helped this customer:

- Improve their micro test results across the board
- Eliminate the practice of post-sanitizer rinsing
- Save water that would have been used for rinsing
- Eliminate a labor-intensive annual acid cleaning
- Implement a safe way to switch from chlorine to peracid chemistry

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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
Richtstr. 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

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