

REDUCING COSTS BY INTEGRATING OZONATED WATER IN THE CIP SYSTEMS

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Abstract

Cleaning and disinfection (C&D) procedures are a major concern in food and drink industries. Most water employed in food sector is consumed for C&D operations, discharging polluted waste water. This is stated at the Reference Document on Best Available Techniques in the Food Drink and Milk industries - FDM BREF (European Commission [1]). So health and environmental concerns are supporting the need for alternative sanitation technologies. AINIA has been working over the last years to develop new and more sustainable sanitation technologies. Ozone is an effective and proved sanitizing agent over a wider spectrum of microorganisms than conventional disinfectants and doesn't generate chemical residues. OZONECIP was a Demonstration Project (LIFE05 ENV/E/000251), which focused on the reduction of the environmental impact of CIP operations by using ozone. This project was focused on winery, dairy and brewery sectors. In this paper a summary of the obtained results is presented.

This project showed, at pilot scale, that comparable hygienic efficiency could be achieved with ozone CIP systems, reducing the amount of water used/discharged (50%). An industrial validation of the ozone CIP system is needed to boost its wide implementation in food industry.

ECO3CIP project (2009-2013) deals with the first industrial application of ozone CIP system in dairy industry. In this paper, their main objectives and the current results are showed. This project (ECO/09/56045/SI2.564671) is co-funded by the EACI and the European Commission.

Key words: *Ozone, CIP, Food industry, BAT, Sustainability.*