

Lecture on Clean In Place by Martin Quealy of Ecolab

Martin Quealy has over 25 years industrial experience including 12 years as a technical manager with Ecolab addressing technical issues in the food and beverage industry in plants throughout Ireland. The chemical and process division hosted this lecture. There were over 90 in attendance. People from the brewing, food, biopharma and consultancy sectors attended. There were also students present from the Chemical & BioPharma degree and GMP courses. There were evening students from the BioPharma upstream module and others from the Brewing and Distilling course in CIT.

Clean-In-Place is a key technology in the dairy, food, brewing and distilling industries. It is also used in the Biopharma industry. It saves time and labour costs. More importantly, it reduces the opportunities for contamination that can occur when equipment is disassembled. More aggressive heating and chemical cleaning can be undertaken. The key parameters of turbulent flow, high temperatures, use of the correct chemicals at the correct concentrations and time were discussed.

The components and layout of CIP skids was explained with the use of excellent slides. The options regarding single use and multi-use systems were outlined. The sequencing of the various steps in a CIP process were discussed. Martin stressed that each system had its own challenges and that the different industries had their own priorities. The importance of prevention of contamination and the increasing requirements for validation of processes was discussed. Challenges such as inadequate pressure in spray bars, over-pressurisation of spray bars leading to atomisation of droplets and shadowing due to agitators and other equipment were highlighted.

The large audience were delighted with a very comprehensive view of so many aspects of Clean-In-Place. The presenter was clear, knowledgeable and enthusiastic.



Martin Quealy of Ecolab and Deirdre Belton of the Chemical & Process Committee