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A model for soil removal in washing systems

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Fouling problems associated with food processing have been reported for more than half century. Thermal food processing is used to reduce the concentration of harmful microbes aside from heat deactivation of enzymes that would cause quality losses. Therefore, frequent cleaning of the plant is necessary, usually using complex and expensive cleaning-in-place (CIP) techniques which requires an optimization not only for reducing operating costs but also for energy saving and for reducing environmental impact. To select a correct cleaning strategy, requires an understanding of fouling, which differs for each type of processed food. This work examines the influence of pH, temperature, surfactant concentration, and soiling agent by using a Bath-Substrate-Flow (BSF) device for milk, starch and fats soil cleaning. We propose a model that fits the experimental results allowing the prediction of best washing conditions for the optimization of the cleaning process.

Biography

G Luzón-González has completed his PhD from Granada University. He is an Associate Professor since 1998 at the University of Granada and currently Head of Master in Chemical Engineering. He has published more than 30 papers in reputed journals and collaborated with many journals as reviewer.

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