



## Cross-contamination in food processing surfaces

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Contamination of kitchen surfaces, during food preparation, due to bacteria present in foodstuff is one of the main causes of foodborne outbreaks. Cells adhered to surfaces of domestic kitchens are not easily removed by normal cleaning procedures. Therefore, they can be a source of contamination for other foods and objects. In this sense, our studies are focused on (i) the determination of the surface properties that rule the adhesion process (ii) development of disinfection products and protocols with higher efficacy against adhered bacteria. Based on the adhesion studies of several clinical and food-isolates of *Listeria monocytogenes* and *Salmonella enterica* Enteritidis we established that hydrophobicity and roughness are surface properties determinant on the adhesion process. Biofilm formation capacity by the same pathogenic bacteria was also assessed and the effect of parameters such as temperature and different growth modes on biofilm formation was analysed.

As cells that adhere to surfaces of domestic kitchens are not usually removed by normal cleaning procedures special attention has been given to the development of more efficient disinfections strategies. It was also developed a prototype that allows to simulate “hand-washing” cleaning of food processing surfaces, with different mechanical conditions and disinfectants.

Presently, we are studying mixed biofilms disinfection strategies based on the use of conventional disinfectants and novel agents such as bacteriophages, phage-lysins and bacteriocins.

### References

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