

EVALUATION OF SAMPLING DEVICES FOR MONITORING SURFACE HYGIENE IN FOOD ENVIRONMENTS

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ABSTRACT

Rapid reliable test methods for checking cleanliness are needed to evaluate and validate the cleaning process in the food industries. Most methods used by manufacturers rely on microorganism detection, and because of the time required to allow bacterial growth, it takes up to 48-72 h to know if the hygiene procedure was efficient or not. However many biochemical tests allowing the detection of organic material are now commercially available. These methods are very rapid, often inexpensive, but are suspected to be poorly sensitive.

In this study, we investigated the ability of commercially available biochemical tests to detect biofilms formed on different materials often encountered in the food environment. Among the wide variety of tests proposed for the detection of proteins, lipids, sugars or NADPH, we determined that some of them were well adapted to the detection of bacterial biofilms on more or less rough materials thanks to their design and the clear colorimetric reaction. These include the tests Rida Check, Clean trace Plus, Clean Test and Speed Check, which would be used in surface hygiene characterization to complement microbiological tests.