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ASSESSMENT OF ORGANIC MATERIAL AND MICROBIAL COMPONENTS ON HYGIENIC SURFACES

Professor Joanna Verran*, Paul J Airey & Kathryn Whitehead
Biology, Chemistry and Health Science, Manchester Metropolitan University, Chester Street, Manchester M1 5GD.

ABSTRACT

The material present on a given hygienic food contact surface may contain organic material (eg food soil), inorganic material (eg residue of cleaning agent), and microorganisms. The nature of this mixture of viable and inert components will vary, depending on the environment. In general, on a hygienic surface, microorganisms should not be able to multiply and accumulate to any significant extent due to the repeated cleaning and disinfecting procedures taking place. Thus true 'biofilm' will be absent, but viable organisms will still present the potential to multiply and cause cross-contamination.

The presence of the inert components of the soil provides a challenge for cleaning procedures, and may affect the survival of the microorganisms, afford protection from disinfection and enhance attachment to the surface, and potentially provide nutrient. The interactions occurring between the substratum, microorganisms and other soil components merit further exploration.

Few attempts have been made to assess the presence of both microorganisms and other material on hygienic surfaces, although for reasons given above, this should certainly be considered. Differential fluorescent staining, and assessment of the contribution of both components to surface coverage provides a relatively simple method. Analytical methods are more accurate, but not readily transferable to routine laboratory procedures.

This paper will outline the problem, and describe some of the approaches taken. The new EU project 'PathogenCombat' will contribute to work in the area.