

3RD GLOBAL FOOD SECURITY, FOOD SAFETY & SUSTAINABILITY CONFERENCE

May 21-22, 2018 | New York, USA



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Disposable gloves & flexible packaging in the food industry: An under-appreciated WMD risk

Statement of the Problem: With HACCP regulations, food packaging and disposable gloves are accepted for food contact when compliance to mandated safety standards. Safety assured via “Letters of Guarantee” that while protecting the supplier is a Pandora’s black box. Given low incidence of physical, chemical and microbiological contamination, the capacity for bioterrorism has not been fully recognized as a \$ 447 billion risk. Food worker gloves and packaging meant to deliver protection, longer shelf life, convenience & portion control is often faulty. Food contamination that occurs within food facilities has for the most part been unintentional. WMD coordinators are aware that a big concern is disgruntled employees intentionally contaminating food or tools of production, but the risk of bioterrorism at glove or food packaging point of origin is vastly under-appreciated.

Methodology & Theoretical Orientation: HACCP provides the systematic methods for analyzing glove and food packaging manufacture, possible hazards, critical control points (CCPs) and testing necessary to protect the food chain.

Findings: Impact costs and variables in surface types with respect to surface free energy and microbial physico-chemical characteristics were investigated. Results explain why and how microbial species attach to plastic surfaces and potential impact magnitude. Hazard analysis shows weak points, steps needed to disrupt microbe and intent, identifying CCPs that are required for target hardening to enable enhanced global food security w/ prevention of negative endpoints.

Conclusion & Significance: Currently the food industry utilizes over 22 billion pairs of disposable gloves & \$16 billion in flexible food packaging per year. Much of this production is outsourced to factories where labor conditions are poor, bioterrorism risks extensive and life sciences governance lacking. Performing a hazard analysis of the glove or food packaging manufacturing process revealed critical control points and mitigation strategies important in normal production and highly significant in preventing intentional events.

Biography

Barry Michaels has over 50 years of experience in the field of infectious disease investigation, control and prevention. His research work has involved a wide variety of viral, bacterial, fungal and protozoan pathogens in which he has focused a variety of technical intervention strategies. After initial research on viral / cancer inhibitory substances and marine microbiology, he went to work for industry. This brought him into contact with issues of product safety, regulatory affairs and product development in the fields of food and healthcare infection control where safety, efficacy and regulatory issues are simultaneously interwoven. He has been active in various scientific organizations and founded the B. Michaels Group Inc; a consultant group active in the areas of personal hygiene, glove use, food contact surfaces and cross-contamination. Considered the “Guru of Hand Hygiene” he has published or participated in hundreds of articles, abstracts, book chapters & presentations on infection control.

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