



IUFOST

Strengthening Global Food Science  
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## IUFOST Scientific Information Bulletin Addresses Food Science Issues

# A clean sweep: Enhancing “flushing” as a dry sanitation strategy for low moisture food manufacturers

**9 May 2025** - The International Union of Food Science and Technology (IUFOST) today released its latest Scientific Information Bulletin on **A clean sweep: Enhancing “flushing” as a dry sanitation strategy for low moisture food manufacturers** for the global food science and technology community represented by more than 300,000 food scientists, technologists, engineers and related social scientists worldwide working with IUFOST. This Scientific Information Bulletin (SIB) may be of interest to those serving in academia, industry, government, and development organizations.

Cleaning and sanitation operations are essential for low moisture food processors to maintain hygienic conditions and reduce the risk of product cross-contamination. However, the introduction of water from typical wet sanitation methods into a low moisture food environment may in some cases increase risk by elevating microbial growth of environmental pathogens like *Salmonella*. Alternatively, dry cleaning methods such as brushing, scraping, and product flushing as well as dry sanitizing methods (formulated oil-flushes) can reduce microbial contaminants without the risk of moisture introduction, but are typically less effective than aqueous sanitizers at microbial inactivation. This trade-off in risk reduction between wet and dry cleaning/sanitation operations in a low moisture food environment is poorly understood in part because of a lack of understanding about the efficacy of dry cleaning and sanitation methods. In this article, we explore the advantages and limitations of dry flushing methods as a cleaning strategy based on the available research. Flushing typically uses dry food material as the physical force to dislodge cells and the vector to carry them out of the system. Flushing treatments may also act as a sanitation step by incorporating heat or chemicals in flushing materials such as oil.

The theoretical advantage of flushing is that it can be applied to a large surface area in a processing line without the need the need to disassemble equipment and introduce water. Despite being commonly used, limited published research exists on the efficacy of flushing as a cleaning intervention to remove microbial contaminants from a processing line, and the research that does exist is often specific to an individual piece of equipment. Economic and sustainability burdens must also be balanced due to the potentially large amounts of flushing material required for an effective intervention. This article is to summarize the available research on flushing as a dry cleaning intervention and identify areas for future research in this field.

This SIB on **A clean sweep: Enhancing “flushing” as a dry sanitation strategy for low moisture food manufacturers** was prepared by Abigail B. Snyder<sup>1</sup>, Lynne McLandsborough<sup>2</sup>, Devin Daeschel<sup>1</sup>, Shihyu Chuang<sup>2, 1</sup> *Department of Food Science, Cornell University, Ithaca, NY, 14853, USA, and <sup>2</sup> Department of Food Science, University of Massachusetts, Amherst, MA, 01003, USA* on behalf of, and approved by, the IUFOST Scientific Council. This and the other titles in the series of IUFOST Scientific Information Bulletins are available online at <http://iufost.org/iufost-scientific-information-bulletins-sib>.

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### ABOUT IUFOST

**The International Union of Food Science and Technology (IUFOST)** is the global non-aligned scientific organization representing more than 300,000 scientists, engineers and technologists from its work in more than 100 countries. IUFOST is a full scientific member of ISC (International Science Council), elected by its ISC peers as the worldwide union of Food Science and Technology. IUFOST represents food science and technology to many international organizations, including UNIDO, the World Bank, International Academies of Science, regulatory agencies, industry and national science bodies. IUFOST organizes world food congresses, among many other activities, to stimulate the ongoing exchange of knowledge and to develop strategies in those scientific disciplines and technologies relating to the expansion, improvement, distribution and conservation of the world's food supply. It aims to harness and strengthen scientific understanding and expertise for the global good. IUFOST has regional and disciplinary groupings to fulfil its mission.

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