

GLOBAL FOOD SAFETY INITIATIVE (GFSI) AUDIT SCHEME REQUIREMENTS FOR THE HYGIENIC DESIGN AND MAINTENANCE OF CLEANING TOOLS AND UTENSILS

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Key words: GFSI, hygienic design, cleaning tools, utensils, cross-contamination

INTRODUCTION & BACKGROUND:

Food industry cleaning tools and utensils have long been identified as a major source and vector of cross-contamination.

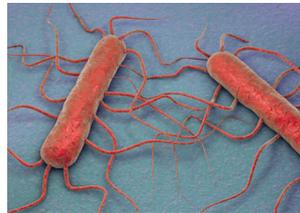
In 1998 UK Government funded study data, used to establish food industry guidance on microbiological sampling¹ showed that:

47% of cleaning tools tested were positive for *Listeria monocytogenes*.

In 2017², Schäfer determined that:

67% of equipment and utensils used in a poultry processing plant were contaminated with *L. mono*, even after cleaning.

Despite this, cleaning tools and utensils are rarely considered in relation to food safety.



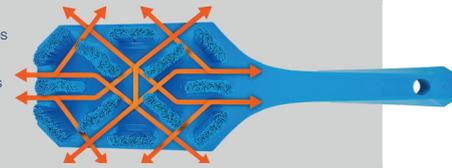
Fortunately, GFSI approved food safety schemes, including those operated by the British Retail Consortium (BRC); and the International Standard Organisation (ISO), now draw specific attention to them.

PURPOSE & METHODS:

To review GFSI food safety schemes, regarding the requirement for hygienic design and maintenance of cleaning tools and utensils; to summarise this information; and to share it with those involved with food safety through the production of written articles and training/information presentations.

Guidance from the EHEDG on hygienic design includes that equipment should,

- be free of crevices and contamination traps
- have a smooth surface finish
- be easy to clean and dry with easy access to all areas
- be easy to disassemble/reassemble
- minimise the risk of foreign bodies
- be temperature and chemical resistant



RESULTS:

BRC Global Standard - Food Safety, Issue 8



Section 4.11.6

Cleaning equipment shall be hygienically designed and fit for purpose, suitably identified for intended use (e.g. colour-coded or labeled), cleaned and stored in a hygienic manner to prevent contamination.

Safe Quality Food (SQF) Code, 8th Ed. (2017)



Section 10.2.9.2 & 10.2.9.8

Equipment and utensils shall be designed, constructed, installed, operated, and maintained so as to meet any applicable regulatory requirements and not pose a contamination threat to the product. All equipment, utensils and protective clothing shall be cleaned after use or at a frequency to control contamination and stored in a clean and serviceable condition to prevent microbiological or cross-contact allergen contamination.

FSSC 22000, v. 4.1 (2017)



ISO/TS 22002-1:2009 Prerequisite programmes on food safety – Part 1: Food manufacturing (as part of FSSC 22000, 4.1 (2017))

- **11.2 Cleaning and sanitising agents and tools**
- Tools and equipment shall be of hygienic design and maintained in a condition which does not present a potential source of extraneous matter.

- **11.3 Cleaning and sanitising programmes:**
- Cleaning and sanitising programmes shall be established and validated by the organisation to ensure that all parts of the establishment and equipment are cleaned and/or sanitised to a defined schedule, including the cleaning of cleaning equipment.

SIGNIFICANCE:

The use of cleaning tools and utensils is ubiquitous in the food industry. Given their proven role as a major source and vector of contamination, sharing knowledge on how they can be controlled, e.g., through good hygienic design and maintenance, is essential to promote food safety.

APPLICABILITY IN FOOD PROCESSING:

Outputs



As a result of our study several presentations and publications have been produced. These are aimed at providing guidance to the food industry on the appropriate selection and maintenance of cleaning tools and utensils, including consideration of their hygienic design; and raising awareness of the benefits of, and GFSI audit scheme requirements for, hygienic design and maintenance of these items. Outputs to date include;

- two training/information presentations covering, the Hygienic design; and Selection, use and maintenance of cleaning tools
- an advertorial³ on 'Choosing hygienically designed cleaning tools'
- a White Paper entitled, 'Optimising food safety through good cleaning tool maintenance'
- Information booklet on the Selection, use and maintenance of cleaning equipment.

The presentations and publications have been made available at various food industry exhibitions and food safety conferences including the 2018 European and US International Association for Food Protection (IAFP) events.

The White Paper has been published online⁴; printed in the June 2018 edition of New Foods Hygiene Application Notes; and distributed via their email database throughout the US and Europe. The White Paper and advertorial are also available via the Vikan website; www.vikan.com.



REFERENCES:

- ¹ Holah, J.T. (1998). Effective microbiological sampling of food processing areas. Guideline No. 20, Campden & Chorleywood Food Research Association.
- ² Schäfer, D., Steffens, J., Barbosa, J., Jamile Z., Rogério L. C., (2017). Monitoring of contamination sources of *Listeria monocytogenes* in a poultry slaughterhouse. LWT - Food Science & Technology, Dec 2017, Vol. 86, p. 393-398.
- ³ Smith, D.L., (2016). Choosing hygienically designed cleaning tools - what they are and why it matters. <http://viewer.ipaper.io/vikan/food-safety-information/ultra-hygiene/ultra-hygiene-advertorial-en-300/>
- ⁴ Smith, D.L., (2017) Optimising food safety through good cleaning tool maintenance. <https://www.refrigeratedfrozenfood.com/articles/93631-Optimizing-food-safety-through-good-cleaning-tool-maintenance>.