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UV Disinfection application in food industry

Listeria monocytogenes is a gram-positive bacteria and the major cause of Listeriosis, a foodborne illness. This disease poses the greatest danger towards people with weaken immune system, pregnant women, and infants. One source of infection is the food preparation surfaces in food manufacturing facilities. Therefore, sanitization of surfaces is a high priority. UV disinfection has a number of advantages over chemical disinfection related to cost, chemical damage to surfaces, and contamination of food items with disinfections. In this work, we evaluated the efficacy of a new generation UV disinfection lamp on food preparation surfaces. Pulsed Xenon UV lamps use a wider range of effective wavelengths and frequencies. The parameters affecting survival of Listeria on stainless steel surfaces were investigated including, exposure time, exposure angle, lamp frequency, and UV dosage. The results indicate that UV disinfection with pulse UV lamps is highly effective at short exposure times to disinfecting bacteria on stainless steel surfaces and is an effective tool for elimination of Listeria left on a surface after cleaning.