Environmental monitoring of a meat industry to asses the efficacy of a deep cleaning process as a *Listeria monocytogenes* strategy control.

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Contamination with *Listeria monocytogenes* is particulary problematic in meat industry due to this pathogen can grow under refrigeration temperatures, form biofilms and become established in the food production environment. When *L. monocytogenes* is introduced in the facilities can persist in harborage points that are not adequately addressed during the cleaning and sanitation process leading to cross-contamination of final products. In these cases, the facilities require more aggressive strategies to eliminate *L. monocytogenes* contamination. The objective of this study was to assess the efficacy of an aggressive deep cleaning sanitation standard operating procedure (DCSP) in a meat processing facility to reduce *L. monocytogenes* environmental contamination.

To reach this aim the level of contamination of different clean surfaces present in an area of slicing and packaging was evaluate in a meat processing facility. In the area 7 different points were selected which included four zones: Zone 1 in direct contact with food; Zone 2 not in direct contact with food but close to food; Zone 3 remote to food or food contact surfaces inside food processing area and Zone 4 not in direct contact with food outside food processing area. The potential harborage surfaces for *L. monocytogenes* and *Listeria* spp were sampled once a week for 1 month before execution of DCSP and then once a week for 1 month after DCSP. All surfaces were evaluated through implementing a sensor-based sampling system and a total of 53 samples was analysed (counts of mesophilic bacteria and detection of *Listeria* spp and *L. monocytogenes*).

The results indicated that counts of mesophilic bacteria did not change due to DCSP and Table 1 show the results obtained by *Listeria* spp and *L. monocytogenes*.

Table 1. Percent (%) of samples negative or positive for *Listeria* spp and *Listeria monocytogenes.*

		***Listeria* spp**	***Listeria monocytogenes***
Before deep cleaning	**Not detected.**	41.67%	66.67%
	Detected	25.00%	25.00%
	Detected non culturable	33.33%	8.33%
After deep cleaning	**Not detected**	27.59%	20.69%
	Detected	0.00%	0.00%
	Detected non culturable	72.41%	79.31%

Although a prevalence reduction of 25% was detected after deep cleaning compared with before these data should be interpreted with caution and more environmental monitorings are necessary to verify that there is no a new increase of prevalence.