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Présentation orale

An investigation of *Listeria monocytogenes* in a Quebec pork cutting and slaughtering plant using RFLP-PFGE

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Listeria monocytogenes (L mono) is a major public health concern and can cause important economic loss in case of outbreak as the 2008 episode cruelly illustrated. Following this event the regulation on the presence of L mono in ready to eat production was modified by Health Canada confirming the need of control not only the final product but the environment of the plant. However, there is no surveillance of this microorganism in the previous step of the production such as the cutting and the slaughter. Hence, there is no information on the presence of this microorganism in these environments in Canada. In this study we sampled the lairage pens, representative areas of the slaughter process and of the cutting zones after washing and disinfection in a pork slaughtering and cutting plant of the province of Quebec on a period of two years. A total of 924 samples were considered. *Listeria* detection followed the MFHPB-30 CFIA standard and species and serotype confirmation were obtained by PCR followed by Apa1 and Asc1 RFLP-PFGE genotyping. Strains were compared using Dice index and UGPMA under Bionumerics. We reported in this study detection of L mono in all the stages of the production. The 108 positive samples analyzed presented 4 different serovars, mainly 1/2B. The PFGE patterns showed the presence of a variety of different strains in the two first zones of the plant (10 pulsotypes in lairage, 9 in slaughtering) and the presence of a major strain in the environment of the cutting room (type 1 representing 96.1% of the strains at this step). Furthermore, a strong similarity (100% homology, Bionumerics) has been shown between strains found at the beginning of the production steps and some strains in the cutting room. The presence of L mono in the plant is not surprising since it is only considered a problem in ready to eat food production. These results support the idea that L mono can enter the plant with the animals and contaminate further steps of the production.