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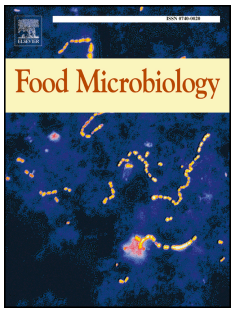

Changes in the microbial communities in vacuum-packaged smoked bacon during storage

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PII: S0740-0020(18)30179-5

DOI: 10.1016/j.fm.2018.08.007

Reference: YFMIC 3064

To appear in: *Food Microbiology*

Received Date: 1 March 2018

Revised Date: 15 August 2018

Accepted Date: 16 August 2018

Please cite this article as: Xinfu Li, Cong Li, Hua Ye, Zhouping Wang, Xiang Wu, Yanqing Han, Baocai Xu, Changes in the microbial communities in vacuum-packaged smoked bacon during storage, *Food Microbiology* (2018), doi: 10.1016/j.fm.2018.08.007

Changes in the microbial communities in vacuum-packaged smoked bacon during storage

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ABSTRACT

This study aimed to gain deeper insights into the microbiota composition and population dynamics, monitor the dominant bacterial populations and identify the specific spoilage microorganisms (SSOs) of vacuum-packed bacon during refrigerated storage using both culture-independent and dependent methods. High-throughout sequencing (HTS) showed that the microbial composition changed greatly with the prolongation of storage time. The diversity of microbiota was abundant at the initial stage then experienced a continuous decrease. Lactic acid bacteria (LAB) mainly *Leuconostoc and Lactobacillus* dominated the microbial population after seven days of storage. A total of 26 isolates were identified from different growth media using traditional cultivation isolation and identification method. *Leuconostoc mesenteroides* and *Leuconostoc carnosum* were the most prevalent species since day 15, while *Lactobacillus sakei* and *Lactobacillus curvatus* were only found on day 45, suggesting that they could be responsible for the spoilage of bacon. *Serratia*, *Rahnella*, *Fusobacterium* and *Lactococcus* underwent a dramatic increase at some point in

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