**Preliminary evaluation of bacteriocinogenic potencial of *Lactobaccilli* isolates from SouthPortuguese traditional fermented sausages against *Campylobacter*, *Salmonella*, *St. aureus* and *Listeria monocytogenes***

Gonçalves, S.1, Fernandes, H. 1, Fernandes, M. J. 1, Barreto, A.1, Elias M. 2 & Fraqueza M.J. 1

1Faculty of Veterinary Medicine, UTLisbon, Centro de Investigação Interdisciplinar em Sanidade Animal (CIISA), Av. da Universidade Técnica, Pólo Universitário da Ajuda, 1300-477, Lisbon , Portugal. mjoaofraqueza@fmv.utl.pt

# *2 Universidade de Évora, Área Departamental de Ciências Agrárias, Apartado 94, 7002-554 Évora. Portugal.*

The fermented and dry meat sausages presents relevant importance in the south of Europe gastronomy, namely in Portugal. According to the increased consumer concern regarding health and food safety, and simultaneously the abusive use of chemical products to control pathogenic flora, it is essential to get knowledge about bacteriocinogenic and technological properties provided by starter strains in meat products. Within this framework, it was developed a study in order to evaluate technological flora, namely Lactic Acid Bacteria (LAB), found in different Portuguese fermented/smoked sausages (*Chourição* (CH), *Chouriço de Carne* (CC), *Chouriço de Vinho* (CV), *Linguiça* (L), *Paio* (P) and *Salsichão Grosso* (SG)), at three different production points (meat batter after stuffing, meat batter after half maturation and final product), and work surfaces after cleaning procedures (mixing machine (S1), mincing machine (S2), wall of stuffing room (S3) and stuffing machine (S4), from three factories located in Alentejo, Portugal (factories A, B and C). The 232 LAB isolates from MRS agar plates (80 isolates from factory A, 56 isolates from factory B and 96 isolates strains from factory C) were pre-selected after microscopic observation of their morphology, Gram coloration, catalase and oxidase tests, obtaining a set of 89 isolates presumptively *Lactobacilli* (25 strains from factory A, 15 strains from factory B and 49 strains from factory C). Pre-selected *Lactobacilli* isolates (n=89) were genetically identified by PCR (Dubernet, Desmasures and Guéguen, 2002), identifying 58.5% of isolates (n=52) as *Lactobacillus* genus (60.0% from factory A, 20.0% from factory B and 61.2% from factory C). 21.2% of these isolates were identified by PCR (Berthier and Ehrlich, 1998) as *L. sakei*, 15.4% as *L. curvatus* and 15.4% as *L. plantarum*. Those strains were evaluated regarding their potential of producing bacteriocin-like inhibitory substances against a sensitive strain *Enterococcus avium* EA5 (isolated atLAM- IAP SAS,Kosice, Slovakia, by Lauková, A.) and different pathogens *Salmonella enteritidis* CECT 4300, *Listeria monocytogenes* 4A CECT 934, *Staphylococcus aureus* NCTC 8325, *Campylobacter coli ZIM 140*, *Campylobacter jejuni NCTC 11168*, through the Skalka modified method (Skalka, Pillich & Pospisil, 1983). The strain *Enterococcus faecium* EK13 (Enterocina A producer, isolated by Lauková, A.) was used as positive control. Eight tested strains (*L. sakei* CV2C2, CV3C2, CH2C5 and CH3C7; *L. curvatus* CH2C3 and L2B5; *L. plantarum* P2B2 and S4B8) shown ability to inhibit all pathogenic strains under study, and five strains (n=5) of *L. plantarum* produced inhibitory zones ≥12.0 mm against the sensitive strain EA5 (P3B6, P3B7, P3B8, S4B6 and S4B8). The strains *L. sakei* CV2C2, CH3C7, CV3C2, C2C7 and *L. plantarum* S4B8 and P2B2 revealed ability to inhibit *C.coli* ZIM 140 and *C.jejuni* ATCC 11168. *Listeria monocytogenes* 4A CECT 934 was inhibited by all tested strains except *L. sakei* C2C7, *L. curvatus* L2B3 and L3M5, *L. plantarum* S4B8 and P3B6 . The *L. plantarum* S4B8, isolated from a stuffing machine at factory A, was the single strain that simultaneously revealed an inhibition zone ≥12.0 mm against EA5 and shown potential bacteriocinogenic activity against all studied pathogens. Further studies of *L. plantarum* S4B8 will be performed.