

L. Delhalle, R. Duré, A. Jasick, Y. Adolphe, G. Boseret, A. Clinquart, G. Daube
University of Liège – Fac. Vet. Med. – Dept. Food Science – Sart-Tilman, B43b, 4000 Liège, Belgium

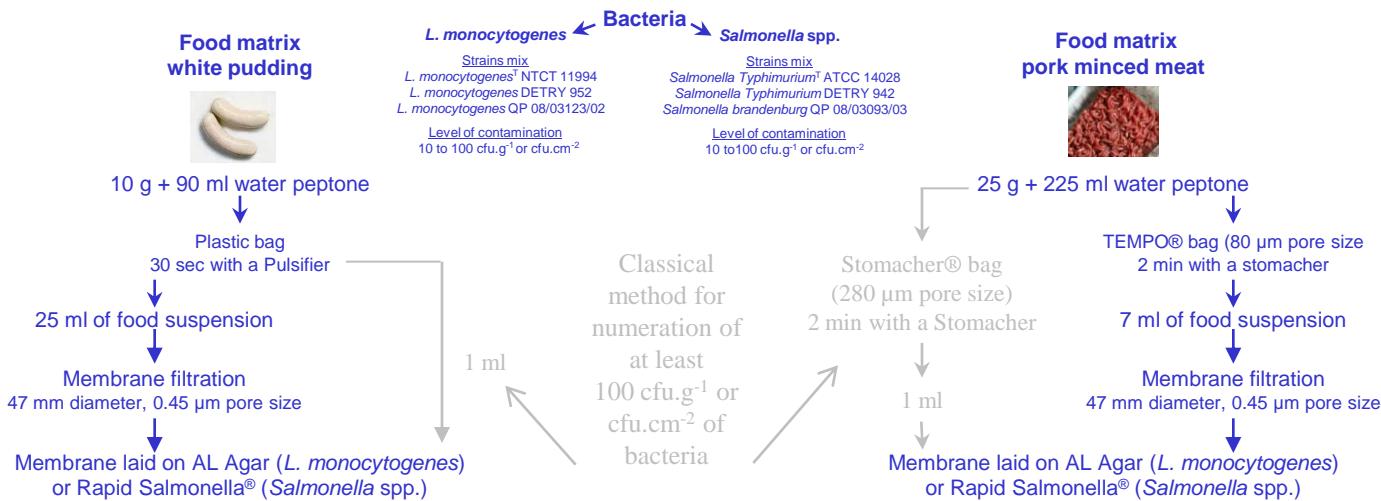
Introduction

The European Community Regulation No 2073/2005 defined a quantitative limit for 100 cfu.g^{-1} for certain types of food during their shelf life. However an adequate counting method for low contaminating levels is still lacking. The EN ISO 11290-2 European and International Standard method for enumeration of *Listeria monocytogenes* is characterized by a limit of enumeration of $10-100 \text{ cfu.g}^{-1}$, and a poor accuracy. Recently a new method has been developed to enumerate *L. monocytogenes* at low contamination levels in several food matrices using a membrane filtration method with an enzyme/surfactant treatment to solubilize food components. This method increases handling time and work.

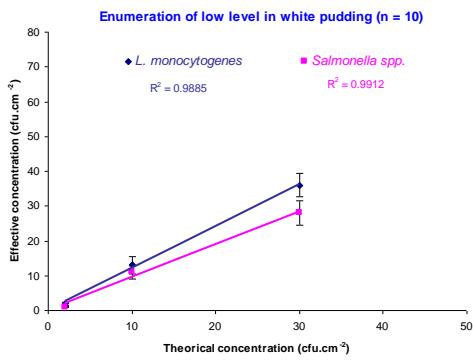
Objectives

The aim of the present work was to develop a new method to enumerate *L. monocytogenes* and *Salmonella* spp. at low concentration in meat products. This method is based on membrane filtration method without using treatment to solubilize food components.

Materials and methods



Results

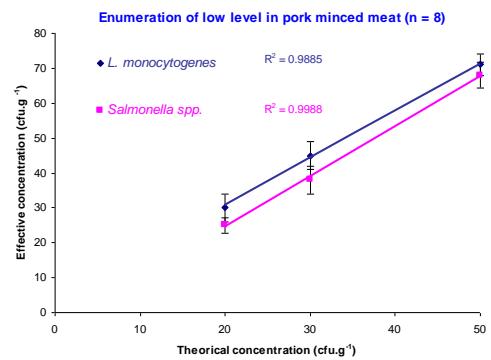


White pudding (n = 10)

- easier for very low concentration
- ratio average: 1.0

Minced meat (n = 8)

- not very low concentration (clog membrane)
- ratio average: 1.4



L. monocytogenes

Theoretical concentration (cfu.cm⁻²)	Effectice concentration (cfu.cm⁻²)
2	1.000
10	1.300
30	1.200

Salmonella spp.

Theoretical concentration (cfu.cm⁻²)	Effectice concentration (cfu.cm⁻²)
2	0.500
10	1.100
30	0.933

Conclusions

This new method can be used to enumerate low level of bacteria on meat matrices. The ability to count low numbers is very useful for simulating the contamination level commonly found in meat products from food industries.