**Campylobacter prevalence in foods from animal origin in Belgium**

G. Daube1, Y. Ghaflir1, J.M. Dumont2, H. Goossens3, J.Y. Francois1, M. Cornelis5, M. Jouret5 and L. De Zutter3

1 Food Microbiology, Faculty of Veterinary Medicine, University of Liege, Liege, Belgium
2 Public Health Institute - Louis Pasteur, Brussels, Belgium
3 Food Microbiology, Faculty of Veterinary Medicine, University of Gent, Gent, Belgium
4 Medical microbiology, University of Antwerp, Belgium
5 Institute of Veterinary Expertise (Public Health), Brussels, Belgium

**Introduction**

• **Campylobacter** is the most common cause of bacterial gastroenteritis in terms of numbers of reported cases by the Public Health. The determination of the prevalence and the level of contamination is essential for an efficient risk assessment program but all the different species have not the same epidemiology and the preventive measures are probably different.

**Material and Methods**

• The surveillance plan was designed to detect a contamination rate of 2% in the sample population, with a probability of 95%.
• Several matrices of pork and poultry were sampled and all samples were investigated two times (sample itself and a dilution of it, see Table 1)
• The analytical method used was an enrichment in Preston broth (48 hours, 42°C), plating of 10ul on mCCDA agar (24-120 hours, 42°C), followed by biochemical (Api Campy) and genetic (PCR multiplex) characterizations
• Isolates were then tested for resistance to various antibiotics by the MIC method.

**Results and discussion**

**Campylobacter** is frequently isolated from pork and poultry even from a little quantity of matrix (Figure 1 and 2) with stable prevalences (Figure 7). In pork, **C. coli** and **C. jejuni** represent more than the half of the isolates (Figure 3). In Layers (Figure 4), **C. jejuni** is isolated in at least 80% of the cases. In broilers (Figure 5), the dominance of **C. jejuni** is similar to those found in layers. In turkeys, **C. jejuni** is yet more important with more than 94% (Figure 6).

As shown in Table 2-3, the results of resistance to antibiotics are similar to those obtained in humans.

**Conclusion and discussion**

• **Campylobacter** is frequently isolated from pork and poultry.
• Isolated strains belong to same species and have same antibiotic resistance profiles that isolated strains from human.
• An advanced analysis of the results is needed in order to precise the sources of human campylobacteriosis.
• The rate and the level of contamination, and thus the risk, is higher in poultry than in pork.
• These results should be used to take preventive measures in order to lower the contamination rate of **Campylobacter** and the resistance to antibiotics.
• These results should be compare with those of others European countries.

**Bibliography**

• Trends and sources of zoonotic agents in animals, feeding stuff, food and man in the European Union in 1996. An evaluation of the trends reports provided for the year 1996 by the Member States to the European Commission according to Art. 5 of the Directive 92/117/EEC.
• Annual report on Zoonoses in Denmark 1998. Ministry of Food, Agriculture and Fisheries, Denmark.
• Surveillance des maladies infectieuses par un réseau de laboratoires de microbiologie (1997), Public Health Institute, Belgium.
• Campylobacter isolates at the University of Antwerp Hospital, unpublished data.

*This study was financially supported by the Institute of Veterinary Expertise (Public Health).*