Context of the detection of *C. lanienae* isolates

In order to evaluate *Campylobacter* occurrence, antimicrobial resistance and genotypic diversity, fecal samples of 58 pigs from 31 conventional herds and 56 pigs from 31 organic herds, were collected in a slaughterhouse at evisceration step. The analysis of fecal samples was performed as following:

- **DNA preparation, restriction endonuclease digestion and PFGE**
- **Antimicrobial susceptibility**
- **Genotypic diversity : Pulsed-field gel electrophoresis**
- **Conclusion**

Characterization of *C. lanienae* isolates

**Antimicrobial susceptibility**

**Method**
- 55 *C. lanienae* studied for their antimicrobial susceptibility by Minimal Inhibitory Concentration (MIC) using Sensititre ® plates (Biocentric, Bandol, France).
- 7 antimicrobials tested: Gentamicin (GEN), Streptomycin (STR), Ciprofloxacin (CIP), Nalidixic Acid (NAL), Tetracycline (TET), Erythromycin (ERY), Chloramphenicol (CHL).
- Results analysed following ECOFFs from Eucaet.

**Results**
- Only one isolate was pansusceptible (1.8%).
- All isolates were susceptible to Chloramphenicol and 94.5% susceptible to Gentamycin.
- Resistance to Nalidixic acid (93 %) is very high : natural resistance.
- Resistance to Tetracycline and Ciprofloxacin was significantly different between the two productions.

- Direct detection of *Campylobacter* on Karmali plate
- Species identification by PCR Wang (Wang et al., 2002)
- **Campylobacter coli**
- 76.8 % for organic pigs
- 74.0% for conventional pigs

**Campylobacter occurrence re-estimated:**
- Organic pigs: 96.3 %
- Conventional pigs: 91.1 %

**Genotypic diversity : Pulsed-field gel electrophoresis**

**Method**
- DNA preparation, restriction endonuclease digestion and PFGE carried out as described by the Campynet protocol.
- DNA macrorestriction performed with KpnI and Smal enzymes.

**Results**
- High diversity whatever the origin of strains, and the enzyme used (ID > 0.98).
- No interest to use Smal enzyme (lot of strains not typable).

**Conclusion**

This study allowed us to demonstrate for the first time in France that pigs, known to be a reservoir for *Campylobacter coli* may also carry in their feces *Campylobacter lanienae*, a species rarely highlighted. The species was present in conventional fecal samples as well as organic fecal samples. The lower level of antibiotic resistance and multiresistance of *C. lanienae* strains for organic pigs may be related to the restricted use of antibiotics in this production and / or colonization of organic pigs with susceptible environmental strains. The genotypic diversity by RFLP-PFGE is very high, as generally observed for other more common species of *Campylobacter*.

References:

Acknowledgement to Core Organic II Funding Bodies, partners of the FP7 ERA-Net project, for funding SAFEORGANIC project www.coresorganic2.org