

Prevention of campylobacteriosis

Giangaspero M.¹, Barca L.², Misawa N.³, Arigoni F.¹, Straticò A.¹, Grandinetti G.¹, Madeo A.¹, Macchioni D.¹ and Turno P.¹

¹Department of Health Protection and Health Policy, Calabria Region, ²Istituto Zooprofilattico del Mezzogiorno, ³Center for animal Disease control, University of Miyazaki, Japan, ⁴Madeo Industria Alimentare srl
Correspondence to: Pasquale Turno DVM, e-mail: p.turno-esterno@sanita.it

In Europe campylobacteriosis is the most important food borne illness, with >200,000 confirmed cases yearly. The transmission to humans is foodborne or contact with animals and their products – raw milk and meat. Cross contamination can occur at home for improper food handling and hygiene.

Alternative strategies to prevent the disease though a direct action at primary production level have been explored.



Calabrian Black



This study evaluated the use of agricultural by-products from plants with bactericidal potential as animal feed supplement for the reduction of *Campylobacter* intestinal burden in two zootechnics excellences.

Pathogen detection, characterization and quantification
ISO 10272-1:2006(E); ISO 10272-1:2006(E); ISO/TS 10272-2:2006

Pigs (n=40), sows and piglets, were reared in paddocks with olive trees, with free access to olives and olive leaves as supplementary feeding. A control group of pig finishers (n=10) received standard feeding. Negative results have been obtained in all pigs with olive by-products supplementary feeding. The pig control group was negative.

Broiler chickens (n=100) from one large (70,000 birds) and one small with ground rearing farm. Both fed with standard feeding. Chickens from large poultry farm showed high levels of contamination (up to 6,200 CFU/gr), while birds from small farm resulted free from *Campylobacter*. Farm size and management are important factors for pathogen epidemiology.



- Improved science based consumers' risk communication
- Improved farm management – animal welfare
- Improved slaughterhouse hygiene
- Sustainable application of antibacterial properties of selected agricultural by-products at primary production level

Active involvement of veterinarians in the perspective of One Health
Base for preventive approach against foodborne diseases

It is possible to reduce the 90% of the cases of human campylobacteriosis limiting the level of contamination under 500 CFU per gram in raw meat

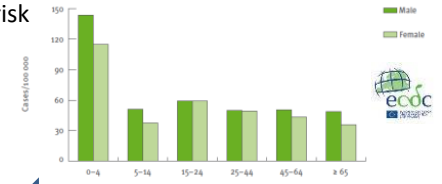
Phytoprevention
A green revolution



Antibiotics? Avoid abuses

First collaboration in Veterinary Medicine between Japanese and Italian Institutions
Meeting at the Calabria Region and the Health Protection and Health Policy Dpt

Food safety risk



One Health issue ← Pediatric risk



Japanese Black



6 bovines naturally infected with *Campylobacter*. One group (n=3) received bamboo supplementary feeding and a second one (n=3) received standard feeding (control group). All bovines fed with bamboo supplement were negative for *Campylobacter* after 3 months of feeding. In addition, their meat contained higher levels of oleic acid when compared to the control group.

