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Sommario/riassunto

A significant increase in the prevalence of campylobacteriosis cases has been observed over the past years. Campylobacter has emerged as the leading cause of bacterial foodborne disease worldwide with a significant impact on human health and an associated economic burdens. Campylobacteriosis human cases have been generally correlated with the handling, preparation and consumption of poultry. In 2017, the European Commission regulation has amended Regulation (EC) No 2073/2005 on the hygiene of foodstuffs as regards Campylobacter on broiler carcasses stating a limit of 1000 cfu/g. Campylobacter is also present in other farm animals and is frequently found on a range of foodstuffs due to cross contamination. Among the pathogenic species, C. jejuni is the most prevalent species followed by C. coli. Current guidelines highlight the importance of biosecurity but these measures are failing to mitigate the risk of pathogenic Campylobacter. As an obligate microaerophile, Campylobacter does not multiply under atmospheric oxygen concentration at ambient temperatures. It therefore constitutes a puzzle as to how it can survive from farm to retail outlets. The underlying molecular mechanisms of persistence, survival and pathogenesis appear to be unique to this pathogen. Recent research has indicated how genomic polymorphism, restricted catabolic capacity, self regulation or deregulation of genes, bacterial cooperation and unknown contamination routes may be connected to this specificity.This book includes original studies on both

C. jejuni and C. coli species dealing with epidemiology and animal carriage, host interaction, control strategies, metabolism and regulation specificities of these two pathogenic species, methodology to improve cultural techniques and chicken gut microbiota challenged with Campylobacter.