

## ***CAMPYLOBACTER JEJUNI***

### **CULTURE AND DETECTION OF *CAMPYLOBACTER JEJUNI* WITHIN MIXED MICROBIAL POPULATIONS OF BIOFILMS ON STAINLESS STEEL**

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The objective of this research was to observe the formation and composition of biofilms that contain *Campylobacter jejuni*. Biofilms containing natural populations of bacteria from the poultry processing environment and the target pathogen, *C. jejuni*1221gfp, were produced. Growth kinetics were observed at four cell densities to determine temporal compatibility with biofilm mixtures. Thus, a protocol was developed for growing *C. jejuni* within biofilms on stainless steel coupons. Analysis of the biofilms by confocal laser scanning microscopy showed that *C. jejuni*1221gfp formed a biofilm on stainless steel when incubated without other bacteria. The average surface area of steel covered by *C. jejuni*1221gfp increased from 24 h to approximately equivalent levels at 48 and 96 h. *C. jejuni*1221gfp and natural bacterial populations formed biofilms on stainless steel. This mixture was characterized by an initial increase and subsequent decrease of the surface area coverage of stainless steel by *C. jejuni*1221gfp for each time period. Data on the surface area of stainless steel associated with *C. jejuni*1221gfp when incubated with either of two different initial inoculum densities of other bacteria suggested that the presence of natural populations of bacteria enhanced the numbers of *C. jejuni* on stainless steel. This work provides the basis to study interactions of *C. jejuni* with other bacteria.

