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Czech J. Food Sci.

**Červenka L., Zachová
I., Minříková P.,**

Effect of pH and water activity on the growth of *Arcobacter* sp. in culture

Czech J. Food Sci., 21 (2003): 203-209

The effect was studied of pH value and water activity (a_w) on the growth of *Arcobacter butzleri* and *Arcobacter cryaerophilus* in culture media at 30° C. Various weak organic acids were used to achieve target pH, and different humectants were used to control a_w . Generally, the growth of arcobacters was inhibited at medium pH. Compared to propionic, lactic, malic and ascorbic acids (pH 5.5– 5.0), formic, citric and tartaric acids in the pH range of 6.0– 5.5 were more inhibitory to both arcobacter species. Both arcobacter strains were extremely sensitive to broth environment with a_w values of < 0.980 using NaCl, glycerol and sucrose as humectants. This sensitivity to a_w and pH may well be an important constraint for the distribution and survival of *Arcobacter* sp. in the environment, particularly in foods and food products.

Keywords:

Arcobacter sp.; weak organic acids; water activity

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