

The Effect of Temperature on Organic Acid Production Tendency in the Several Anaerobic Acidogenic Bacteria

Gun Hyung Cho¹, Jung Kon Kim¹, Hyo Ki Jung¹, Si Wouk Kim²

Department of Biomaterials Engineering¹, Department of Environmental Engineering², Chosun
University, Gwangju 501-759, Korea

TEL: +82-62-230-6649, Fax: +82-62-225-6040

Abstract

The effect of temperature on organic acid production tendency in the anaerobic acidogenic bacteria has been investigated. *Clostridium acetobutylicum*, *Cl. butyricum*, and *Lactobacillus casei* were used in this study. Each strain was inoculated into the separate reactor and fermented with food wastes. The operation temperatures of each reactor containing different strains were regulated at 30, 35 and 40°C. Interestingly total organic acid production pattern was almost similar in the three strains. The fastest initial organic acids production was occurred at 40°C. The mainly produced organic acid was lactic acid, but the minor was acetic acid. During fermentation, a little amounts of propionic and butyric acid were produced by *Clostridium* sp., but not by *L. casei*.