

THE EFFECTS OF YOMEISHU ON GROWTH OF PROBIOTIC AND PATHOGENIC BACTERIA

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ABSTRACT

Yomeishu, a traditional herbal liqueur was long being consumed among Asian to maintain good health. This study was aimed to investigate the effect of Yomeishu in different concentration (0%, 10%, 20% and 40% v/v) on growth of *Lactobacillus casei*, *Staphylococcus aureus*, *Escherichia coli* and *Salmonella* spp. at different incubation periods (3 and 6 hours). The viabilities of bacteria were determined using total plate count method and expressed as log CFU/mL. The result showed that viabilities of four tested bacteria in samples of all concentration (0%, 10%, 20% and 40% v/v) were lower than that of their control at all incubation periods except for *salmonella* spp.. Promotion effect on growth of *salmonella* spp. was observed in samples with 10% and 20% Yomeishu (v/v). Growth of *L. casei* showed highest inhibition toward Yomeishu of all concentration but did not increased with increased Yomeishu concentration (v/v). Inhibition effect of *S. aureus*, *E. coli* and *salmonella* spp. increased with increased Yomeishu concentration in both incubation periods. Growth of *E. coli* in 40% Yomeishu (v/v) was totally inhibited at all incubation periods. No colony was observed for *E. coli* in 40% Yomeishu (v/v) at all incubation periods. Growth of *S. aureus* and *salmonella* spp. in 10%, 20% and 40% Yomeishu (v/v) showed greatest inhibition after six hour incubation. However, only growth of *S. aureus* and *salmonella* spp. after six hour incubation in samples with 10% and 20% of Yomeishu (v/v) showed significant different ($p < 0.05$) to that of samples with 40% of Yomeishu (v/v). There was no significant different ($p > 0.05$) between samples with 10%, 20% and 40% of Yomeishu for growth of all four tested bacteria at incubation of three hours. Among the bacteria, growth of *E. coli* showed greatest inhibition toward ethanol followed by *L. casei*, *S. aureus* and *Salmonella* spp.. at all incubation periods. Tolerance of *L. casei* and *S. aureus* toward ethanol decreased with incubation times. Only *Salmonella* spp. became more tolerance toward ethanol after six hour incubation.

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