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Analysis of Lactic Acid Bacterial Flora during *Miso* Fermentation

Takumi ONDA[1)], Fujitoshi YANAGIDA[2)], Tai UCHIMURA[3)], Masao TSUJI[1)], Satoshi OGINO[1)], Takashi SHINOHARA[2)] and Koki YOKOTSUKA[2)]

1) Food/Brewing section, Yamanashi Industrial Technology Center
2) The Institute of Enology and Viticulture, Yamanashi University
3) Department of Applied Biology and Chemistry, Tokyo University of Agriculture

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This article describes a microbiological study of lactic acid bacteria involved in the fermentation process of *Miso*. The bacteria were counted and isolated from *Miso* during fermentation and, based on the results of traditional phenotypic tests, divided into nine groups. The isolates were identified by biochemical analysis and 16S rRNA sequence analysis. During *Miso* fermentation, the halophilic bacterium *Tetragenococcus halophilus* increased moderately. The non-halophilic strains displayed a complex growth pattern and were identified as *Enterococcus faecium, Enterococcus durans, Enterococcus faecalis, Pediococcus acidilactici, Pediococcus pentosaceus, Lactobacillus plantarum* and *Weissella confusa*. The predominant species throughout the fermentation process were *T. halophilus, E. faecium* and *E. durans*. Among them, only the strains of *E. faecalis* and *E. durans* produced bacteriocins that had an antibacterial effect on *B. subtilis*, but had none on *T. halophilus*. The bacteriocin producers appear to play an important role in maintaining normal bacterial flora during *Miso* fermentation.

Keywords: microflora, *Miso*, bacteriocin, fermentation lactic, acid bacteria, enterococci, *Enterococcus*

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