0547

Effects of included minerals in salt on microorganisms during Soy-sauce fermentation

Masao Tanaka, Tachi Hiroshi*, Tatsuhiko Ando*, Takeshi Suzuki and Hiroko Miyazaki
Chiba Industrial Technology Research Institute, Food and Chemistry Dept. and
* Junior College of Tokyo University of Agriculture,

Summary

This study aims at investigating the influence on soy-sauce moromi(mash) components and microflora, resulting from replacing sodium chloride with potassium chloride in soy-sauce fermentation.

The amount of the components changed in potassium chloride added brewing process in a different way from that in sodium chloride added brewing process. But difference in viable procryotic cell counts and viable yeast cell counts was not found by standard plate-counting method.

In these two types of soy-sauce brewing, microorganisms were also analyzed by T-RFLP method (Terminal Restriction Fragment Length Polymorphism). This showed that behavior of a soy-sauce lactic acid bacterium (*Tetragenoccoccus halophilus*) in potassium chloride added moromi was widely different from that in sodium chloride-added moromi, but difference in behavior of a soy-sauce yeast (*Zygosaccharomyece rouxii*) was not found.

Thus, it was shown that replacement of sodium chloride with potassium chloride resulted in the different fermentation process from that of normal soy-sauce brewing, and potassium chloride affected on prokaryotic organisms including soy-sauce lactic acid bacteria.