

[Available Issues](#) | [Japanese](#)

Author: [ADVANCED](#) | Volume Page

Keyword:



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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Selection of Lactic Acid Bacteria Suitable for Fermentation and Changes in Components Due to Fermentation

[Hideki SAKAMOTO](#)¹⁾²⁾, [Masaru KOGUCHI](#)²⁾, [Yukio ISHIGURO](#)
[MIYAKAWA](#)¹⁾

1) *Department of Fermentation Technology, Faculty of Engineering, University of Tsukuba*

2) *Research Institute, Kagome Co., Ltd.*

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In order to optimize production of fermented tomato juice, suitable bacteria were selected, and the changes in constituents during fermentation were investigated. Fermentation and sensory evaluation showed that *Lactobacillus buchneri* and *L. helveticus* JCM-1120 produced a preferable juice among the tested bacteria. These two strains produced much lower diacetyl and acetoin in tomato juice that contains a high level of citric acid. These results indicate the minimal production of these compounds from citric acid as well as

factor for selection of bacteria in preferable fermented vegetable juice. The concentration of hexanal, a representative aldehyde in tomato juice, and diacetyl, a representative ester, decreased after fermentation. The nutritional requirements and growth conditions for the two bacterial strains were also characterized.

Keywords: [tomato juice](#), [lactic acid fermentation](#), [diacetyl](#), [acetoin](#), [carotenoid](#)

[\[PDF \(623K\)\]](#) [\[References\]](#)

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