

## PERUBAHAN KOMPONEN VOLATIL SELAMA FERMENTASI KECAP

[Changes of Volatile Components During Soy Sauce Fermentation]

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### ABSTRACT

*A study has been conducted to investigate changes of volatile components during soy sauce fermentation. During the fermentation, many volatile components produced may contribute to soy sauce flavor. The volatile components identified by GC-MS were classified into hydrocarbon (15), alcohol (15), aldehyde (14), ester (14), ketone (9), benzene derivative (11), fatty acid (9), furan (5), terpenoid (18), pyratine (1), thiazole(1), pyridine (1) and sulfur containing compound (2).*

*Concentration of compounds found in almost all fermentation steps, such as hexanal and benzaldehyde did. These compounds may be derived from raw soybean, since they were all present in raw soybean and their concentration did not change during fermentation. Concentration of palmitic acid and benzeneacetaldehyde, in general, increased during all fermentation steps. They are probably derived from lipid degradation or microorganism activities. Concentrations of some fatty acids, esters and hydrocarbons, such as linoleic acid, methyl palmitate and heptadecane increased during salt fermentation only. Concentration of some other compounds, such as 2,4-decadienal decreased or undetected during fermentation.*

*The absence of some volatile compounds, e.g. (E)-nerolidol and (E,E)-farnesol in boiled soybean which were previously present in raw soybean may be due to evaporation of these compounds during boiling. Some volatile compounds such as, methyl heptadecanoate and low aromatic alcohols are likely derived from *Aspergillus sojae*, since these compounds were identified only in 0 day koji.*

Key words: Soy sauce, volatile component, fermentation