

## Utilization of Fermented Fruit Liquids for Sourdough Bread Making

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### Abstract

The traditional sourdough bread has regained its popularity with the increasing demand by the consumers for more natural and healthy foods. Instead of commonly used raisin as a fermentation source for varieties of microorganisms in western bakery industry, this study aimed at exploring the suitability of two different Taiwan local fruits (banana and lemon) used in naturally-leavened process as a sourdough starter cultures for sourdough bread making. The results indicated that fermentation process for both banana and lemon reached to its peak in terms of bubble activities and aroma at the 5<sup>th</sup> days under 27°C. The volumes of banana and lemon leavened sourdough became 5.7 and 5.9 times bigger respectively than the original sizes, especially lemon leavened sourdough showed strong gas-producing abilities. Fruit leavened sourdoughs and the fermented fruit liquids were used (50%, wt/wt and 30%, wt/wt, respectively) as aroma carriers and acidifiers with the addition of 0.4% (wt/wt) baker's yeast for sourdough bread making. During staling process, both fruit-leavened sourdough breads improved hardness problem ( $p < 0.05$ ). As shown by sensory evaluation, there is no significant difference on 「aroma」, 「chewiness」 and 「hardness」 hedonic test; however, banana-leavened sourdough breads were appreciated for 「texture」, 「flavor」, 「fruity sourness」 and 「overall acceptance」 ( $p < 0.05$ ).

*Keyword: fruit fermentation, sourdough, bread quality, sensory evaluation*

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