

## ABSTRACT

Galih, Karina P. 2015. **Antimicrobial Effectiveness Test Kombucha Easter lily (*Lilium longiflorum* Thunb.) In addition Dates extract (*Phoenix dactilyfera* L.)**. Thesis, Department of Biology. Faculty of Science and Technology of the State Islamic University (UIN) Maulana Malik Ibrahim Malang. Supervisor: Ir. Liliek Harianie M.P and Mukhlis Fahrudin, M. SI

**Keywords:** Kombucha, Antimicrobial, Lilium Easter, Dates

Kombucha is a fermented beverage that contains many benefits among which are as antimicrobials, metabolic disease, treating cancer and others. The potential is influenced by the presence of organic acids resulting from the symbiosis between bacteria with fungi kombu. In the process of fermentation of bacteria and fungi converted glucose into organic acid. Easter lily (*Lilium longiflorum* Thunb.) have a glycosides compounds that play a role in inhibiting the growth of pathogenic bacteria activity. Dates containing 80% glucose, which will be used as an energy source for culture kombucha.

This was an experimental study using a randomized block design (RAK). Factorial with 9 treatments and 3 replications. The treatment in this study was a long fermentation (0, 5, 10 and 14 days) and the percentage increase palm juice (5, 10 and 15%). Analysis conducted, among others, the total acid tertitiasi (TAT), pH, total sugars using test method and antimicrobial Anthrone using test bacteria *Salmonella thypi* and *Bacillus cereus* using agar diffusion method.

The results showed that the higher the TAT, the more acidic pH value and total sugars decreased with TAT values ranged from 0.5 to 2.0%. The most acidic pH value worth 2,57. Total residual sugar contained in the medium range between 0.0027 - 0.0007%. The most substantial inhibition zone against *Bacillus cereus* fermentation resulting in 14 days with a large zone of inhibition 1,22 cm compared to *Salmonella thypi*. These results indicate that the kombucha extract Easter lilies with the addition of dates more effective in inhibiting the growth of positive bacteria (*Bacillus cereus*) compared with negative bacteria (*Salmonella thypi*) as indicated on its website fermentation time with sig.  $0.046 < 0.05$ .