**ABSTRACT**

The purpose of this research were to know the effect kind of brown sugar and the effect of fermentation time towards water kefir characteristic. The benefit of this research is to provide a variety of processed water kefir with raw material types brown sugar, improve usability kind of brown sugar that can be used as raw material for probiotic beverages, and increase the economic value of brown sugar.

The research was done by using a randomized complete block design (RAK) which consists of 2 factors, there were G factor (kind of brown sugar) which consists of g1 (palm sugar), g2 (coconut brown sugar), g3 (palm sugar:coconut brown sugar), and F factor (time of fermentation) which consists of f1 (18 hours), f2 (21 hours), f3 (24 hours). The responses in this research were chemical responses (total sugars, pH, total acid and alcoholic content) and organoleptic responses (aroma, taste, and color).

Based on the result, showed that kind of brown sugar affected chemical responses (total sugars, pH, total acid and alcoholic content) and organoleptic responses (aroma, taste, and color). Time of fermentation affected chemical responses (total sugars, pH, total acid and alcoholic content) and organoleptic responses (aroma and taste).

The best treatment brown sugar water kefir produced from palm sugar types with 21 hours fermentation time in terms of taste.

**Key Word**: water kefir, kind of brown sugar dan time of fermentation.