

**Title :** Fermentation and Properties of Kefir Consisting of Dried Longan

**Author :** Nichanan Kengkasiwit

**Student ID :** 640510132

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**Advisor :** Assistant Professor Dr. Nopakarn Chandet

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## ABSTRACT

Water kefir is a probiotic beverage product that is popular among health-conscious people. It has a sour and fizzy taste and a little alcohol. It plays an important role in promoting health, especially in helping to balance the microflora in the intestines, which is linked to digestive health, immune function, and reducing the risk of certain diseases. It is also a good choice for vegetarians or those who want to avoid dairy products. This is because the main components of the water kefir production process are sugar solution and water kefir grains, which are mixed starter cultures, lactic acid bacteria, acetic acid bacteria and yeast. This study aimed to study the production process of water kefir with dried longan and analyze the properties of the resulting product. Kefir production starts with the preparation of a 10% (w/v) coconut sugar solution. Then, 10% (w/v) water kefir grains are added to the solution. Fermentation is carried out in a container with a loose lid at room temperature for 3 days. Dried longan is added on day 4 to enhance the taste and benefits. Since longan is an important source of phenolic compounds with antioxidant activity, from the fermentation process for 12 days and the analysis of total sugar content by Phenol-sulfuric method, it was found that the total sugar content started at 84.829 mg/ml and decreased slightly on day 3. Then, the sugar content increased to a maximum of 116.109 mg/ml on day 6 due to the release of sugar from dried longan and decreased continuously to 41.913 mg/ml on day 12. From the analysis of reducing sugar content by 3,5-dinitrosalicylic acid (DNS) method, it was found that the reducing sugar content started at 3.312 mg/ml and increased continuously to a maximum of 19.793 mg/ml on day 6 after the addition of dried longan, then decreased on day 9 and increased on day 12. The determination of alcohol content by gas chromatography showed that the alcohol content was less than 3% (v/v). In addition, from the determination of total phenolic compounds by Folin-Ciocalteu method showed an initial content of 0.713 g/g GAE and slightly increased on day 3. Then, when dried longan was added on day 4, the phenolic content increased rapidly on day 6, reaching 9.825 g/g GAE and continued to increase slightly until day 12, which was likely due to the addition of dried longan as a source of phenolics that enhanced the taste and nutritional value of the product.

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