

The storage time on the characteristic of liquid dishwashing soap from nyamplung seed oil (*Calophyllum inophyllum* L) and its antibacterial activity

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Abstract	<p>The production of liquid dishwashing soap from nyamplung seed oil had been studied to obtain the optimum soap formula and determine its storage time. Liquid dishwashing soap is produced through the saponification process using KOH with variation of nyamplung seed oil content. The optimum soap formula was used to determine the storage time that was carried out in 12 weeks. The antibacterial activity of this product was determined through antibacterial activity tests using <i>S. aureus</i> and <i>E. coli</i> bacteria. Soap characteristics which include pH, specific gravity, free fatty acids, unsaponified fat, total fatty acids and pelican oil are determined every week. The results showed that the optimum formulation was liquid dishwashing soap with oil content 40%. The optimum formulation characteristics were 10.166 for pH, 1.040 for specific gravity, 0.54% for free fatty acids, 4.85% for unsaponified fat, 33.47% for total fatty acids, and negative pelican oil. The result of time series test showed that the storage time of liquid dishwashing soap from nyamplung seed oil is 49 weeks, while antibacterial test result showed the formation of inhibitory zones against <i>S. aureus</i> bacteria before storage by 40.42 mm and after storage by 15.57 mm, while against <i>E. coli</i> bacteria had a 10.60 mm inhibition zone before storage and 6.88 mm after storage.</p>
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