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FEASIBILITY STUDY ON CULTIVATING IXORA COCCINEA L. (SANTAN) LEAVES AS AN ANTIBACTERIAL SOAP

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ABSTRACT

Skin is the largest human body's organ system which is important as it acts as a barrier to the body against bacteria, viruses, parasites, and fungi. However, some of these microorganisms penetrate the skin and cause infection. This issue with bacterial skin infection gave the researchers the idea to test the feasibility of organic material as an antibacterial soap. The researchers utilized Ixora coccinea L., known as santan, leaves as it contains phytochemicals, mainly composed of 62.60% triterpenes, which exhibit antibacterial activities. In the experiment, the researchers utilized santan leaves for ethanolic extraction. It was then categorized into three treatments: Treatments A, B, and C, which contain various concentrations of the leaves. However, the researchers include a control group that did not receive treatment. Treatment A contained 250 grams of santan leaves at 100% concentration, while Treatment B contained 150 grams of the leaves at 60% concentration, and Treatment C contained 50 grams of the leaves at 20%

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concentration. It was then added to a soap paste mixture made from olive and coconut oil. Furthermore, the researchers utilized a zone of inhibition test to assess the inhibitory effect of the santan leaves-derived antibacterial soap on bacterial growth. Moreover, one-way ANOVA was used as the statistical treatment for the data gathered. Based on the results, the most effective concentration of santan leaves-derived extract as an antibacterial soap is a concentration percentage of 100%. Hence, the relationship between varying concentration of santan leaves ethanolic extract and bacterial growth is significant.