THESIS

ANALYSIS OF SUN PROTECTION FACTOR VALUE OF PINEAPPLE PEEL SERUM (Ananas comosus (L.) Merr.) WITH UV-VIS SPECTROPHOTOMETER

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It is hereby stated that the thesis with the title :

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It has been reviewed and recomended to meet scientific standards, in terms of both scope and quality.

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I sincerely declare that the research contained in this thesis in my own work and does not belong to anyone else. This thesis has never been published before, except for some parts with original references.

If in the future it is found that this work is plagiarism, I am ready to be given administrative and academic sanctions.

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ABSTRACT

Background: Indonesia is located on the equator which results in year-round sun exposure, affecting skin conditions. One of the skin damages caused by overexposure to sunlight is sunburn, where the skin experiences irritation, inflammation, pain, and feels hot to the touch. Pineapple peel contains flavonoids that have the potential as antioxidants to prevent sunburn.
Objective: This study is to analyze the SPF value of pineapple peel extract serum by UV-Vis Spectrophotometer method and to evaluate the quality characteristics of the preparation.
Methods: This research method is laboratory experimental, conducted by making 4 variations of pineapple peel extract serum concentration using concentrations F0 (0%), F1 (1%), F2 (3%), and F3 (5%). The tests carried out were the SPF value effectiveness test and the preparation quality evaluation test including organoleptic, homogeneity, pH, spreadability, viscosity, and stability tests. Data were analyzed using SPSS One Way Anova with a significant level of $p > 0.05$ to determine the effect of pineapple peel extract concentration added to the SPF value.
Results: The evaluation of SPF characteristics of pineapple peel extract serum showed that the quality of the preparation met the requirements of organoleptic test, homogeneity, pH, spreadability, and viscosity. The results of serum SPF value analysis using UV-VIS spectrophotometer instrument showed the respective values of: F0 (1.61); F1 (1.40); F2 (4.13); and F3 (3.70). Based on the results of data analysis, it is known that the difference in pineapple peel extract has a significant effect on SPF activity with a value of 0.27 ($p > 0.05$).
Conclusion: Pineapple peel extract serum meets the quality requirements of the preparation and has SPF activity values that are in the minimum to moderate protection range.

Keywords: pineapple peel, serum, SPF, sunburn

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