ABSTRACT

IN VITRO VALUE OF % ERYTHEMA NANOENCAPSULATION TEST OF PURPLE SWEET POTATO (Ipomoea batatas L.) LEAF EXTRACT ANTIN-3 VARIETY

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Erythema is redness of the skin caused by exposure to ultraviolet B rays with (UV wavelength) 290nm - 320nm. Purple sweet potato leaves (Ipomoea batatas L.) Antin-3 variety contains polyphenols and flavonoids that absorb UV rays in the manufacture of sunscreens and as antioxidants. Nanoencapsulation is a technique used to coat or coat an active ingredient with a polymer wall layer which aims to protect the active ingredient from environmental conditions such as light, temperature, and other substance interactions. The purpose of this study was to compare the % erythema value of Antin-3 leaf extract and Antin-3 leaf extract nanoencapsulation. The results obtained for the percentage value of erythema in the Antin-3 leaf extract sample at a concentration of 100 ppm, namely 3.907%, are included in the extra protection category. At concentrations of 300 ppm, 500 ppm, 700 ppm, and 900 ppm, the percent erythema values obtained were 0.015%, 0.033%, 0.011%, and 0.015% respectively, which had the capability of being in the sunblock/total block category. In the Antin-3 leaf extract nanoencapsulation sample at a concentration of 100 ppm it has a percent erythema value of 43.464%, which can be said not to be included in the sunscreen category because the value exceeds the limit in the provisions for the category of sunscreen, where the limit for the provisions of the largest category of sunscreen is 10-18. At concentrations of 300 ppm, 500 ppm, 700 ppm, and 900 ppm, they have the ability to sunblock/total block with erythema percentage values respectively 0.854%, 0.043%, 0.024%, and 0.022%.

***Keywords** : Erythema, Antin-3, Nanoencapsulation, Sunblock.*