

## **ABSTRACT**

*Potato starch has an opaque character who can not be penetrated by light, useful as physical sunscreens. The aim of this study was to evaluated the effect of cream which made with various concentration of potato starch to physical quality of the cream during storage for one month, and determine the value of Sun Protection Factor (SPF) from the most stable of sunscreens formulation to white female rabbits who had induced with 8-methoxypsoralen (8-MOP).*

*Formulation of cream made with various concentration of potato starch 10%, 12,5%, 15%, 17,5% and 20% v/v. Organoleptic test, homogeneity, pH, and freeze-thaw evaluated for physical stability test of the cream. Viscosity, dispersive power, and adhesion test were analyzed by Statistical Product and Service Solutions (SPSS) to see the effect of various concentration of potato starch to physical quality of the cream. The activity of sunscreens was based on SPF value by in vivo method above back skin white female rabbits.*

*The results showed various concentration of potato starch gives significant differences on the viscosity, dispersive power, and adhesive test of the cream. The result of Paired Samples T-Test is cream formulation with concentration 10% potato starch is the most excellent physical quality during storage than others. The result of SPF value cream potato starch 10% is 9, and SPF value positive control which contain titanium dioksida 10% is 12.*

**Keywords: cream, starch, stability, sunscreen.**

## INTISARI

Pati kentang memiliki sifat *opaque* yang tidak dapat ditembus cahaya, bermanfaat sebagai tabir surya fisika. Penelitian ini bertujuan untuk melihat pengaruh variasi konsentrasi pati kentang terhadap sifat fisik krim selama penyimpanan satu bulan, serta mengetahui nilai *Sun Protection Factor* (SPF) krim pati kentang yang paling stabil terhadap kelinci putih betina yang telah diinduksi 8-methoxypsoralen (8-MOP).

Formulasi krim dibuat dengan variasi konsentrasi pati kentang 10; 12,5; 15; 17,5; dan 20% b/b. Pemeriksaan organoleptis, homogenitas, pH, dan uji *freeze thaw cycling* di evaluasi untuk pemeriksaan stabilitas fisik krim. Uji viskositas, daya sebar, dan daya lekat dianalisis menggunakan *Statistical Product and Service Solutions* (SPSS) untuk melihat pengaruh variasi konsentrasi pati kentang terhadap sifat fisik krim. Aktivitas krim tabir surya diuji secara *in vivo* pada kulit punggung kelinci putih betina.

Hasil penelitian menunjukkan variasi konsentrasi pati kentang memberikan pengaruh berbeda bermakna terhadap viskositas, daya lekat dan daya sebar. Berdasarkan hasil analisis *paired samples t-test*, formulasi krim dengan konsentrasi pati kentang 10% adalah krim yang sifat fisik nya lebih stabil selama penyimpanan dibandingkan krim dengan konsentrasi pati kentang yang lain. Hasil uji aktivitas krim pati kentang 10% memberikan nilai SPF 9, sedangkan krim kontrol positif yang mengandung titanium dioksida 10% memberikan nilai SPF sebesar 12.

Kata kunci : krim, pati, stabilitas, tabir surya