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FORMULASI DAN UJI STABILITAS FISIK *LOTION* EKSTRAK BUAH TAKOKAK (*Solanum torvum* Swartz)

ABSTRAK

Latar Belakang: Tumbuhan yang memiliki potensi sebagai larvasida alami umumnya mengandung senyawa seperti alkaloid, glikosida, dan metabolit sekunder lainnya. Salah satu tanaman yang berpotensi adalah takokak yang diketahui mengandung alkaloid, steroid, saponin, flavonoid, glikosida, dan tanin.
Tujuan: Penelitian ini bertujuan untuk merancang formulasi dan mengevaluasi karakteristik fisik serta stabilitas fisik lotion antinyamuk ekstrak buah takokak.
Metode: Ekstraksi dilakukan dengan metode maserasi menggunakan etanol 70%, kemudian diformulasikan dalam lotion dengan variasi konsentrasi ekstrak 0,5%, 1,5%, dan 2,5%. Evaluasi karakteristik fisik meliputi organoleptis, pH, homogenitas, daya sebar, daya lekat, dan viskositas. Stabilitas diuji melalui metode *cycling test* selama 6 siklus, dan data dianalisis menggunakan SPSS versi 25.
Hasil: Hasil menunjukkan bahwa lotion memiliki tekstur halus, aroma khas, warna dari krem hingga coklat tua, dan konsistensi kental. Nilai pH berkisar antara 6,78-7,04, daya sebar 5,90-6,80 cm, daya lekat 1,09-1,28 detik, dan viskositas 3.280-10.160 cP. Setelah *cycling test*, tekstur, aroma, warna, dan homogenitas tetap stabil, meskipun pH sedikit menurun (6,47-6,79), daya sebar dan daya lekat mengalami sedikit perubahan, serta viskositas meningkat.
Kesimpulan: Hasil karakteristik fisik sudah memenuhi standar persyaratan, stabilitas fisik pH terdapat perbedaan yang signifikan, daya sebar F0 dan FI terdapat perbedaan yang signifikan, daya lekat hanya FI yang berbeda signifikan, sedangkan pada viskositas hanya FII yang tidak berbeda signifikan (>0,05).

Kata kunci: *Solanum torvum* Swartz, lotion, stabilitas fisik.

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FORMULATION AND PHYSICAL STABILITY EVALUATION LOTION BASED ON TAKOKAK FRUIT EXTRACT (Solanum torvum Swartz)

ABSTRACT

Background: *Plants with potential as natural larvicides generally contain compounds such as alkaloids, glycosides, and other secondary metabolites. One such plant with potential is Solanum torvum (takokak), which is known to contain alkaloids, steroids, saponins, flavonoids, glycosides, and tannins.*
Objective: *This study aims to formulate and evaluate the physical characteristics and physical stability of an anti-mosquito lotion containing Solanum torvum fruit extract.*
Method: *The extraction was carried out using the maceration method with 70% ethanol, followed by formulation into a lotion with extract concentrations of 0.5%, 1.5%, and 2.5%. The physical characteristics evaluated included organoleptic properties, pH, homogeneity, spreadability, adhesion, and viscosity. Stability testing was conducted using the cycling test method for six cycles, and data were analyzed using SPSS version 25.*
Result: *The results showed that the lotion had a smooth texture, characteristic aroma, color ranging from cream to dark brown, and a thick consistency. The pH values ranged from 6.78-7.04, spreadability from 5.90-6.80 cm, adhesion from 1.09-1.28 seconds, and viscosity from 3,280-10,160 cP. After the cycling test, texture, aroma, color, and homogeneity remained stable, although pH slightly decreased (6.47–6.79), while spreadability and adhesion showed slight changes, and viscosity increased.*
Conclusion: *The physical characteristics meet the required standards. However, there is a significant difference in the physical stability of pH. Both F0 and FI formulations show significant differences in spreadability, while only FI exhibits a significant difference in adhesion. In terms of viscosity, only FII does not show a significant difference ($p > 0.05$).*

Keywords: *Solanum torvum Swartz, lotion, physical stability.*