

ABSTRAK

Nama : Aliya Dwi Septiani
Program Studi : Teknologi Industri Pertanian
Judul : Pengaruh Konsentrasi Xanthan Gum pada Karakteristik
Lotion Gel dan Pendugaan Umur Simpannya
Pembimbing Utama : Ir. Muhami, MS. IPM
Pembimbing Pendamping : Ir. Darti Nurani, M.Si. IPM

Tren kosmetik berbahan alami (*natural cosmetics*) telah menarik perhatian masyarakat karena dinilai lebih aman dan ramah lingkungan dibandingkan kosmetik berbahan sintetis. Tantangan dalam pengembangan kosmetik adalah substitusi bahan sintetis dengan bahan alami tanpa mengurangi kualitas produk; salah satunya penggunaan xanthan gum sebagai pengental *lotion gel*. Tujuan penelitian ini adalah mendapatkan konsentrasi xanthan gum yang dapat digunakan sebagai agen pengental dalam pembuatan *lotion gel* dan pada umur simpannya. Penelitian dilakukan dua tahap; tahap pertama menentukan konsentrasi xanthan gum terbaik pada pembuatan *lotion gel* dan tahap kedua pendugaan umur simpan produk. Penelitian tahap pertama menggunakan Rancangan Acak Kelompok (RAK) satu faktor, yaitu konsentrasi xanthan gum yang terdiri atas enam taraf yaitu 0.50%, 0.75%, 1.00%, 1.50%, 1.75%, dan 2.00%. Analisis yang dilakukan yaitu uji kesukaan pada tekstur, aroma dan kelembaban, serta analisis pH, viskositas, dan daya lekat. Pendugaan umur simpan dilakukan berdasarkan parameter kritis viskositas *lotion gel* menggunakan metode *Accelerated Shelf Life Test* (ASLT) cara Arrhenius. Hasil penelitian menunjukkan bahwa konsentrasi xanthan gum terbaik sebagai agen pengental pada pembuatan *lotion gel* adalah sebesar 1.5%. Produk terbaik memiliki nilai kesukaan tekstur 5.07 (agak suka – suka); nilai kesukaan aroma 6.13 (suka – sangat suka), nilai kesukaan kelembaban 5.43 (agak suka – suka); nilai pH 6.90; nilai viskositas 5500 cps dan nilai daya lekat 7.20 detik serta dapat bertahan selama 96 hari pada suhu ruang 25°C. Nilai pH, viskositas, maupun nilai daya lekat produk terbaik tersebut masih memenuhi standar mutu *lotion gel* (IK PT Cikos Indonesia).

Kata kunci: *Lotion gel, xanthan gum, Arrhenius*

ABSTRACT

Name : Aliya Dwi Septiani
Study Program : Agricultural Industry Technology
Title : *The Effect of Xanthan Gum Concentration on the Characteristics of Lotion Gel and Estimation of Its Shelf Life*
Main Supervisor : Ir. Muhami, MS. IPM
Second Supervisor : Ir. Darti Nurani, M.Si. IPM

The trend of natural cosmetics has attracted public attention because it is considered safer and more environmentally friendly than synthetic cosmetics. The challenge in developing natural cosmetics is the substitution of synthetic materials with natural materials without reducing product quality; one of which is the use of xanthan gum as a thickener for lotion gel. The purpose of this study was to obtain the concentration of xanthan gum as a thickening agent in the manufacture of lotion gel and its effect on shelf life. The study was conducted in two stages; the first stage was to determine the best concentration of xanthan gum in the manufacture of lotion gel and the second stage was to estimate the shelf life of the product. The first stage of the study used a one-factor Randomized Block Design (RBD), namely the concentration of xanthan gum consisting of six levels, namely 0.50%, 0.75%, 1.00%, 1.50%, 1.75%, and 2.00%. The analysis carried out was a test of preference for texture, aroma and moisture, as well as analysis of pH, viscosity, and adhesion. Estimation of shelf life based on critical parameters of lotion gel viscosity using the Accelerated Shelf Life Test (ASLT) method by Arrhenius. The results showed that the best concentration of xanthan gum as a thickening agent in making lotion gel was 1.5%. The best product had a texture preference value of 5.07 (rather like - like); aroma preference value of 6.13 (like - very much), moisture preference value of 5.43 (rather like - like); pH value of 6.90; viscosity value of 5500 cps and adhesion value of 7.20 seconds and can last for 96 days at room temperature of 25°C. The pH value, viscosity, and adhesion value of the best product still meet the quality standards of lotion gel (IK PT Cikos Indonesia).

Keywords: *Lotion gel, xanthan gum, Arrhenius*