

## ABSTRACT

### ESTIMATION OF VEGETABLE LEATHER SHELF LIFE FROM A COMBINATION OF BELUNTAS LEAVES (*Pluchea indica L.*) AND SEAWEED (*Eucheuma cottonii*) WITH VARIOUS TYPES OF PACKAGING USING THE ASLT (ACCELERATED SHELF LIFE TESTING) METHOD OF THE ARRHENIUS MODEL

By

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Beluntas leaves vegetable leather is a new processed product, so its shelf life is currently unknown. This research utilised the ASLT (Accelerated Shelf Life Test) Arrhenius model to assess the shelf life of Vegetable leather beluntas leaves in three different forms of packaging, including aluminum foil, combination (aluminum foil-polyethylene), and polypropylene. The research includes two replications and a descriptive design. Three different types of packing were used to store beluntas leaf vegetable leather for a month at oven temperatures of 30°C, 35°C, and 40°C (28 days). Every week, on days 0, 7, 14, 21, and 28, observations were made about the moisture content, protein content, vitamin C, color (color reader) and sensory factors (texture, color, and aroma). The shelf life of vegetable leather leaves was calculated using the parameter data using the Arrhenius model ASLT method with Microsoft Excel 2010. The results showed that the shelf life of vegetable leather from beluntas leaves and seaweed *Eucheuma cottonii* determined based on order 1 color parameters at 30°C. Vegetable leather packaged in aluminum foil had a shelf life of 179.53 days (5 months, 27 days), while in combination packaging (aluminum foil-polyethylene), they had a shelf life of 44.20 days (1 month, 13 days). In polypropylene packaging, the product had a shelf life of 35.94 days (1 month and four days).

Keywords: arrhenius, vegetable leather, beluntas leaves, seaweed, shelf life

## **ABSTRAK**

### **PENDUGAAN UMUR SIMPAN VEGETABLE LEATHER DARI KOMBINASI DAUN BELUNTAS (*Pluchea indica L.*) DAN RUMPUT LAUT (*Eucheuma cottonii*) DENGAN BERBAGAI JENIS KEMASAN MENGGUNAKAN METODE ASLT (ACCELERATED SHELF LIFE TESTING) MODEL ARRHENIUS**

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Vegetable leather daun beluntas merupakan produk olahan baru, sehingga belum diketahui umur simpannya. Penelitian ini bertujuan untuk mengetahui umur simpan vegetable leather daun beluntas dalam tiga jenis kemasan berbeda yaitu aluminium foil, kombinasi (aluminium foil-polietilen) dan polipropilen dengan metode ASLT (Accelerated Shelf Life Test) model Arrhenius. Penelitian disusun secara deskriptif dengan dua kali ulangan. Vegetable leather daun beluntas disimpan pada kondisi suhu penyimpanan (oven) yaitu 30°C, 35°C, dan 40°C dalam tiga jenis kemasan berbeda selama satu bulan (28 hari). Pengamatan dilakukan terhadap kadar air, kadar protein, kadar vitamin C, warna (color reader) dan sensori (tesktur, warna dan aroma) setiap satu minggu sekali yaitu pada hari ke 0, 7, 14, 21, dan 28. Data hasil parameter tersebut digunakan untuk menentukan umur simpan vegetable leather daun beluntas menggunakan metode ASLT model Arrhenius dengan software Microsoft Excel 2010. Hasil penelitian menunjukkan bahwa umur simpan vegetable leather daun beluntas dan rumput laut *Eucheuma cottonii* ditetapkan berdasarkan parameter warna ordo 1 pada suhu 30°C. Umur simpan dalam kemasan aluminium foil selama 179,53 hari (5 bulan, 27 hari), kemasan kombinasi (aluminium foil-polietilen) selama 44,20 hari (1 bulan, 13 hari) dan kemasan polipropilen (PP) 35,94 hari (1 bulan, 4 hari).

Kata kunci : arrhenius, vegetable leather, daun beluntas, rumput laut, umur simpan