

**PENDUGAAN UMUR SIMPAN FRUIT LEATHER JAMBU BIJI DENGAN PENAMBAHAN TEPUNG DAUN KELOR BERDASARKAN KADAR VITAMIN C DAN AKTIVITAS AIR (Aw)**

Haya Zainatul Fathinah,<sup>1</sup> Diana Nur Afifah,<sup>1</sup> Fitriyono Ayustaningwarno,<sup>1</sup> Ninik Rustanti,<sup>1</sup>

**ABSTRAK**

**Latar Belakang:** Anemia defisiensi besi termasuk masalah kesehatan global yang dapat dikendalikan salah satunya dengan konsumsi makanan cukup zat besi. *Fruit leather* berbahan jambu biji dengan penambahan tepung daun kelor sebagai alternatif makanan bagi anemia. Pencantuman informasi umur simpan (*shelf life*) merupakan suatu hal yang sangat penting karena berkaitan dengan keamanan produk pangan.

**Tujuan:** Menganalisis pendugaan umur simpan fruit leather jambu biji dengan penambahan tepung daun kelor dengan metode ASLT (*Accelerated Shelf-Life Test*) metode Arrhenius.

**Metode:** Pendugaan umur simpan fruit leather jambu biji dengan penambahan daun kelor dikemas menggunakan *metalized plastic* yang disimpan pada inkubator suhu 25 °C, 35 °C, dan 45 °C selama 28 hari dengan rentang waktu setiap 7 hari sekali berdasarkan parameter vitamin C dan Aw (Aktivitas Air).

**Hasil:** Nilai parameter vitamin C memiliki energi aktivasi terkecil sehingga digunakan untuk penentuan umur simpan produk dengan reaksi ordo satu regresi  $y = -2378,9x + 4,0881$  dengan nilai  $R^2 = 0,9331$ . Hasil perhitungan umur simpan 34 hari pada suhu 25°C, 26 hari pada suhu 35°C, dan 21 hari pada suhu 45°C.

**Simpulan:** Semakin tinggi suhu maka semakin pendek umur simpan yang didapatkan. Penentuan umur simpan fruit leather menggunakan kemasan *metalized plastic* dengan metode ASLT model Arrhenius menghasilkan umur simpan selama 34 hari pada 25°C.

**Kata Kunci:** vitamin C, aktivitas air (Aw), fruit leather, umur simpan, arrhenius

---

<sup>1</sup> Program Studi Ilmu Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang

\*Korespondensi: hayazainatul014@gmail.com

**ESTIMATION OF SHELF LIFE OF GUAVA LEATHER FRUIT WITH THE ADDITION OF MORINGA LEAF FLOUR BASED ON VITAMIN C LEVELS AND WATER ACTIVITY (Aw)**

**Haya Zainatul Fathinah,<sup>1</sup> Diana Nur Afifah,<sup>1</sup> Fitriyono Ayustaningwarno,<sup>1</sup> Ninik Rustanti,<sup>1</sup>**

**ABSTRACT**

**Background:** Iron deficiency anemia is a global health problem that can be controlled, one of the ways is consuming foodz with enough iron. Fruit Leather made from guava with the addition of moringan leaf flour is an alternative food for anemia. Inclusion of shelf life information is very important because it relates to the safety of food products.

**Objective:** Analyzing the estimated shelf life fruit leather of guava with addition of moringa leaf flour using te ASLT (Accelerated Shelf Life Test) metode Arrhenius

**Methods:** Estimation of guava fruit with moringa leaf powder addition was packaged in metalized plastic and stored in a incubator at temperatures of 25°C, 35°C, and 45°C for 28 days, with measurements taken every 7 days based on the parameters of vitamin C and water activity (Aw)

**Result:** The vitamin C parameter values has the smallest activation energy so it is used to determine the shelf life of the product using a first order regression reaction  $y = -2378,9x + 4,0881$  and an  $R^2$  value of = 0,9331. The calculated shelf life is 34 days at 25°C, 26 days at 35°C, and 21 days at 45°C

**Conclusion:** The highter the temperature, the shorter the shelf life obtained. Determining the shelf life of fruit leather using etalized plastic packaging with the method ASLT, Arrhenius model produces a shelf life of 34 days at a temperature of 25°C

**Keywords:** vitamin C, water activity (Aw), fruit leather, shelf life, arrhenius

---

<sup>1</sup> Departement of Nutrition Science, Faculty of Medicine, Diponegoro University, Semarang

\* Correspondence: hayazainatul014@gmail.com