

# Dugaan Umur Simpan Suplemen Minuman Jus Daun Sambung Nyawa (*Gynura procumbens*) dengan Variasi Pengawet dan Suhu Simpan = Shelf-Life Estimation of Longevity Spinach Supplement Drink with The Use of Preservatives and Variated Storage Temperature

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## Abstrak

Daun sambung nyawa (*Gynura procumbens*) dapat digunakan sebagai alternatif suplemen minuman herbal. Pendugaan umur simpan suplemen herbal jus daun sambung nyawa diperlukan agar diketahui durasi produk hingga mencapai kadaluarsa. Penelitian ini menggunakan variasi pengawet berupa natrium benzoat dan agen penstabil CMC (Carboxyl Methyl Cellulose). Untuk memperoleh umur simpan, penelitian ini meliputi uji kandungan fenolik, uji organoleptik, dan uji angka lempeng total. Pendugaan umur simpan jus daun sambung nyawa dilakukan dengan metode ASLT (Accelerated Shelf-Life Test). Hasil penelitian diperoleh bahwa pendugaan umur simpan diidentifikasi berdasarkan parameter kritis kandungan fenolik pada jus. Jus daun sambung nyawa murni memiliki pendugaan umur simpan 1; 1; 2 hari dengan suhu simpan senilai 38, 25, 7. Jus daun sambung nyawa dengan pengawet natrium benzoat memiliki umur simpan 3; 4; 4; dengan suhu simpan senilai 38, 25, 7. Jus daun sambung nyawa dengan agen penstabil CMC memiliki umur simpan 2; 3; 3 hari dengan suhu simpan 38, 25, 7. Jus daun sambung nyawa dengan pengawet natrium benzoat dan agen penstabil CMC memiliki umur simpan 7; 6; 7 hari dengan suhu simpan 38, 25, 7. Berdasarkan uji angka lempeng total, jus daun sambung nyawa murni memiliki tingkat cemaran mikroba di bawah standar terdapat pada umur simpan 2; 2; 2 dengan suhu simpan 38, 25, 7. Jus dengan penambahan natrium benzoat memiliki umur simpan 6; 6; 6 hari dengan suhu simpan 38, 25, 7. Jus dengan penambahan CMC memiliki umur simpan 6; 6; 6 hari dengan suhu simpan 38, 25, 7. Jus dengan penambahan natrium benzoat dan CMC memiliki umur simpan 8; 8; 6 dengan suhu simpan 38, 25, 7. Berdasarkan uji organoleptik yang meliputi parameter rasa, aroma, dan tekstur, jus daun sambung nyawa murni memiliki umur simpan rata-rata 2; 1; 1 hari dengan suhu simpan 38, 25, 7. Jus dengan penambahan natrium benzoat memiliki umur simpan 9; 8; 7 hari dengan suhu simpan 38, 25, 7. Jus dengan penambahan CMC memiliki umur simpan 9; 8; 7 hari dengan suhu simpan 38, 25, 7. Jus dengan penambahan natrium benzoat dan CMC memiliki umur simpan 18; 14; 12 hari dengan suhu simpan 38, 25, 7.

.....Herbal plants with Longevity Spinach (*Gynura procumbens*) are high in antioxidants. Longevity spinach can be added to beverages as an alternative herbal supplement. To enable their commercialization, it is necessary to estimate the shelf life of longevity spinach juice-based herbal supplements. Sodium benzoate and CMC (Carboxyl Methyl Cellulose) stabilizing compounds were employed as preservative variants in this research. In this study, the phenolic content, organoleptic tests, and bacterial colony counts (Total Plate Count) were used to assess the composition of nutrients contents of the juice. Using the ASLT (Accelerated Shelf-Life Test) method, the estimated shelf life of longevity spinach juice was calculated. The research demonstrated that the important characteristics of the juice's phenolic component concentration were used to estimate shelf life. Pure longevity spinach juice has an estimated shelf life of 1; 1; 2 days with a storage temperature of 38, 25, 7. Longevity spinach juice with preservative sodium benzoate has a shelf life of 3; 4; 4 days with a storage temperature of 38, 25, 7. Longevity spinach juice with CMC as stabilizing agent has a

shelf life of 2; 3; 3 days with a storage temperature of 38, 25, 7. Longevity spinach juice with sodium benzoate and CMC has a shelf life of 7; 6; 7 days with a storage temperature of 38, 25, 7. Based on the total plate count test, pure longevity spinach juice has below standard microbial contamination levels at shelf life 2; 2; 2 days with a storage temperature of 38, 25, 7. Juices with the addition of sodium benzoate have a shelf life of 6; 6; 6 days with a storage temperature of 38, 25, 7. Juices with the addition of CMC have a shelf life of 6; 6; 6 days with a storage temperature of 38, 25, 7. Juice with the addition of sodium benzoate and CMC has a shelf life of 8; 8; 6 days with a storage temperature of 38, 25, 7. Based on organoleptic tests covering taste, aroma, and texture parameters, pure longevity spinach juice has an average shelf life of 2; 1; 1 with a storage temperature of 38, 25, 7. Juices with the addition of sodium benzoate have a shelf life of 9; 8; 7 days with a storage temperature of 38, 25, 7. Juices with the addition of CMC have a shelf life of 9; 8; 7 with a storage temperature of 38, 25, 7. The juice with the addition of sodium benzoate and CMC has a shelf life of 18; 14; 12 with a storage temperature of 38, 25, 7.