

INTISARI

KARAKTERISTIK FISIK DAN KIMIA DAUN JAMBU AIR (*Syzygium samarangense*) SEBAGAI BAHAN PENGEMAS TAPE KETAN SERTA IDENTIFIKASI SENYAWA BIOAKTIFNYA

Pengemasan merupakan hal yang penting untuk menjaga kualitas produk makanan. Masyarakat di Indonesia menggunakan bahan pengemas alami untuk mengemas makanan tradisional. Bahan pengemas alami memiliki keunggulan selain bersifat *biodegradable* juga dapat memberikan aroma spesifik dan diduga mempunyai kemampuan sebagai antioksidan dan antimikrobia. Di Kuningan, Jawa Barat, daun jambu air kukus digunakan sebagai pengemas tape ketan. Perlu adanya informasi terkait sifat fisik dan kimia daun jambu air segar dan kukus.

Tebal rata-rata jambu air segar adalah 0.256 mm dan setelah dikukus ketebalannya berkurang menjadi 0.207 mm. Warna daun segar adalah ke arah warna hijau, setelah dikukus warna hijau daun berkurang dan menjadi kuning kecoklatan serta lebih terang. Nilai *tensile strength*, kadar air, dan kadar lipida daun jambu air turun setelah dilakukan pengukusan. Asam lemak yang dominan pada jambu air segar adalah asam linolenat, asam linoleat, dan asam trans-9-elaidat. Setelah dikukus nilai % relatif area asam linoleat meningkat, sedangkan asam linolenat dan trans-9-elaidat menurun. Senyawa volatile pada daun jambu air segar paling dominan yaitu golongan terpene, kemudian setelah dikukus senyawa volatile paling dominan yaitu golongan alkana dan alkena.

Pada pengujian senyawa bioaktif, *crude extract* methanol 80% dilakukan fraksinasi dengan pelarut heksane, etil asetat, dan butanol. Nilai total fenolik paling tinggi terdapat pada fraksi etil asetat ekstrak daun jambu air segar dan kukus yaitu 778.98 mgGAE/gram ekstrak kering dan 825.85 mgGAE/gram ekstrak kering. Nilai aktivitas antioksidan paling tinggi terdapat pada fraksi etil asetat ekstrak daun jambu air segar dan kukus yaitu 40.16% dan 44.12%. Fraksi ekstrak daun jambu air segar dan kukus pada konsentrasi 100 dan 1000 ppm tidak menunjukkan aktivitas antimikrobia. Identifikasi senyawa bioaktif dari fraksi aktif etil asetat dilakukan dengan UPLC QTOF MS/MS. Pada ekstrak daun jambu air segar, teridentifikasi senyawa dominan yaitu Hydroxy D-ligstroside aglycon, Quercetin-3-O-galactoside, dan Myricetin. Sedangkan pada ekstrak daun jambu air kukus, senyawa dominan yaitu Ferulic acid, Hydroxy D-ligstroside aglycon, dan Quercetin-3-O-galactoside.

Kata kunci : Pengemasan, tape ketan, daun jambu air, senyawa bioaktif

ABSTRACT

PHYSICAL AND CHEMICAL CHARACTERISTICS OF WAX JAMBU (*Syzygium samarangense*) LEAVES AS PACKAGING MATERIAL OF TAPE KETAN AND IDENTIFICATION ITS BIOACTIVE COMPOUNDS

Packaging is important thing to maintain the quality of food products. The community in Indonesia using natural packaging material to pack their traditional food. Natural packaging material has advantages in addition to biodegradable also could provide a specific aroma and is thought to have the ability as an antioxidant and antimicrobial. In Kuningan, West Java, wax jambu leaves are used as a packaging of “tape ketan”. The need for information regarding physical and chemical properties of fresh and stamed wax jambu leaves.

Average thickness of fresh wax jambu leaves was 0.256 mm and after steaming the thickness reduced to 0.207 mm. Fresh leaves color were toward the green, after steamed green color of leaves was reduced and becomes golden brown and lighter. The value of tensile strength, moisture and fat content of wax jambu leaves were reduced after steaming. The dominant fatty acids in fresh wax jambu leaves were linolenic acid, linoleic acid, and the acid-9 trans-elaidic. After steamed, the relative area value increase in linoleic acid, whereas linolenic acid and trans-9-elaidic decline. The dominant volatile compounds of the fresh wax jambu leaves namely class of terpenes, then after steaming the most dominant volatile compounds namely class alkanes and alkenes.

On the testing of bioactive compounds, crude methanol extract 80% was fractionated with heksane, ethyl acetate, and butanol. The highest value of total phenolic contained in ethyl acetate fraction of fresh and stamed wax jambu leaves extract that were 778.98 mgGAE / gram of dry extract and 825.85 mgGAE / gram of dry extract. The highest value of antioxidant activity contained in ethyl acetate fraction of fresh and steamed wax jambu leaves extract that were 40.16% and 44.12%. Fraction of fresh and stamed wax jambu leaves extract at concentration 100 and 1000 ppm showed no antimicrobial activity. Identification of bioactive compounds from active fractions of ethyl acetate done by QTOF UPLC MS / MS. In fresh wax jambu leaves extract, the dominant compounds were Hydroxy D-ligstroside aglycon, quercetin-3-O-galactoside, and myricetin. While in the steamed wax jambu leaves extract, the dominant compounds were ferulic acid, Hydroxy D-ligstroside aglycon and quercetin-3-O-galactoside.

Key words: packaging, tape ketan, wax jambu leaves, bioactive compounds