

ABSTRAK

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PEMANFAATAN DAUN SIRSAK (*Annona muricata* L.) DAN EKSTRAK KULIT MELINJO MERAH (*Gnetum gnemon* L.) DALAM PEMBUATAN MINUMAN JELI

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(xxii + 107 halaman; 34 gambar; 9 tabel; 30 lampiran)

Minuman jeli adalah produk minuman yang terbuat dari hidrokoloid seperti karagenan, tetapi penggunaan karagenan memiliki kekurangan berupa sineresis yang tinggi dan teksturnya yang rapuh sehingga diperlukan penambahan hidrokoloid lain seperti *konjac gum*. Daun sirsak (*Annona muricata* L.) diketahui mengandung komponen aktif seperti senyawa *acetogenin*. Ekstrak kulit melinjo (*Gnetum gnemon* L.) diketahui mengandung komponen aktif seperti resveratrol, fenolik, flavonoid dan karotenoid. Tujuan umum penelitian ini adalah memanfaatkan daun sirsak dan ekstrak kulit melinjo merah dalam pembuatan minuman jeli. Penelitian ini dibagi menjadi 3 tahap. Tahap pendahuluan dilakukan untuk karakterisasi ekstrak kulit melinjo merah dan air rebusan daun sirsak. Pada penelitian tahap I dilakukan penentuan konsentrasi hidrokoloid dan rasio kappa karagenan:*konjac gum* yang menghasilkan minuman jeli dengan karakteristik terbaik. Pada tahap II dilakukan penentuan konsentrasi ekstrak yang menghasilkan minuman jeli terbaik dari parameter total fenolik, flavonoid, karotenoid, dan aktivitas antioksidan. Ekstrak kulit melinjo memiliki rendemen 1,33%, total fenolik 42,75 mg GAE/g ekstrak, total flavonoid 22,54 mg QE/g ekstrak, dan total karotenoid 13,66 mg/g ekstrak. Air rebusan daun sirsak memiliki nilai total fenolik 0,91 mg GAE/mL, total flavonoid 0,27 mg QE/mL dan aktivitas antioksidan (IC₅₀) 8781,22 ppm. Perlakuan tahap I terbaik terdapat pada konsentrasi hidrokoloid 0,4% dan rasio kappa karagenan:*konjac gum* 1:1 dengan tingkat sineresis 0,43%, viskositas 1232,67 cPs, pH 4,6 dan TPT 13,3°Brix, sedangkan perlakuan terbaik tahap II adalah penambahan ekstrak 0,2% dengan total fenolik 1,44 mg GAE/mL, total flavonoid 0,46 mg QE/mL, total karotenoid 20,21 µg/g, aktivitas antioksidan (IC₅₀) 8222,25 ppm, pH 4,51, dan TPT 13,80°Brix.

Kata Kunci: Antioksidan, ekstrak kulit melinjo, daun sirsak, hidrokoloid, minuman jeli

Referensi : 125 (1999-2020)

ABSTRACT

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UTILIZATION OF SOURSOP LEAF (*Annona muricata* L.) AND MELINJO PEEL EXTRACT (*Gnetum gnemon* L.) IN THE MAKING OF JELLY DRINK

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Jelly drink is a beverage product that is made from hydrocolloids such as carrageenan, but the use of carrageenan has the disadvantages of high syneresis and its brittle texture so that it requires the addition of other hydrocolloids such as konjac gum. Soursop (*Annona muricata* L.) leaves are known to contain active compounds such as acetogenin compounds. Melinjo (*Gnetum gnemon* L.) peel extract is known to contain active components such as resveratrol, phenolic, flavonoids and carotenoids. The general objective of this study was to utilize soursop leaves and red melinjo peel extract in the making of jelly drink. This research was divided into 3 stages. The preliminary stage was carried out to characterize the red melinjo peel extract and soursop leaves brew. The first research stage was carried to determine the hydrocolloid concentration and the ratio of kappa carrageenan: konjac gum which produced jelly drinks with the best characteristics. Stage II was carried out to determine extract concentrations which produces the best jelly drink from the parameters of total phenolic, flavonoids, carotenoids, and antioxidant activity. Melinjo peel extract has a yield of 1.33%, a total phenolic of 42.75 mg GAE/g extract, total flavonoids of 22.54 mg QE/g extract, and total carotenoids of 13.66 mg/g extract. Soursop leaves brew has a total phenolic value of 0.91 mg GAE/mL, a total flavonoid of 0.27 mg QE/mL and antioxidant activity (IC₅₀) of 8781.22 ppm. The best stage I treatment is at a concentration of hydrocolloid 0.4% and kappa ratio of carrageenan: konjac gum 1: 1, with a syneresis level of 0.43%, viscosity of 1232.67 cPs, pH of 4.6 and TSS of 13.3 °Brix, whereas the best treatment for stage II was jelly drinks with a concentration of 0.2% extract with a total phenolic of 1.44 mg GAE/mL, total flavonoids 0.46 mg QE/mL, total carotenoids 20.21 µg/g, antioxidant activity (IC₅₀) 8222,25 ppm, pH 4,51, and TSS 13.80 °Brix.

Keywords: Antioxidant, hydrocolloid, jelly drink, melinjo peel extract, soursop leaves

References: 125 (1999-2020)