

RINGKASAN

Nira merupakan bahan baku pembuatan gula kelapa kristal. Nira memiliki sifat mudah rusak akibat fermentasi. Pencegahan fermentasi nira dapat dilakukan dengan memberikan bahan pengawet (laru). Penelitian ini mengembangkan laru tangkis sebagai formula dasar dengan menggunakan arang sekam sebagai pengganti kapur yang dikombinasikan dengan beberapa jenis daun seperti daun slatri, daun sirih dan daun jambu biji. Penelitian ini bertujuan untuk : 1) mengetahui pengaruh formula laru alami berbahan arang sekam dan beberapa jenis daun terhadap karakteristik mutu nira dan gula kelapa kristal; 2) mengetahui pengaruh konsentrasi laru alami berbahan arang sekam dan beberapa jenis daun terhadap karakteristik mutu nira dan gula kelapa kristal; 3) menentukan kombinasi perlakuan antara formula dan konsentrasi laru alami berbahan arang sekam dan beberapa jenis daun yang menghasilkan nira dan gula kelapa kristal dengan mutu terbaik.

Penelitian ini menggunakan Rancangan Acak Kelompok yang disusun secara faktorial. Dua faktor yang diuji yaitu formula laru alami (F) berupa formula dasar dari campuran arang sekam : serbuk kayu angka : bubuk kulit manggis (80:20:10) yang diformulasikan dengan beberapa jenis daun terdiri atas F1 = formula dasar : daun slatri, F2 = formula dasar : daun sirih, F3 = formula dasar : daun jambu biji, F4 = formula dasar : daun slatri : daun sirih, F5 = formula dasar : daun slatri : daun jambu biji dan F6 = formula dasar : daun sirih : daun jambu biji dan konsentrasi laru alami (K) yang terdiri atas K1 = 2,5% dan K2 = 5%. Variabel yang diamati meliputi sifat fisik dan kimia nira antara lain pH, total padatan terlarut dan berat jenis. Variabel kimia yang terdiri dari kadar air, gula reduksi, sukrosa, kadar abu, dan total padatan tidak terlarut. Data yang diperoleh dilakukan uji F pada taraf 5%, Variabel sensori gula kelapa kristal yang terdiri dari warna, aroma, tekstur, kemanisan dan kesukaan. Data yang diperoleh dilakukan uji Friedman pada taraf 5%, apabila berpengaruh nyata dilanjutkan dengan uji DMRT (*Duncan Multiple Range Test*) pada taraf 5%.

Hasil penelitian menunjukkan bahwa formula laru alami berpengaruh nyata terhadap kadar gula reduksi dan sukrosa gula kelapa kristal. Konsentrasi laru alami hanya memberikan pengaruh yang nyata terhadap nilai rata-rata gula reduksi. Selain itu, kombinasi formula dan konsentrasi laru alami berpengaruh sangat nyata terhadap warna, aroma dan tekstur gula kelapa kristal. Kombinasi perlakuan terbaik yaitu formula laru alami yang terbentuk dari formula dasar : daun slatri dengan konsentrasi 2,5% (F1K1).

SUMMARY

Coconut sap is a raw material for making granulated coconut sugar. Coconut sap is easily damaged by fermentation. Prevention of coconut sap fermentation can be carried out by providing a preservative (laru). This research develop Tangkis as a basic formula using charcoal husk as a substitute for lime, that combined with some kind of leaves such as *Calophyllum soulattri* leaf, Piper betle leaf and *Psidium guajava* leaf. This research aim to: 1) study on characteristic of coconut sap and granulated coconut sugar which influenced by formula of laru made by charcoal husk and several species leaves 2) study on characteristic of coconut sap and granulated coconut sugar which influenced by concentration of laru made by charcoal husk and several species leaves 3) Determine the best combination between formula and concentration of laru made by charcoal husk and several species leaves which produce the best quality of coconut sap and granulated coconut sugar.

This is an experimental study used Randomized Block Design. The factor which examined is formula laru (F) in the form of basic formula formed by a mixture of charcoal husk : mangosteen rind : jackfruit wood (70 :20 :10) combined with several species leaves as follows F1 = basic formula : *Calophyllum soulattri* leaf, F2 = basic formula : Piper betle leaf, F3 = basic formula : *Psidium guajava* leaf, F4 = basic formula : *Calophyllum soulattri* leaf : Piper betle leaf, F5 = basic formula : *Calophyllum soulattri* leaf : *Psidium guajava* leaf and F6 = basic formula : Piper betle leaf : *Psidium guajava* leaf, then concentration of laru as follows K1 = 2,5 % and K2 = 5 %. The variables physic and chemical characteristic of coconut sap observed include pH, total soluble solid and density. The variables chemical characteristic of granulated coconut sugar observed include moisture content, reduce sugar, sucrose, ash content and total unsoluble solid. The data's analyzed by ANOVA at the level of 5%. The variables organoleptic of granulated coconut sugar observed include color, aroma, texture, flavor and hedonik. The data's analyzed by Friedman test at the level of 5%, then continued by DMRT test (Duncan Multiple Range Test) at the level of 5%.

The result shows that formula laru had significant difference to reduce sugar and sucrose of granulated coconut sugar. Concentration of laru had influenced to reduce sugar. In addition, formula and concentration of laru's combination had significant difference to granulated coconut sugar's color, aroma and texture. This research obtained the best combination treatment is laru made by basic formula : *Calophyllum soulattri* leaf, 2,5 % (FIK1).