RINGKASAN

Gula kelapa cair merupakan hasil olahan nira kelapa yang memiliki karakteristik berwarna jernih kecoklatan, berasa manis dan kental. Pembuatan gula kelapa cair umumnya menggunakan nira kelapa. Namun, mutu nira kelapa dipengaruhi oleh cuaca dan dianggap cepat rusak karena mudah terkontaminasi oleh ragi liar sehingga bahan baku tersebut tidak dapat dikendalikan. Alternatif bahan baku pengganti nira berupa gula cetak dan gula "brondol". Gula cetak yang digunakan adalah gula kelapa cetak *grade* "B", ditandai dengan tekstur agak lunak, berwarna coklat tua hingga kehitaman, aroma sedikit khas gula kelapa dan harganya terjangkau. Kombinasi kedua jenis gula tersebut menjadi salah satu upaya pemanfaatan yang menghasilkan produk pangan bernilai jual tinggi. Akan tetapi, gula kelapa cair memiliki permasalahan yaitu mutunya tidak stabil yang ditandai dengan viskositasnya tidak homogen atau viskositas rendah (< 500 mP.a.S) dan terbentuk kristalisasi selama penyimpanan. Untuk meminimalkan permasalahan tersebut, salah satu upaya yang digunakan yaitu dengan penambahan *stabilizer*. Penambahan *stabilizer* berfungsi untuk meningkatkan viskositas dan stabilitas. Tujuan penelitian ini adalah 1) Mengetahui pengaruh jenis dan konsentrasi *stabilizer* terhadap karakteristik fisikokimia dan sensori gula kelapa cair; 2) Mengetahui jenis dan konsentrasi *stabilizer* yang menghasilkan gula kelapa cair dengan viskositas yang stabil dan mutu yang memenuhi SNI gula sukrosa cair (No. 8779:2019).

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Non-Faktorial dengan 9 formula (Maltodekstrin 1, 2, 3% ; Gum arab 1, 2, 3% dan CMC 0,15; 0,3; 0,45%). Variabel fisik meliputi viskositas, total padatan terlarut dan total padatan tidak terlarut. Sedangkan variabel kimia berupa kadar air, kadar abu, kadar gula reduksi, kadar gula total, kadar sukrosa, aktivitas air (a_w) dan pH serta variabel sensori berupa rasa manis, aroma, warna, kekentalan, *aftertaste (burn test)* dan kesukaan keseluruhan (*overall*) menggunakan uji skoring. Analisis data fisikokimia menggunakan uji ANOVA (α = 5%) dan uji lanjut DMRT (α = 5%). Sedangkan analisis data sensori menggunakan uji kruskal wallis dan uji lanjut mann whitney (α = 5%). Variabel fisikokimia dan sensori perlakuan terbaik dibandingkan dengan gula kelapa cair (berdasarkan referensi).

Hasil penelitian menunjukkan bahwa perlakuan jenis dan konsentrasi *stabilizer* berpengaruh terhadap kadar air, pH, kadar sukrosa, kadar gula total, total padatan terlarut, total padatan tidak terlarut, viskositas dan kadar abu, tetapi tidak berpengaruh terhadap kadar gula reduksi, aktivitas air (a_w), rasa manis, aroma, warna, *aftertaste* dan kesukaan keseluruhan produk gula kelapa cair yang dihasilkan. Berdasarkan uji indeks efektivitas, CMC konsentrasi 0,3% menghasilkan mutu gula kelapa cair terbaik dengan karakteristik viskositas stabil (653,33 mP.a.S), pH 5,45 dan kadar sukrosa 65,67% yang memenuhi SNI gula sukrosa cair (No. 8779:2019).

SUMMARY

Liquid coconut sugar is a processed coconut sap that has the characteristics of a clear brownish color, sweet and thick taste. The manufacture of liquid coconut sugar generally uses coconut sap. However, the quality of coconut sap is affected by the weather and is considered to spoil quickly because it is easily contaminated by wild yeast so that the raw material cannot be controlled. Alternative raw materials to replace sap are molded sugar and "brondol" sugar. The molded sugar used is grade "B" molded coconut sugar, characterized by a slightly soft texture, dark brown to blackish color, a slightly distinctive aroma of coconut sugar and an affordable price. The combination of these two types of sugar is one of the utilization efforts that produce high-value food products. However, liquid coconut sugar has problems, namely unstable quality characterized by non-homogeneous or low viscosity (<500 mP.a.S) and crystallization during storage. To minimize these problems, one effort used is the addition of a stabilizer. The addition of a stabilizer serves to increase viscosity and stability. The objectives of this study are 1) To knowing the effect of the type and concentration of stabilizer on the physicochemical and sensory characteristics of liquid coconut sugar; 2) To knowing the type and concentration of stabilizer that produces liquid coconut sugar with stable viscosity and quality that meets SNI for liquid sucrose sugar (No. 8779:2019).

This study used a non-factorial randomized block design (RBD) with 9 formulas (Maltodextrin 1, 2, 3%; Gum Arabic 1, 2, 3%, and CMC 0,15, 0,3; 0,45%). Physical variables included viscosity, total dissolved solids, and total insoluble solids. Chemical variables included water content, ash content, reducing sugar content, total sugar content, sucrose content, water activity (a_w), and pH. Sensory variables included sweetness, aroma, color, viscosity, aftertaste (burn test), and overall preference using a scoring test. Physicochemical data were analyzed using ANOVA (α = 5%) and DMRT (α = 5%). Meanwhile, sensory data analysis used the Kruskal-Wallis test and the Mann-Whitney test (α = 5%). The physicochemical and sensory variables of the best treatment were compared to liquid coconut sugar (based on the reference).

The results showed that the treatment of stabilizer type and concentration affected the water content, pH, sucrose content, total sugar content, total soluble solids, total insoluble solids, viscosity and ash content, but did not affect the reducing sugar content, water activity (a_w), sweetness, aroma, color, aftertaste and overall liking of the liquid coconut sugar product produced. Based on the "indeks efektivitas" test, CMC concentration of 0,3% produced the best quality of liquid coconut sugar with stable viscosity characteristics (653.33 mP.a.S), pH 5.45 and sucrose content of 65.67% which met the SNI for liquid sucrose sugar (No. 8779:2019).