

RINGKASAN

Kopi instan dengan pemanis gula kelapa yang diperkaya minyak sawit merah merupakan salah satu alternatif minuman fungsional yang mengandung antioksidan sehingga diharapkan dapat mengurangi stress oksidatif bagi perokok aktif maupun pasif. Konsentrasi dan suhu penambahan ekstrak kopi dapat mempengaruhi karakteristik kimia dan sensori kopi instan gula kelapa yang dihasilkan. Penelitian ini bertujuan untuk: 1) Mengetahui pengaruh konsentrasi ekstrak kopi terhadap karakteristik kimia dan sensori kopi instan gula kelapa. 2) Mengetahui pengaruh suhu penambahan ekstrak kopi terhadap karakteristik kimia dan sensori kopi instan gula kelapa. 3) Menentukan kombinasi perlakuan antara konsentrasi dan suhu penambahan ekstrak kopi yang menghasilkan kopi instan gula kelapa dengan mutu terbaik berdasarkan karakteristik kimia dan sensori.

Penelitian ini dilakukan secara eksperimental dengan menggunakan Rancangan Acak Kelompok (RAK) yang disusun secara faktorial dengan 9 kombinasi perlakuan dengan ulangan sebanyak 3 kali sehingga menghasilkan 27 unit percobaan. Faktor yang diteliti yaitu konsentrasi ekstrak kopi terdiri dari 3 taraf, 15% (K1); 20% (K2); 25% (K3) dan faktor kedua yaitu suhu penambahan ekstrak kopi terdiri dari 3 taraf, 98°C (S1); 100°C (S2); 102°C (S3). Data variabel kimia dianalisis menggunakan analisis ragam (uji F) apabila berpengaruh nyata dilanjutkan dengan Uji *Duncan's Multiple Range Test* (DMRT). Data variabel sensori dianalisis menggunakan Uji *Friedman* dan apabila berpengaruh nyata dilanjutkan dengan Uji Banding Ganda.

Hasil penelitian menunjukkan bahwa konsentrasi ekstrak kopi yang semakin tinggi meningkatkan nilai kadar total fenol kopi instan gula kelapa. Suhu penambahan ekstrak kopi tidak memengaruhi variabel kimia kopi instan gula kelapa. Kombinasi perlakuan konsentrasi dan suhu penambahan ekstrak kopi meningkatkan rasa pahit kopi instan gula kelapa. Kombinasi perlakuan terbaik berdasarkan uji indeks efektivitas yaitu kopi instan gula kelapa dengan konsentrasi 20% dan suhu penambahan ekstrak kopi 100°C (K2S2) dengan karakteristik kimia sebagai berikut: kadar air 4,71%; kadar total fenol 3,65%bk; dan kadar asam lemak bebas 0,05%bk. Karakteristik sensori minuman kopi instan gula kelapa yang dihasilkan memiliki aroma agak kuat (2,88); rasa manis (3,72); agak pahit (3,2); flavor agak enak (3,2); dan tingkat kesukaan secara keseluruhan agak disukai (3,08).

SUMMARY

Coconut sugar-based instant coffee, enriched with red palm oil is an alternative functional drink that contains antioxidants so that it is expected to reduce oxidative stress for active and passive smokers. The concentration and temperature of the addition of coffee extracts can affect the chemical and sensory characteristics of the instant coffee, coconut sugar produced. This study aims to: 1) Knowing the effect of coffee extract concentration on the chemical and sensory characteristics of coconut sugar instant coffee. 2) Knowing the effect of the temperature of the addition of coffee extract on the chemical and sensory characteristics of coconut sugar instant coffee. 3) Determine the treatment combination between the concentration and temperature of the addition of coffee extract to produce coconut sugar instant coffee with the best quality based on chemical and sensory characteristics.

This research was conducted experimentally using a randomized block design (RBD) which was arranged factorially with 9 treatment combinations with 3 repetitions to produce 27 experimental units. The factors studied were the concentration of coffee extract consisting of 3 levels, 15% (K1); 20% (K2); 25% (K3) and the second factor was the temperature of the addition of coffee extract consisting of 3 levels, 98°C (S1); 100°C (S2); 102°C (S3). Chemical variable data were analyzed using analysis of variance (F test) if it had a real effect, followed by Duncan's Multiple Range Test (DMRT). Sensory variable data were analyzed using the Friedman test and if it has a real effect, it is continued with the Multiple Appeal Test.

The results showed that the higher concentration of coffee extract increased the total phenolic content value of instant coffee coconut sugar. The temperature of adding coffee extract did not affect the chemical variables of coconut sugar instant coffee. The combination of concentration and temperature treatment of the addition of coffee extract increases the bitter taste of coconut sugar instant coffee. The best treatment combination based on the effectiveness index test is instant coffee coconut sugar with a concentration of 20% and a temperature of 100°C (K2S2) coffee extract addition with the following chemical characteristics: water content of 4.71%; total phenol content 3.65% bk; and free fatty acid content of 0.05% bk. The sensory characteristics of the resulting coconut sugar instant coffee drink have a rather strong aroma (2.88); sweetness (3.72); rather bitter (3,2); rather tasty flavor (3,2); and the overall liking rate was rather liked (3.08).

Keywords : Instant coffee, coconut sugar, coffee concentration, temperature of coffee addition.