RINGKASAN

Kopi merupakan salah satu produk minuman yang digemari oleh kalangan dewasa, khususnya para perokok. Kopi memiliki kandungan antioksidan yang berfungsi untuk menekan jumlah radikal bebas yang terdapat di dalam tubuh, sehingga dapat mencegah terjadinya stres oksidatif penyebab munculnya penyakit degeneratif. Inovasi pembuatan kopi dengan penambahan bahan pangan fungsional tinggi antioksidan dapat menjadi salah satu alternatif untuk mensuplai antioksidan pada perokok yang terus-menerus terpapar radikal bebas. Bahan pangan fungsional tersebut diantaranya adalah bekatul. Pengetahuan tentang pengaruh penambahan bekatul serta proporsi penambahan bekatul yang tepat diperlukan untuk menghasilkan produk minuman kopi yang memiliki antioksidan yang tinggi, sesuai dengan SNI, serta dapat diterima secara sensori. Penelitian ini bertujuan untuk 1). Mengetahui pengaruh proporsi kopi bubuk : tepung bekatul terhadap karakteristik kimia dan sensori produk kopi *mix* jahe gula kelapa. 2). Mengetahui pengaruh jumlah penambahan komposit kopi-bekatul terhadap karakteristik kimia dan sensori produk kopi *mix* jahe gula kelapa. 3) Menentukan kombinasi dengan hasil terbaik antara perlakuan proporsi kopi bubuk : tepung bekatul dan jumlah penambahan komposit kopi-bekatul berdasarkan aspek kimia dan sensori.

Penelitian menggunakan Rancangan Acak Kelompok (RAK). Faktor yang diteliti meliputi proporsi kopi bubuk : tepung bekatul (90:10; 85:15; dan 80:20), serta penambahan komposit kopi-bekatul (10%, 15%, dan 20%). Variabel yang diamati berupa variabel kimia (kadar air, total fenol, antioksidan, dan kadar serat kasar) serta variabel sensori (warna, aroma, rasa, dan *flavor*). Data variabel kimia yang telah didapatkan dianalisis menggunakan uji analisis ragam (uji F). Data variabel sensori yang didapatkan dianalisis menggunakan uji non parametrik. Penentuan kombinasi perlakuan terbaik dilakukan menggunakan analisis Indeks Efektivitas.

Hasil penelitian menunjukkan bahwa semakin tinggi proporsi tepung bekatul pada komposit kopi bekatul, semakin tinggi pula kadar air, total fenol, dan kadar serat kasar, aroma jahe (mutu hedonik) dan rasa kopi *mix* yang dihasilkan. Sedangkan warna dan rasa pahit kopi *mix* akan semakin menurun jika proporsi tepung bekatul semakin tinggi. Sementara itu, semakin tinggi jumlah komposit kopi-bekatul yang ditambahkan, maka semakin tinggi pula total fenol, antioksidan, kadar serat kasar, warna, aroma jahe (mutu hedonik), dan rasa pahit kopi *mix* yang dihasilkan. Sedangkan rasa manis kopi *mix* akan semakin menurun jika jumlah komposit kopi-bekatul yang ditambahkan semakin tinggi. Kombinasi perlakuan terbaik pada penelitian ini adalah B3K3, yaitu proporsi kopi bubuk : tepung bekatul (80:20) dan penambahan komposit kopi-bekatul (20%) dengan kandungan kadar air 3,583%bb, total fenol 1,9885 mg GAE/g, aktivitas antioksidan 86,711%, kadar serat kasar 22,6%bk, warna cokelat (2,32), aroma jahe agak kuat (2,84), rasa agak pahit (3), rasa agak manis (2,92), *flavor* agak enak (3,4), aroma jahe disukai (3,5), rasa kopi agak disukai (3,28), dan *flavor* agak disukai (3,4).

SUMMARY

Coffee is one of the beverages favored by adults, especially smokers. Coffee contains antioxidants that function to reduce the number of free radicals in the body, thereby preventing oxidative stress that can lead to degenerative diseases. Innovating coffee by adding functional foods high in antioxidants can be an alternative to supplying antioxidants to smokers who are continuously exposed to free radicals. One such functional food is rice bran. Knowledge about the effects of adding rice bran and the appropriate proportion of rice bran addition is necessary to produce a coffee beverage with high antioxidants, in accordance with SNI, and acceptable in terms of sensory properties. This research aims to 1) Determine the effect of the proportion of coffee powder: rice bran flour on the chemical and sensory characteristics of coconut sugar ginger mix coffee products. 2) Determine the effect of the amount of coffee-rice bran composite addition on the chemical and sensory characteristics of coconut sugar ginger mix coffee products. 3) Determine the best combination of treatments between the proportion of coffee powder: rice bran flour and the amount of coffee-rice bran composite addition based on chemical and sensory aspects.

The research used a Randomized Block Design (RBD). The factors studied included the proportion of coffee powder to rice bran flour (90:10; 85:15; and 80:20), as well as the addition of the coffee-rice bran composites (10%, 15%, and 20%). The observed variables included chemical variables (moisture content, total phenols, antioxidants, and crude fiber content) and sensory variables (color, aroma, taste, and flavor). The chemical variable data obtained were analyzed using analysis of variance (F-test). The sensory variable data obtained were analyzed using the non-parametric Friedman test. The determination of the optimal treatment combination was carried out using Effectiveness Index analysis.

The research findings indicate that as the proportion of rice bran flour in the coffee-rice bran composite increases, there is a corresponding increase in moisture content, total phenols, crude fiber content, ginger aroma (hedonic quality), and the taste of the coffee mix. Conversely, the color and bitterness of the coffee mix decrease with higher proportions of rice bran flour. Additionally, increasing the amount of the coffee-rice bran composite leads to higher total phenols, antioxidant activity, crude fiber content, color, ginger aroma (hedonic quality), and bitterness of the coffee mix, while the sweetness of the coffee mix diminishes. The best treatment combination in this study was B3K3, which is a composition of 80:20 coffee powder to rice bran flour, with a 20% addition of the coffee-rice bran composite. This combination resulted in a moisture content of 3.583%wb, total phenols of 1.9885 mg GAE/g, antioxidant activity of 86.711%, crude fiber content of 22.6%db, brown color (2.32), moderately strong ginger aroma (2.84), slightly bitter taste (3), slightly sweet taste (2.92), slightly pleasant flavor (3.4), preferred ginger aroma (3.5), slightly preferred coffee taste (3.28), and slightly preferred flavor (3.4).