

KUALITAS KIMIA DAN AKTIVITAS ANTIOKSIDAN SUSU KOPI PASTEURISASI DENGAN ESPRESSO BIJI KOPI ROBUSTA (*Coffea canephora*)

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INTISARI

Susu kopi merupakan produk susu fungsional yang mengandung berbagai macam senyawa antioksidan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan *espresso* biji kopi robusta terhadap kualitas kimia dan aktivitas antioksidan susu pasteurisasi selama penyimpanan. Penelitian ini menggunakan variasi konsentrasi susu segar dan *espresso* dengan rasio 100:0; 85:15; dan 70:30(%) dengan lama penyimpanan 0 dan 7 hari. Parameter yang diamati adalah total padatan, pH, keasaman, asam lemak bebas, dan aktivitas antioksidan. Setiap perlakuan terdiri dari tiga ulangan sampel dan setiap ulangan dilakukan dua kali analisis. Analisis data yang digunakan adalah *two way ANOVA* serta diuji lanjut dengan *Duncan's New Multiple Ranges Test* (DMRT). Hasil penelitian menunjukkan bahwa penambahan *espresso* berpengaruh nyata ($P < 0,05$) terhadap total padatan, keasaman, pH, asam lemak bebas, dan aktivitas antioksidan. Penyimpanan berpengaruh nyata terhadap pH dan asam lemak bebas. Penambahan *espresso* sebesar 15 dan 30% meningkatkan keasaman, asam lemak bebas, dan aktivitas antioksidan, sedangkan total padatan dan pH menurun. Berdasarkan kualitas kimia (total padatan, keasaman, pH) dan aktivitas antioksidan terbaik terdapat pada rasio susu kopi pasteurisasi dengan *espresso* 70:30%, dan selama 7 hari penyimpanan tidak terjadi penurunan kualitas.

Kata kunci : Susu pasteurisasi, *Espresso*, *Robusta*, Aktivitas antioksidan

**CHEMICAL QUALITY AND ANTIOXIDANT ACTIVITY OF
PASTEURIZED COFFE MILK WITH ROBUSTA COFFEE BEAN
*ESPRESSO (Coffea canephora)***

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ABSTRACT

Coffee milk is a functional dairy product that contains various kinds of antioxidant compounds. This study aimed to determine the effect of the addition of espresso robusta coffee beans on the chemical quality and antioxidant activity of pasteurized milk during storage. This study used variations in the concentration of fresh milk and espresso with a ratio of 100:0; 85:15; and 70:30(%) with storage time of 0 and 7 days. Parameters observed were total solids, pH, acidity, free fatty acids, and antioxidant activity. Each treatment consisted of three sample replications and each replication was analyzed twice. The data analysis used was a two-way ANOVA and further tested with Duncan's New Multiple Ranges Test (DMRT). The results showed that the addition of espresso had a significant effect ($P < 0.05$) on total solids, acidity, pH, free fatty acids, and antioxidant activity. Storage had a significant effect on pH and free fatty acids. The addition of espresso by 15 and 30% increased acidity, free fatty acids, and antioxidant activity, while the total solids and pH decreased. Based on chemical quality (total solid, acidity, pH) and antioxidant activity the best coffee milk was found in the ratio of pasteurized milk to espresso of 70:30%, and during 7 days of storage, there was no decrease in quality.

Keywords : Pasteurized milk, *Espresso*, Robusta, Antioxidant activity