

PENGARUH PENAMBAHAN EKSTRAK BUNGA TELANG (*Clitoria ternatea* L.) TERHADAP KUALITAS FISIKO-KIMIA, MIKROBIOLOGIS, ORGANOLEPTIK DAN AKTIVITAS ANTIOKSIDAN SUSU PASTEURISASI SELAMA PENYIMPANAN

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INTISARI

Bunga telang (*Clitoria ternatea* L.) merupakan tumbuhan asli daerah Ternate yang mengandung zat warna biru antosianin dan memiliki aktivitas antioksidan yang tinggi. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan ekstrak bunga telang pada susu dengan metode pasteurisasi selama penyimpanan. Perlakuan penambahan ekstrak bunga telang dibuat sebesar 0% sebagai kontrol, 5% (v/v), dan 10% (v/v). Perlakuan penyimpanan dingin dilakukan selama 0 hari sebagai kontrol, 3 hari, dan 6 hari. Pengujian yang dilakukan yaitu uji kualitas fisiko-kimia, mikrobiologis, aktivitas antioksidan, dan organoleptik. Uji kualitas fisiko-kimia meliputi kadar air, viskositas, pH, keasaman dan warna susu. Uji mikrobiologis dilakukan dengan metode *Total Plate Count* (TPC). Uji aktivitas antioksidan dengan metode DPPH dan uji organoleptik yang dilakukan meliputi warna, aroma, rasa, dan tekstur menggunakan 25 panelis. Data hasil pengujian kadar air di dianalisis statistik dengan *one way ANOVA* dilanjutkan uji DMRT. Data hasil pengujian viskositas, pH, keasaman, TPC, dan aktivitas antioksidan dianalisis statistik dengan *two way ANOVA* dilanjutkan uji Tukey's HSD. Data hasil pengujian warna dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa penambahan ekstrak bunga telang sebesar 10% berpengaruh nyata ($P < 0,05$) terhadap keasaman, TPC, organoleptik, dan aktivitas antioksidan, sedangkan lama penyimpanan berpengaruh nyata ($P < 0,05$) terhadap nilai pH dan viskositas. Interaksi antara penambahan ekstrak bunga telang dan lama penyimpanan berpengaruh nyata ($P < 0,05$) terhadap persentase keasaman. Hasil analisis deskriptif penambahan ekstrak bunga telang mengubah warna susu pasteurisasi menjadi warna biru. Kesimpulan penelitian ini pemberian ekstrak bunga telang 10% mampu meningkatkan persentase keasaman dan aktivitas antioksidan serta menurunkan TPC dan daya terima susu pasteurisasi.

(Kata kunci : Ekstrak bunga telang, Kualitas susu pasteurisasi, Aktivitas antioksidan)

**THE EFFECT OF ADDITIONAL BUTTERFLY PEA (*Clitoria ternatea* L.)
FLOWER EXTRACT ON QUALITY OF PHYSICO-CHEMICAL,
MICROBIOLOGICAL, ORGANOLEPTICS AND ANTIOXIDANT
ACTIVITY OF PASTEURIZED MILK DURING STORAGE**

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ABSTRACT

Butterfly pea (*Clitoria ternatea* L.) flower is a native plant of the Ternate region which contains anthocyanin blue dye and has relatively high antioxidant activity. This study aimed to determine the effect of adding butterfly pea flower extract in milk processed by the pasteurization method during storage. The additional treatment of butterfly pea flower extract was made of 0% as a control, 5% (v / v), and 10% (v / v). Cold storage treatment was carried out for 0 days as control, 3 days, and 6 days. The test were physico-chemical quality, microbiological, antioxidant activity, and organoleptic. The physico-chemical test includes moisture content, viscosity, pH, acidity and milk color. Microbiological tests were carried out using the method *Total Plate Count* (TPC). The antioxidant activity test using the DPPH method and the organoleptic tests carried out included color, aroma, taste, and texture using 25 panelists. Researched data from water content test was statistically analyzed by *one way ANOVA* followed by DMRT test, data from the test of viscosity, pH, acidity, TPC, and antioxidant activity were statistically analyzed by *two way ANOVA* followed by Tukey's HSD test, data from color test was analyzed descriptively. The results showed that the addition of butterfly pea flower extract by 10% had a significant effect ($P < 0.05$) on acidity, TPC, organoleptic, and antioxidant activity, while storage time had a significant effect ($P < 0.05$) on pH and viscosity values. The interaction between the addition of telang flower extract and storage time had a significant effect ($P < 0.05$) on the percentage of acidity. The results of the descriptive analysis of the addition of butterfly pea flower extract changed the color of pasteurized milk to blue. The conclusion of this study was that giving 10% extract of butterfly pea flower was able to increase the percentage of acidity and antioxidant activity and reduce the TPC and acceptability of pasteurized milk.

(keyword : Butterfly pea flower extract, Pasteurized milk quality, Antioxidant activity)