

## **PENGARUH URUTAN *MIXING* BAHAN TERHADAP STABILITAS TERMAL SUSU REKOMBINASI DENGAN ANALISIS MASSA SEDIMEN**

### **INTISARI**

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Susu rekombinasi adalah salah satu produk susu yang banyak diproduksi karena menggunakan bahan baku berupa susu bubuk yang memiliki masa simpan lebih panjang dibandingkan susu segar. Produksi susu rekombinasi memiliki beberapa masalah yang umum ditemui seperti sedimentasi dan koagulasi karena stabilitas termal produk yang buruk. Stabilitas termal dapat dipengaruhi oleh berbagai macam faktor termasuk karakteristik dan interaksi dari bahan-bahan baku. Penelitian ini dilakukan untuk mengetahui apakah urutan *mixing* bahan memengaruhi stabilitas termal susu rekombinasi secara nyata dan mengetahui urutan *mixing* bahan yang menghasilkan susu rekombinasi dengan stabilitas termal paling baik.

Penelitian dilakukan dengan membuat sampel susu rekombinasi dengan urutan *mixing* yang berbeda, sterilisasi susu dengan retort, kemudian menggunakan analisis pembentukan sedimen dengan sentrifugasi dan pengeringan oven. Pengolahan data dilakukan melalui analisis ANOVA untuk massa sedimen kering. Hasil penelitian menunjukkan bahwa urutan *mixing* bahan memengaruhi stabilitas termal dari susu rekombinasi secara signifikan, dan urutan yang menghasilkan susu rekombinasi dengan stabilitas termal paling baik adalah urutan protein → penstabil → lemak+pengemulsi → mineral dengan massa sedimen kering sampel yang paling rendah yaitu 0,3202 gram massa kering sedimen/100 mL sampel.

Kata kunci: susu rekombinasi, stabilitas termal, sedimen kering, urutan *mixing*

## **EFFECT OF RAW MATERIALS MIXING SEQUENCE ON THERMAL STABILITY OF RECOMBINED MILK THROUGH SEDIMENT MASS ANALYSIS**

### **ABSTRACT**

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Recombined milk is one of the most produced milk products due to the use of milk powder with longer shelf life as its main raw materials, as opposed to fresh milk. Production of recombined milk is met with several problems such as sedimentation and coagulation due to low thermal stability of the product. Thermal stability of milk can be influenced by several factors including the characteristics of its raw materials and their interactions. This research is done to analyse the effect of raw materials mixing sequence on the thermal stability of recombined milk and to determine the mixing sequence which produces recombined milk with the best thermal stability.

The research was conducted by producing recombined, retort-sterilized milk samples using varied mixing sequences and performing sediment formation analysis through centrifugation and oven drying. Data analysis was conducted using Analysis of Variance (ANOVA) of dry sediment masses obtained. The results showed that raw materials mixing sequence has a significant effect on the thermal stability of recombined milk. The mixing sequence of protein → stabilizer → fat+emulsifier → mineral produced recombined milk with the best thermal stability of 0,3202 g dry sediment mass/100 mL sample.

Key words: recombined milk, thermal stability, sediment, mixing sequence