

Yogurt Quality by Chicken Feet Gelatin and Cornstarch Stabilizer Combination

ABSTRACT

Yogurt is produced by fermenting milk using *L. bulgaricus* and *Streptococcus thermophilus*. During storage, syneresis occurred in yogurt which may affects to quality and consumer acceptance. Therefore application of stabilizer in yogurt is needed to maintain yogurt's stability. Chicken feet gelatin and cornstarch are used to be stabilizer combination. The research propose was to know combination stabilizer, storage time, and both interaction's effect. Experimental design was used was factorial completely randomized design with three replications. The treatment consisted of chicken feet gelatin and cornstarch combination(A)(A1=0%:0,5%;A2=0,1%:0,4%;A3=0,2%:0,3%;A4=0,3%:0,2%;A5=0,4%:0,1%;A6=0,5%:0,0) and storage time B (B1= Day-1; B2= Day-7; B3= Day-14). Physical quality test (viscosity, total suspended solid, syneresis, water holding capacity (WHC), chemical (pH, moisture, fat, protein,and total titrable acidity content), and sensory evaluation (hedonic and hedonic quality) were conducted. The data were analyzed by analysis of variant (ANOVA) with $\alpha = 0,01$ and $\alpha = 0,05$. The results showed a significant effect ($\alpha = 0,01$) on protein, fat, total titrable acidity, and there's no significant effect ($\alpha = 0,01$) on viscosity, total dissolved solids, syneresis, WHC, pH, and moisture content. It was concluded the best yogurt quality was in A4 formula with combination of gelatin from chicken feet and cornstarch 0,3%:0,2%. The viscosity value is 1103,20 cP; total dissolved solids 10,67% brix; syneresis 53,67%; WHC 40,33%; pH 6,21; moisture content 84,27%; fat content 2,84%; protein content 3,22%; and total titrable acidity 1,47%. The characteristics of yogurt that panelist like are yellowish white, strong yogurt aroma, sour taste, soft texture, and thick enough of thickness. Keywords: yogurt, stabilizer, chicken feet gelatin, cornstarch, syneresis

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RINGKASAN

Yogurt merupakan produk susu fermentasi bakteri *Lactobacillus bulgaricus* dan *Streptococcus thermophilus*. Selama penyimpanan, yogurt sering mengalami sineresis sehingga dapat mempengaruhi kualitas dan penerimaan konsumen. Perlu ditambahkan stabilizer untuk menjaga kestabilan yogurt. Stabilizer yang digunakan pada pembuatan yogurt ini adalah kombinasi gelatin ceker ayam dan tepung maizena. Tujuan penelitian adalah untuk mengetahui pengaruh dari kombinasi gelatin ceker ayam dan tepung maizena, waktu penyimpanan, dan interaksi keduanya. Rancangan yang digunakan adalah rancangan acak lengkap faktorial (RALF) dengan tiga kali ulangan. Perlakuan yang digunakan dalam penelitian adalah kombinasi gelatin ceker ayam dan tepung maizena (A) (A1=0%:0,5%; A2=0,1%:0,4%; A3=0,2%:0,3%; A4=0,3%:0,2%; A5=0,4%:0,1%; A6=0,5%:0,0%) dan waktu penyimpanan B (B1= Hari ke-1; B2=Hari ke-7; B3= Hari ke-14). Dilakukan uji mutu fisik (viskositas, total padatan terlarut, sineresis, *water holding capacity* (WHC)), kimia (pH, kadar air, kadar lemak, kadar protein, kadar total asam tertitrasi) dan organoleptik (uji hedonik, mutu hedonik). Data diolah dengan Analisis Varian (ANAVA) $\alpha = 0,01$ dan 0,05. Hasil pengujian menunjukkan pengaruh nyata (0,01) terhadap protein lemak total asam tertitrasi, dan tidak berpengaruh nyata (0,01) terhadap viskositas, total padatan terlarut, sineresis, WHC, pH, kadar air. Disimpulkan bahwa kualitas yogurt terbaik pada formula A

dengan kombinasi gelatin ceker ayam dan tepung maizena 0,3%:0,2%. Nilai viskositas 1103,20 cP; total padatan terlarut 10,67% brix; sineresis 53,67%; WHC 40,33%; pH 6,21; kadar air 84,27%; kadar lemak 2,84%; kadar protein 3,22%; dan total asam tertitrasi 1,47%. Karakteristik yogurt yang disukai panelis berwarna putih kekuningan, memiliki aroma khas yogurt yang kuat, rasa yang asam, tekstur yang lembut, serta kekentalan yang cukup kental.

Kata kunci: yogurt, stabilizer, gelatin ceker ayam, tepung maizena, sineresis