

MODIFIKASI KARAKTERISTIK FISIK YOGHURT SUSU SAPI DAN KAMBING DENGAN PENAMBAHAN MIKROKRISTALIN SELULOSA

ABSTRAK

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Penelitian ini bertujuan untuk mempelajari karakteristik yoghurt susu sapi dan susu kambing yang dimodifikasi dengan penambahan mikrokristalin selulosa sebagai bahan pengental. Karakteristik yang diamati meliputi pH, total asam tertitrasi, viskositas, *water holding capacity*, sineresis, kadar air, total padatan dan warna. Materi yang digunakan antara lain susu sapi, susu kambing, kultur starter yoghurt komersial, mikrokristalin selulosa, indikator *phenolphthalein*, NaOH dan aquades. Rancangan percobaan yang digunakan adalah rancangan acak lengkap pola tersarang dengan 6 perlakuan dan 4 ulangan. Perlakuan meliputi penambahan mikrokristalin selulosa 0%, 0,1%, 0,2%, 0,3%, 0,4%, 0,5%. Data yang diperoleh dianalisis menggunakan analisis variansi. Hasil penelitian menunjukkan bahwa yoghurt susu sapi memiliki karakteristik yang berbeda dengan yoghurt susu kambing dinyatakan dari pH, total asam tertitrasi, viskositas, *water holding capacity*, sineresis, kadar air, total padatan, *lightness*, *hue*, *chroma*, dan *whiteness index*. Yoghurt susu sapi memiliki rata-rata pH 3,69, total asam tertitrasi 1,30%, viskositas 695,09%, *water holding capacity* 37,92%, sineresis 50,02%, kadar air 88,32%, total padatan 11,67%, *lightness* 82,38, *hue* -20,39, *chroma* 7,44, dan *whiteness index* 142,39. Yoghurt susu kambing memiliki rata-rata pH 3,58, total asam tertitrasi 1,66%, viskositas 990,65%, *water holding capacity* 67,79%, sineresis 23,65%, kadar air 85,89%, total padatan 14,10%, *lightness* 96,42, *hue* -19,12, *chroma* 6,32, dan *whiteness index* 140,32. Hasil penelitian menyimpulkan bahwa yoghurt susu sapi dan yoghurt susu kambing dengan penambahan mikrokristalin selulosa memiliki karakteristik yang berbeda. Penambahan mikrokristalin selulosa sampai level 0,5% belum mampu memodifikasi karakteristik yoghurt susu sapi dan yoghurt susu kambing.

Kata kunci : yoghurt, mikrokristalin selulosa, susu sapi, susu kambing

MODIFICATION OF PHYSICAL CHARACTERISTICS OF COW AND GOAT MILK YOGHURT WITH ADDITION MICROCRYSTALLINS CELLULOSE

ABSTRACT

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This research aims to study the characteristics of cow's milk and goat's milk yogurt modified with the addition of microcrystalline cellulose as a thickening agent. Characteristics tested include pH, total titrated acid, viscosity, water holding capacity, syneresis, moisture content, total solids and color. Materials used in this research were cow's milk, goat's milk, yogurt starter, microcrystalline cellulose, phenolphthalein indicator, NaOH and aquades. The experiment was conducted using completely randomized design with six treatments and four replicates. Treatments included the addition of microcrystalline cellulose 0%, 0,1%, 0,2%, 0,3%, 0,4%, 0,5%. The data obtained will be analyzed using analysis of variance. The results showed that cow's milk yogurt has different characteristics from goat's milk yogurt which is expressed from pH, total titrated acid, viscosity, water holding capacity, syneresis, moisture content, total solids, lightness, hue, chroma, and whiteness index. Cow's milk yoghurt has an average pH 3,69, total titrated acid 1,30%, viscosity 695,09%, water holding capacity 37,92%, syneresis 50,02%, moisture content 88,32%, total solids 11,67%, lightness 82,38, hue -20,39, chroma 7,44 and whiteness index 142,39. Goat's milk yoghurt has an average pH 3,58, total titrated acid 1,66%, viscosity 990,65%, water holding capacity 67,79%, syneresis 23,65%, moisture content 85,89%, total solids 14,10%, lightness 96,42, hue -19,12, chroma 6,32 and whiteness index 140,32. The research concludes that cow's milk yogurt and goat's milk yogurt with the addition of microcrystalline cellulose had different characteristics. The addition of microcrystalline cellulose to a level of 0,5% could not modify the characteristics of cow milk yogurt and goat milk yogurt.

Keywords: yogurt, microcrystalline cellulose, cow milk, goat milk