ABSTRAK

TIKA HABSARI. Penelitian bertujuan untuk mempelajari peningkatan kualitas *greek* yogurt susu sapi, *greek* yogurt susu kambing, dan *greek* yogurt susu kombinasi yang dimodifikasi dengan *whey* protein isolat. Kualitas *greek* yogurt yang diamati meliputi sineresis, daya ikat air, dan tekstur. Materi yang digunakan yaitu susu sapi, susu kambing, susu kombinasi sapi dan kambing 1:1, kultur starter yogurt komersial, dan *whey* protein isolat komersial. Rancangan percobaan yang digunakan adalah rancangan acak lengkap (RAL) dengan 15 perlakuan dan 4 ulangan. Perlakuan terdiri atas kontrol yaitu tanpa penambahan *whey* protein isolat, penambahan *whey* protein isolat 1,5%, *whey* protein isolat 3%, *whey* protein isolat 4,5%, *whey* protein isolat 6%. Susu difermentasi menjadi yogurt selama 4 jam 30 menit pada incubator (42^{o}C) sebelum disaring selama 4 jam di refrigerator (5-10^{o}C). Penambahan *whey* protein isolat hingga 6% setelah proses pembuatan *greek* yogurt menghasilkan *greek* yogurt dengan sineresis, daya ikat air, dan tekstur yang tidak berbeda secara signifikan (P>0,05) dengan *greek* yogurt tanpa penambahan *whey* protein isolat terkecuali pada daya ikat air *greek* yogurt susu kambing (P<0,05) dan *greek* yogurt susu kombinasi (P<0,05). Terdapat perbedaan yang nyata (P<0,01) antara *greek* yogurt susu sapi dan *greek* yogurt susu kambing pada nilai daya ikat air dan nilai tekstur yang dihasilkan. *Whey* protein isolat dapat digunakan sebagai bahan tambahan untuk meningkatkan protein pada *greek* yogurt susu sapi dan susu kambing tanpa memengaruhi kualitas fisik berupa sineresis, daya ikat air, dan tekstur. Manfaat penelitian adalah memberikan informasi penggunaan *whey* protein isolat ternyata dapat digunakan sebagai bahan tambahan untuk meningkatkan kandungan protein pada *greek* yogurt susu sapi dan kambing tanpa memengaruhi kualitas fisik berupa sineresis, daya ikat air, dan tekstur.

Keywords: susu sapi, susu kambing, susu kombinasi, *greek* yogurt, *whey* protein isolat, sineseris, daya ikat air, tekstur.

ABSTRACT

TIKA HABSARI. The research aimed to study the quality improvement of cow's milk greek yogurt, goat's milk greek yogurt, and combined milk greek yogurt modified with whey protein isolate. The quality of greek yogurt observed includes syneresis, water holding capacity, and texture. The materials used were cow's milk, goat's milk, cow and goat combination milk 1:1, commercial yogurt starter culture, and commercial whey protein isolate. The experimental design used was a complete randomised design (CRD) with 15 treatments and 4 replicates. The treatments consisted of control without the addition of whey protein isolate, addition of whey protein isolate 1.5%, whey protein isolate 3%, whey protein isolate 4.5%, whey protein isolate 6%. The milk was fermented into yogurt for 4 hours and 30 minutes in an incubator (42^{o}C) before being strained for 4 hours in a refrigerator (5-10^{o}C). The addition of whey protein isolate up to 6% after the process of making greek yogurt produced greek yogurt with syneresis, water holding capacity, and texture that were not significantly different from greek yogurt without the addition of whey protein isolate except for the water holding capacity of combined milk greek yogurt. There is a difference between cow's milk greek yogurt and goat's milk greek yogurt on the water holding capacity and texture values produced. Whey protein isolate can be used as an additive to increase protein in cow's milk and goat's milk greek yogurt without affecting the physical quality of cyneresis, water holding capacity, and texture.

Keywords: cow's milk, goat's milk, combined milk, greek yogurt, whey protein isolate, syneseris, water holding capacity, texture.