

WIFAAAYATUL AINIYAH. Peran Tepung Cangkang Telur Bebek dalam Meningkatkan Sifat Kimia, Aktivitas Antioksidan dan Sifat Sensoris Soygurt Susu Kedelai Hitam. Dibimbing oleh Nurrahman dan Nurhidajah.

ABSTRAK

Susu adalah salah satu sumber kalsium yang banyak dikonsumsi oleh masyarakat. Namun, beberapa kelompok masyarakat memiliki alergi terhadap kandungan susu hewani sehingga digunakan susu berbahan nabati seperti susu kedelai hitam yang ditambahkan dengan tepung cangkang telur bebek sebagai pengkayaan kalsium, karena pada kedelai nilai kalsium hanya 9,8 mg/245 g (1 cup). Sementara, pengolahan lanjutan dengan adanya fermentasi menjadi *soygurt* sebagai upaya memperbaiki sifat sensoris, kimia dan meningkatkan bioavailabilitas kalsium. Tujuan umum penelitian ini adalah untuk mengetahui pengaruh penambahan tepung cangkang telur bebek terhadap sifat kimia (air, abu, lemak, protein dan kadar kalsium), aktivitas antioksidan serta sifat sensori pada *soygurt* kedelai hitam. Metode penelitian berjenis eksperimen dengan variabel bebas yaitu penambahan tepung cangkang telur bebek (0, 2, 4 dan 6%) dan variabel terikat yaitu suhu perendaman, pemanasan dan inkubasi, waktu perendaman serta inkubasi dan berat bahan tambahan selain tepung cangkang telur bebek. Prosedur penelitian diawali dengan pembuatan tepung cangkang telur bebek, Pembuatan susu kedelai hitam dan pembuatan *soygurt* kedelai hitam dengan waktu inkubasi selama 8 jam. Hasil terbaik dari penelitian ini adalah *soygurt* kedelai hitam dengan penambahan tepung cangkang telur bebek 2% dengan kadar air 84,97%, abu 0,71%, protein 3,12% (per bb) 20,73% (per bk), lemak 2,03% (per bb) 13,5% (per bb), aktivitas antioksidan 16,79%, dan nilai rata – rata sifat sensoris (rasa, aroma, tekstur) yaitu 3,40. Namun kadar kalsium tertinggi terdapat pada penambahan tepung cangkang telur bebek 6% dengan kadar 3,40%. Kesimpulan hasil penelitian yang dilakukan terhadap produk *soygurt* kedelai hitam dengan penambahan tepung cangkang telur bebek menunjukkan perbedaan yang nyata untuk setiap uji yang dilakukan, kecuali pada sifat sensoris rasa dan aroma.

Kata kunci: kedelai hitam, cangkang telur bebek, *soygurt*, kalsium, aktivitas antioksidan

WIFAAYATUL AINIYAH. *Duck Eggshell Powder Role to Increase Chemical Properties, Antioxidant Activities, and Sensory Attributes for Soygurt from Blacksoy Milk. Supervised by Nurrahman and Nurhidajah.*

ABSTRACT

Milk is a major source of calcium consumed by people. There are groups of people have allergy to contents of animal-based milk products. So development of plant-based milk products is necessary ie. Soygurt from blacksoy milk with addition of duck eggshell powder with calcium enrichment, because calcium in blacksoy milk is poor to be substitute milk with value 9,8 mg/245 g (1 cup). Therefore, advanced process with fermentation is added for improve sensory properties, chemical characteristics and increase calcium bioavailability. This research purposes are to investigate the effects of duck eggshell powder addition to soygurt black soy milk chemical properties, antioxidant activities and sensory attributes. This experimental research used percentage of duck eggshell powder addition (0,2,4, dan 6%) as independent variable and submersion temperature, heating rate with incubation and addition material weight as dependent variable. This research procedure is duck eggshell powder creation, blacksoy milk creation, and soygurt for black soymilk with 8 hours incubation time. The best result obtained from is soygurt from blacksoy milk with 2% addition of eggshell powder with value of water content (84,97%), ash (0,71%), protein 3,12% (each wet weight) 20,73% (each dry weight), fat 2,03% (each wet weight) 13,5% (each dry weight), antioxidant activities value (16,79%) and average sensory attributes value 3,40 (taste, flavor, and texture). The highest value of calcium is obtained in soygurt from blacksoy milk with 6% addition of eggshell powder with value 3,40%. Based on that results, it can be concluded that real difference occurred for every test used to analyze effects of eggshell powder addition to soygurt from blacksoy milk except in taste and aroma parameter.

Keyword : black soy, duck eggshell, soygurt, calcium, antioxidant activities