

# Physicochemical and Sensory Evaluation of Lemon Grass Leaves extracts Enriched Soy Yoghurt from Soybeans (Glycine Max) Milk

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## Abstract

There are challenges in the utilization of soybean-based foods due to undesirable flavors associated to the Lipoxygenase and trypsin inhibitors causing oxidation of polyunsaturated fatty acids (Linoleic Acid and alpha linolenic) in soybean. This study aimed to prepare soybean based yoghurt with different amounts of lemon grass essential oil in the ratios of 0, 25, 50, 75, and 100  $\mu$ l per liter of soy yoghurt. The different treatments of Soybeans based yoghurt analyzed for protein by Kjeldhal method, fats by Soxhlet method, total ash by muffle furnace method, crude fiber by dry oven method, pH, titratable acidity, syneresis and viscosity, by AOAC method, total phenolic compounds by spectrophotometric method and sensory analysis by effective tests with 10 panelists using five hedonic scale tools. The results ranges for Moisture content, %(89.3-89.6%); Protein, %(5.5-6.8%); Fat, %(2.7-3.6% ); Total Ash%(0.43-0.53 %); Crude Fiber, %(0.06-0.33 %) and Carbohydrate, %(0.59-0.93 %). Physicochemical properties which included; PH (4.30-5.59); Viscosity, (2.85-3.17 Pa.s); Titratable acidity, (0.01-0.07 g\l) and Syneresis (6.44-7.56) and Total Phenolic compound (8.59-18.40 mg/g). The level of pH showed a significant variation between the treatments while titratable acidity, syneresis and viscosity did not show any significant variations. Total phenolic compounds also varied significantly between some treatments. Sensory evaluation showed that the treatment (100  $\mu$ l) with highest level of lemon grass essential oil per liter of soy yoghurt was the most liked. In conclusion, incorporation of lemon grass essential improved the level of phenolic compounds and sensory properties of yoghurt. More studies need to be carried out on the effects of lemon grass extract on the microbial status of the enriched soy yogurt.

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