

## ABSTRACT

The increasing popularity of Western-style diets consisting of processed foods that are high in fats, sugar, and salt is also accompanied by an increasing awareness of consumers on its negative impacts on health. This has sparked an increasing demand for healthier alternatives to foods such as dairy products. In particular, yoghurt is a popular dairy product that has the potential to be developed using plant-based milk such as soy milk. However, certain issues such as syneresis is a detrimental factor to the acceptability of a soy yoghurt product, hence Transglutaminase will be used to test whether it can address this problem while also observing its effects on other physicochemical properties of soy yoghurt. The experiment involved using different concentrations of Transglutaminase: 0.2%, 0.6%, and 1.0% w/v and adding it into soy milk as a pretreatment prior to the addition of the starter culture (*S. thermophilus*, *L. bulgaricus*, and *L. acidophilus*), followed by analyses of the degree of syneresis, hardness, pH, and total soluble solids. Increasing Transglutaminase concentrations resulted in a general downward trend in all measured physicochemical properties. The results suggest that Transglutaminase has the potential to address syneresis in soy yoghurt while also giving a noticeable difference in its physicochemical properties, with 1.0% w/v Transglutaminase concentration resulting in the most desirable properties in soy yoghurt.

**Keywords:** *Soy milk, plant-based, yoghurt, Transglutaminase, concentration, physicochemical properties, syneresis*