

Effect of Adding Hydrocolloid as A Stabilizer on The Rheological Properties and Total Lactic Acid Bacteria of Yogurt Drinks During Cold Storage

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Abstract	<p>Carboxymethyl cellulose (CMC) is the most common hydrocolloid used in yogurt drinks. Yogurt drink is a fermented milk product that has many benefits and involves the addition of water to reduce the total dissolved solids in yogurt; thus, yogurt is not too thick and often forms two phases if it is left for too long. Therefore, adding hydrocolloids, such as CMC, is necessary to improve yogurt drink products that have low stability. Hence, the purpose of this research was to study and evaluate the rheological properties and total lactic acid bacteria of yogurt drink formulations with the addition of CMC as an emulsifier in terms of viscosity, total titratable acid content, pH, total dissolved solids, and total lactic acid bacteria (LAB). The first factor was the addition of the stabilizer CMC at six concentrations: 0, 0.1, 0.3, 0.5, 0.7, and 0.9%. The second factor was the storage duration at a cold temperature, with two levels from day 0 until day 15. The results showed that adding stabilizing agents in the form of CMC at concentrations of 0.1–0.9% (w/v) can increase the physical stability by increasing the viscosity of stirred yogurt. The addition of various concentrations of CMC to the stirred yogurt significantly affected the viscosity, pH, titratable acidity, and soluble solids content. The total LAB content at 0.7% and 0.9% increased at the beginning of the storage process but decreased as the storage time increased because of the secondary metabolites produced and the lack of nutrients as substrates.</p>
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