

**STUDY ON LAYER SEPARATION TIME DURATION  
OF COCONUT MILK, IN STORAGE TANKS DURING  
COCONUT MILK POWDER PRODUCTION**

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## ABSTRACT

Coconut milk is a milky fluid obtained by manual or mechanical extraction of fresh coconut kernel with or without addition of water. It is a white, opaque protein-oil-water emulsion and essentially free from fiber. Coconut milk powder is a preservation method for coconut milk and also coconut milk powder substitute for coconut milk. In coconut milk powder production, coconut milk store in milk tanks during storage coconut milk destabilize and separate in to layers (cream phase, fat phase and aqueous phase). This layer separation adversely affect to the quality of the spray dried coconut milk powder. Therefore coconut milk layer separation in storage tanks is a major problem in the production of sprays dried coconut milk powder. To overcome this problem some modifications of the processing line were studied in the present work. Effect of homogenization and use of a stabilizer prior to storage were tested. Sodium Caseinate was used as an emulsifier. To find out optimum Sodium Caseinate percentage five different Sodium Caseinate percentages were used (0.5%, 1.0%, 1.5%, 2.0%, and 2.5%). With those percentages coconut milk was homogenized and stored for 24 hours and separation heights were measured. Quality of the coconut milk powder was compared with the existing production line. All spray dried samples were tested for fat and moisture. The optimum Sodium Caseinate percentage was 1.5%. Suggested method can be successfully apply to the production line in order to obtain consistent good quality final product.

Key words – Emulsions, Homogenization, Layer Separation, Sodium Caseinate, Spray Drying.