



Formulation of a chocolate milk

INTRODUCTION

More and more consumers are looking for new dairy products with new tastes or added benefits for health. In this regard, new products have been developed recently for babies and young children with additional vitamins, iron, etc. However, as milk is an emulsion, and thus inherently unstable, the addition of various components will affect the stability of the colloidal system.

Nowadays, many supplemented drinking milks are produced. They contain various additives such as chocolate for the taste or additional calcium for bone health. However, the addition of these ingredients very often makes it difficult to stabilize the end product during storage.

Application

Food

Objective

Study the effect of various stabilisers on chocolate milk stability

Device

TURBISCAN® Classic

The Turbiscan Classic is the ideal equipment for studying the effects of various ingredients and processes on the stability of dairy products.

METHOD

A chocolate milk was produced from partially skimmed, reconstituted milk. Cocoa and stabilizers were added dry, and the chocolate milk homogenized, UHT heated and aseptically filled in Tetra bricks. Samples were withdrawn from the Tetra package directly after production.

The chocolate milk was aseptically filled in Turbiscan Classic vials and kept at room temperature during the measurement period (8 weeks).

Different milk compositions have been prepared using the same process. In a first set of experiments chocolate milks have been studied with different types of cocoa (I, II and III). Then a second set of experiments was done using various stabilisers (A, B, C and D).

RESULTS

When looking at the scans obtained over 55 days with chocolate milk, we get the following set of scans (Figure 1). The scans have been put in "Reference" mode for an easier view of the destabilisation phenomena.

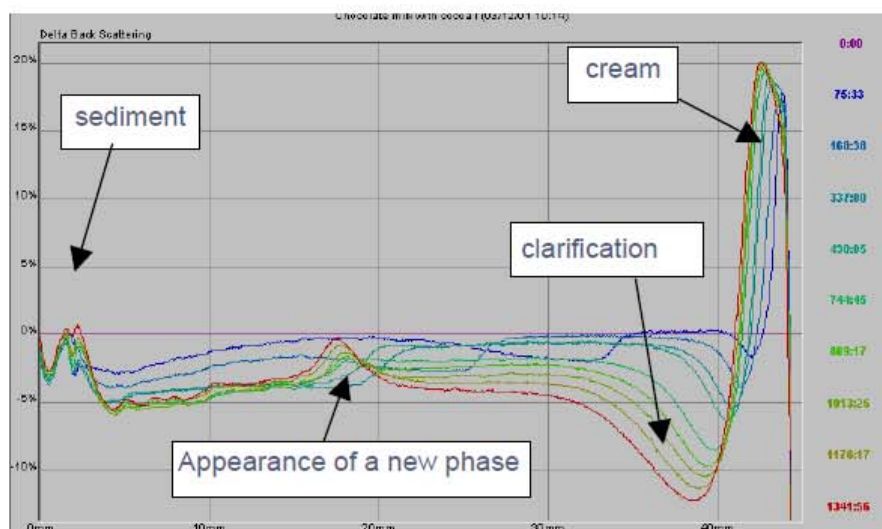


Figure 1. Scans of chocolate milk. Cocoa I