Development and Performance of Crystallization with Additives Applied on Different Milk Samples

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Abstract Crystallization with additives is developed on milk samples from different processing treatments. Performance tests are carried out based on structure analysis of the crystallization patterns. Crystallization with milk as additive is applied following changes in milk after different processing treatments. When an aqueous cupric chloride dihydrate solution crystallizes in the presence of milk as additive, specific patterns emerge, which can be evaluated by image analysis. Milk samples were heated and homogenized in a pilot plant and characterized by various parameters. Furthermore, milk samples from the market were tested. Patterns from milk after heat treatment and homogenization are significantly different from those derived from untreated milk. The experiments could be reproduced for other milk samples, on different days and in another laboratory.