

**REDUCTION OF FREE FATTY ACID
DEVELOPMENT IN CREAM AS AN INGREDIENT
IN BUTTER MANUFACTURING.**

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ABSTRACT

A wide variety of products are manufactured by processing raw milk into dairy products. Among them, butter is one of the primarily fat sources and an important source of dietary energy. It has been produced since ancient times and was an internationally traded commodity as early as the 14th century. Few studies have been conducted on study reduction of free fatty acid (FFA) development as an ingredient in butter manufacturing. Aim of this investigation is study the factors affecting to increase of FFA content in butter at Pelwatte dairies. For that study was used six treatments and three replicates. And Randomized Complete Block Design. As treatments were used cream pasteurized under 80 °C 30 minutes, 80 °C 15 seconds, 75 °C 15 seconds, 65 °C 30 minutes and non pasteurized cream, storage time period. And was analyzed the peroxide value (PV), FFA content and total colony count (TCC) and psychrotrophic colony count(PCC) versus non pasteurized cream, pasteurization time temperature combinations as under 80 °C 30 minutes, 80 °C 15 seconds, 75 °C 15 seconds, 65 °C 30 minutes and storage time period. All data were analyzed by Genera Linear Model of ANOVA in MINITAB 14. And TCC and PCC analyzed by Correlation. As considered the pasteurized cream, significant effect between pasteurization of cream and FFA. Then PV versus different pasteurization time temperatures of cream and storage time period of cream. At consider the different pasteurization time temperatures and PV, there was significant difference between PV. Then considered the storage time period and PV and there was significant difference between storage days and PV. And was observed TCC and PCC were increased pasteurized cream sample than non pasteurized samples. In Pelwatte dairies, butter contain higher FFA value due to several factors, such as absences of pasteurization the cream before storage, unwanted extended storage period and because of that development of lipolytic bacteria in cream. Therefore, results can use for recommend, in Pelwatte dairies, butter contain higher free fatty acid value due to several factors, such as absences of pasteurization the cream before storage, unwanted extended storage period and because of that development of lipolytic bacteria in cream. Therefore, results can use for recommend, pasteurized the cream under 80 °C 30 minutes prior to storage and if it stored without pasteurized within two days of storage those cream should utilize for butter production line.