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KEY WORDS : ULTRA HIGH TEMPERATURE (UHT) / STANDARD PLATE COUNT (SPC) / HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) / ATOMIC ABSORPTION SPECTROMETRY (AAS) / MILKOSCAN / MAJOR COMPOSITIONS / VITAMIN A / VITAMIN B_1 / CALCIUM.

SUMATE THIANGTHUM : EFFECT OF TEMPERATURE ON THE QUALITY OF UHT MILK DURING STORAGE. THESIS ADVISORS : NONGLUCK RUANGWISES, Ph.D., CHANPEN WIWAT, Ph.D. 87 P. ISBN 974-664-815-2

The study was carried out to assess the effects of temperature and duration of storage on the nutrient compositions and microbial quality of UHT milk. The effect of calcium distribution on the stability of UHT milk was also studied. Major compositions i.e., fat, protein, lactose and solid-not-fat were analyzed by MilkoScan while vitamins A and B_1 contents were determined by high performance liquid chromatography (HPLC). The determination of calcium content was carried out by atomic absorption spectrometry (AAS). The microbial quality was evaluated by total bacteria in UHT milk using standard plate count method. UHT milk samples in this study were stored at 8°C and 29°C for 8 months. At 8 months of storage, significant losses of about 16% for vitamin A and 17% for vitamin B_1 were observed whereas, other nutrients, such as fat, protein, lactose, solid-not-fat (SNF) and total calcium, showed no significant changes ($p > 0.05$). The total bacteria count in milk samples did not change and still complied with the Notification of the Ministry of Public Health No. 26 for up to 8 months. The results indicated that there were little changes in the nutrient compositions and no change in microbial quality of UHT milk during storage at 8°C and 29°C for 8 months. As for calcium distribution, changes of calcium distribution in fat, protein and liquid fraction were not found during storage. Therefore, the change of calcium distribution in milk could not indicate the stability of milk.