

## C326626: MAJOR FOOD TECHNOLOGY

KEY WORD: STORAGE TEMPERATURE / STORAGE TIME / QUALITY OF PLAIN YOGURT

KERASUDA SOMBOONBURANA: EFFECTS OF STORAGE TEMPERATURE AND TIME ON QUANTITY OF SOME COMPONENTS AND QUALITY OF PLAIN YOGURT. THESIS ADVISOR : ASST. PROF. SUWANNA SUBHIMAROS, Dr. Ing. 144 pp. ISBN 974-582-336-8

This research was intended to study the quantity of some components and qualities of plain yogurt. Four brands of plain yogurt (brand A, B, C and D) distributed in Thailand were examined 10 days before their expired dates. Yogurt was kept at  $4 \pm 1$  and  $10 \pm 1$  °C for 14 days and analyzed every 3 days. The qualities studied were physical properties i.e. %total solids, viscosity, and %syneresis ; microbiological properties i.e. lactic acid bacteria (LAB), total plate count (TPC), yeast, mold, and *E. coli* ; chemical properties i.e. pH, %titratable acidity, content of acetaldehyde, lactose, and calcium ; and organoleptic properties i.e. colour, syneresis, flavour, texture, and acceptability. The correlations between the properties were determined. Percentage of total solids of brands A, B, C, and D were 17.42, 21.98, 23.24, and 20.17 respectively. Viscosity of plain yogurts decreased as storage temperature and time increased. %Syneresis increased as temperature increased but no trend of change was observed while storage time increased. Almost similar counts of TPC and LAB and both of them decreased a little during storage time. Yeast, mold, and *E. coli* was not found in 1 gram of yogurt. pH of all samples decreased as storage time increased and at  $4 \pm 1$  °C yogurt had significantly ( $p \leq 0.05$ ) higher level of pH than sample kept at  $10 \pm 1$  °C. Percentage of titratable acidity increased at temperature increased but no trend of change was observed while storage time increased. Changing content of acetaldehyde, lactose and calcium had no exact trend at storage temperature and time. Storage temperature and time had no significant ( $p \leq 0.05$ ) influence on colour score. Syneresis, flavour, texture and acceptability score decreased as storage time increased. At 7 days storage (3 days before expire) the panelists accepted the samples kept at  $4 \pm 1$  °C than the others kept at  $10 \pm 1$  °C. At 14 days storage (4 days after expire) the panelists accepted sample brands B, C and D. Sample brand A was unacceptable at 10 days storage (on the expire date)