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PIYADA HANKUNAKUL : DEVELOPMENT OF ANALYTICAL METHODS FOR DETECTION OF MILK POWDER IN READY-TO-DRINK MILK. THESIS ADVISORS : NONGLUCK RUANGWISES, Ph.D., WICHET LEELAMANIT, Ph.D. 134 P. ISBN 974-662-300-1

The analytical methods for detection of milk powder in ready-to-drink milk are needed by authorities in order to investigate whether ready-to-drink milk was produced from raw material as indicated on the label. These methods are based on the detection of changes in some milk components which occur during different heat treatments for the production of ready-to-drink milk. Ready-to-drink milk which is produced from milk powder demonstrates higher changes of various milk components than raw milk. The production of ready-to-drink milk undergoes two steps of heat treatment. First is the production of milk powder and second is the production of ready-to-drink milk. The dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) procedure was used to determine whey proteins/total proteins including bovine serum albumin (BSA)/total proteins, β-Lactoglobulin (β-Lg)/total proteins and α-Lactalbumin (α-Lac)/total proteins in milk samples. The amounts of lactulose and the ratio of creatine to creatinine were determined by the HPLC method. Heat-denatured BSA/total proteins, β-Lg/total proteins and α-Lac/total proteins were used to detect the addition of milk powder in pasteurized milk. Milk components, protein, lactose, total solid and solid-not-fat were measured by Milkoscan to detect the addition of skim milk powder in pasteurized and sterilized milk.