LOSS OF L-ASCORBIC ACID IN COMMERCIAL DRINKING MILK CAUSED BY MILK PROCESSING AND STORAGE TIMES

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Abstract. The goals of this study were to determine L-ascorbic acid concentrations in various milk products, and to evaluate the effect of storage time on L-ascorbic acid in milk. Commercial plain milk samples were obtained from either a raw-food market or a supermarket, in Mae Hia, Mueang District, Chiang Mai Province, Thailand, during July, 2008. The types of milk were separated based on fat percentages (non fat-0%, low fat-1.5%, full fat-3%), and their method of processing (pasteurization, UHT). All samples were collected, transported, and measured for their L-ascorbic acid concentrations on the same day. The expiration date, type of milk, and source of milk were recorded. Pasteurized milk had higher L-ascorbic acid levels than UHT milk \((p<0.05)\), but no differences of L-ascorbic acid levels were seen among the milk fat percentage groups. The L-ascorbic acid level was significantly positively related to time before the expiration date of the milk, indicating that increased storage time of milk is related to decreased L-ascorbic acid concentration in the milk. Longer milk storage times resulted in lower- L-ascorbic acid levels and pasteurized milk has higher L-ascorbic acid levels than UHT milk.