TRACEABILITY OF CHANGES IN QUALITY AND SAFETY OF DRIED DAIRY PRODUCT DURING STORAGE

By

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
SMP	Skim milk powder
WMP	Whole milk powder
TBARS	Thiobarbituric acid reactive substances
COPs	Cholesterol oxidation products
ROS	Reactive oxygen species
WBCs	White blood cells
AnV	Anisidine value
ISO	International standardization organization
EU	Europe united
PC	Protein carbonyl

ABSTRACT

Ahmed Awad Ibrahim Awad: Traceability of Changes in Quality and Safety of Dried Dairy Products during Storage. Unpublished M.Sc. Thesis, Food Science Department, Faculty of Agriculture, Ain Shams University, 2018

This work was done to detect some properties of milk powder products that affect their quality, safety and behavior. Firstly; evaluation of different dairy food products which were collected from the local Cairo market. These products included (skim milk powder, whole milk powder, flavored milk powder, ice cream powder and cereal infant formula powder) and analyzed for their chemical composition, physical properties and oxidative products. All samples agree with codex standard but noticed that the values ofantioxidant, protein and fat were few low and that was indicator for chemical changes which occurred in dried dairy products and effect in their quality and affects consumer health seriously. Secondly fresh skim and whole fat milk powders were stored at 30°C for 6 months and analyzed monthly for the changes in chemical, color and some functional properties. Moisture content in these two types of milk powders increased with increase in the storage period. The protein, fat and ash were decreased. The total antioxidant decreased and the total carbonyls (nmol/ml) as protein oxidation index increased with the increase of storage in the 2 types of milk powder. TBARS value and anisidine value as fat oxidation indices increased with the increase of storage period. The prolonging of storage period of whole milk powder caused a significant increase ($p<0.05$) in L-value and significant reduction ($p<0.05$) in a-values and b-value. The changes in b- and chroma of skim milk powder samples were narrow and followed similar pattern to those of L and a-values. Wettability, Dispersibility, solubility of these 2 types of milk powder decreased during storage period. Thus, this study indicates significant changes in milk powder which were observed during