ABSTRACT

Amany Refaat El-Beialy, The use of some acidulants in some ultrafiltration dairy products. Unpublished Doctor of Philosophy Dissertation. Department of Food Science, Faculty of Agriculture, Ain Shams university, 2004.

The present work evaluates the use of glucono-delta-lactone (GDL), phosphoric, citric, and lactic acid in UF Kariesh cheese and Labneh instead of starter culture. The optimum condition for using the indicated acidulants were throughly investigated. Compositional, proteolysis, structural, rheological and organoleptic properties of the produced acid curd upon using each acidulant were studied.

Chemical composition of the acid curd did not change upon most treatments. However, other acid curd properties were changed generally by the use of GDL instead of starter culture (control treatment). In addition, GDL was superior to the other examined acidulants. Also, mixture of GDL and other tested acids were examined and gave better results than using these acids alone. For example, treatment with GDL (2.5-3%) gave smaller masses of casein aggregates with a more porous structure better flavor and enhanced reheological properties of acid curd than other acidulants including starter culture.

Since GDL is imported and widely used in Egypt, effort was paid to synthesis GDL locally. The structure of the prepared GDL was proved by spectroscopic and chromatographic analysis; in addition, the prepared GDL had similar effect on the milk concentrate as the imported GDL.

Key words: Kariesh cheese, Labneh Microstructure, Rheology, Direct acidification, Ultrafiltration, Glucono delta lactone.

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	ARABIC SUMMARY	

LIST OF ABBREVIATION

GDL : Glucono-delta-lactone
DA : Direct acidification
g : Gram
hr : Hour
mg : Milligram
GMP : Good manufacturing practices
GRAS : Generally recognized as safe
FDA : Food and Drug Administration
GMO : Gene modified organism
CLSM : Confocal laser scanning microscopy
UF : Ultrafiltration
TS : Total solid
SN : Soluble nitrogen
IR : Infrarred
HPLC : High Performance Liquid Chromatography
MS : Mass spectrometer
Pb : Lead
As : Arsenic