



الملخص الانجليزي للبحث رقم (2)

Monitoring quality of UF-soft-white cheeses containing added matured cheeses by biochemical, physicochemical, sensorial, and fluorescence spectroscopy techniques coupled with chemometric tools

Abbas, K. A.¹, Abdelmontaleb, H. S.¹, Hamdy, S. M.¹ and Aït-Kaddour, A.²

¹Department of Dairy, Faculty of Agriculture, Fayoum University, 63511, Fayoum, Egypt

²Université Clermont Auvergne, INRAE, VetAgro Sup, UMRP, 63370 Lempdes, France

International Food Research Journal 27(4): 648 - 659 (2020)

مكان النشر

Abstract: The objective of the present work was to investigate by different analytical techniques, the impact of incorporating matured Domiati, Ras, and Cheddar cheeses on UF-soft white cheese's sensorial, physicochemical, biochemical, and molecular structure (fluorescence spectroscopy) features. Results showed that adding matured cheeses to UF-soft white cheese increased soluble nitrogen, free amino, and total volatile fatty acids, thus resulting in modifications of the cheeses' sensorial characteristics. It was demonstrated that cheese flavour was differently enhanced depending on the added matured cheese. The best sensorial properties were obtained up to 20 d of storage with added Cheddar, then Ras, and finally Domiati cheeses. Moreover, fluorescence spectroscopy provided relevant information related to the modification of protein and fat structures, depending on the cheese incorporated. Joint analysis of the experimental data by PLSDA and ComDim demonstrated the interest of those chemometrics tools for providing a global overview of the impact of adding matured cheeses on UF-soft white cheese quality features.

Key Words: UF-soft cheeses, fluorescence, ComDim, PLSDA