

S6-2.5

Nanotechnological Aspects at Electro-activation of Secondary Dairy Products

E.G. Vrabie¹, M.K. Bologa¹, I.V. Paladii¹, V.G Vrabie³, A. Policarpov¹,
V. Gonciaruc¹, C.Gh. Sprincean¹, and T. Stepurina²

¹*Institute of Applied Physics, Chisinau, Republic of Moldova;*

²*Moldova State University, Chisinau, Republic of Moldova;*

³*Institute of Physiology and Sanocreatology, Chisinau, Republic of Moldova*

The study of the electro-activation processing of whey, with the recovery of the PMCs and simultaneous isomerization of lactose into lactulose, reveals the necessity of certain technical requirements in order to ensure management and control of a technological process that takes place in an electrolyzer. Electro-activation of secondary dairy products and obtaining protein mineral concentrates (PMCs), with the simultaneous isomerization of lactulose allows not only to specifically mobilise proteins at the formation of protein compounds but also isomerization of lactose into lactulose. As is well known, a lactulose molecule is about 5 nm. Whey, a secondary dairy product, has over 200 components, a part of which are in nano-quantities. Electro-activation triggers a number of inter- and intramolecular reactions at the nanoscale level. The results may be of interest for dairy factories that can use the proposed installation and apply the whey processing wasteless technology and for other food industry companies, as well as for those in pharmaceuticals – in valorification technologies for obtaining the PMCs with the desired content of protein fractions and amino acids.