**Quality improving of Egyptian low fat white soft cheese by hydrocolloids addition, pickling and their interactions**

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White soft cheese is the most popular and consumed among the Egyptian cheese variants. Undesirable attributes and less acceptable cheese produced by removing milk fat. This study aimed to improve the quality of low fat cheese by incorporating hydrocolloids into cheese matrix without/ with pickling and their interactions. Three hydrocolloids (Xanthan Gum "XG", Tracaganth Gum "TG" and Maltodextrin "MD"), with 2 concentrations of each (0.07% XG1& 0.1% XG2, 0.5% TG1 & 0.75% TG2 and 0.5% MD1 & 1.0% MD2) were applied in six treatments cheeses made of buffaloes skim milk (0.1% fat) then were evaluated compared to their counterpart full and low fat control cheeses (FFC & LFC) made of buffaloes full fat milk (7% F) and its skim milk (0.1% F), respectively. Cheese yield and chemical, microbiological, rheological (TPA) and organoleptical properties when fresh and periodically every 30 days during pickling in 11% NaCl for 90 days in the refrigerator were determined.

Cheeses containing hydrocolloids exhibited significant improvement in yield, moisture, MNFS% and M:P ratio, texture parameters and all organoleptic properties. Sensorial, fresh XG1 & XG2 gained close total score to their counterpart control FFC. Pickling process under refrigeration improved parameters of control FFC & LFC and LFC containing hydrocolloids which showed higher rate of ripening. Judging scores revealed that XG2 received the highest score and the best overall acceptability at 60 days pickling, while TG2 received that score and acceptability at 90 days pickling indicating that XG had more potential effect than TG and those pickling periods are the best for such cheeses.

Along 60 days pickling, profile of total bacteria and their groups counts showed increase trend thereafter declined. In conclusion, fresh LFC can be successfully made with XG, while best ripened LFC can be made with 0.1% XG and 0.75% TG (w/w) for 60 and 90 days pickled cheeses, respectively.