



Effect of transglutaminase on some physicochemical, rheological and sensorial characteristics of UF-Ras cheese during ripening

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Abstract: The objective of this study was to investigate the effect of addition transglutaminase (0, 20, 40 and 60U/kg retentate) on the physiochemical, rheological and sensorial characteristics of UF-Ras cheese over a three-months ripening period. Results demonstrated that the moisture and protein contents were significantly higher in transglutaminase (TG) cheeses than in the control cheese. The rate of proteolysis (WSN/TN, NPN/TN%) in UF-Ras cheeses treated by TG was slightly higher than in control cheese. Concerning rheological results showed significantly higher values of hardness, gumminess and chewiness than in the control cheese. TG addition had no significant effect on springiness, cohesiveness and adhesiveness values. Textural characteristics of TG cheeses were at the same level as in control cheeses after 60 days of ripening and no significant effect of TG amount was observed. Sensory analysis revealed that no effect of TG on the flavour and appearance scores. The total score of TG and control cheeses did not differ significantly at 90 days of ripening. Overall, the main effect of TG is to modify the rheological parameters and to increase the protein content of the experimental UF-Ras cheeses.

Key Words: Transglutaminase, cross-linkage, UF, Ras cheese, Texture.