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PD en Calidad y Seguridad Alimentaria

CHEESEMAKING PROCESSING CONDITIONS - CHEESEYIELD AND WHEY COMPOSITION IN SMALL RURAL DAIRIES

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Introduction and Background: The limited technological facilities for milk treatment and standardization in small rural dairies prevent them from maximizing cheese yield and minimizing the amount and organic load of whey produced. Yet, most of the whey recycling possibilities are out of reach for rural dairies so it is important for cheesemakers to optimize the conditions of every step in the process. In general, the information about the influence of milk and curd handling in yield, whey or cheese is scarce, and even more so for ewe milk. The aim of this study was to evaluate in situ the influence of different cheesemaking conditions and curd handling processes such as, cutting, curd healing, heating, stirring and pressing in cheese yield and whey production in small rural dairies. Methods: Cheesemaking technical data and ewes milk, curd and whey samples were collected in 10 different rural dairies in late spring. Physicochemical analysis (pH, fat, protein, Ca, P and dry matter) were carried out and curd grain size was measured by image analysis. Cheese yield was calculated as the ratio between the milk volume and the weight of fresh cheeses after pressing. Results: Cheese yield and whey composition was considerably affected by the technological parameters used by the commercial cheesemakers. Variability of curd grain size and different quantities of whey fat were observed related to the conditions used during the process, being the cutting step one of the most influential during the process. The amount of curd fines in whey, and so, protein and fat losses were also associated with the technological parameters. Conclusions: Cheesemakers should adequate the different technological parameters for curd cutting, healing and pressing in order to increase cheese yield and to avoid losses of protein, fat and minerals in the whey.