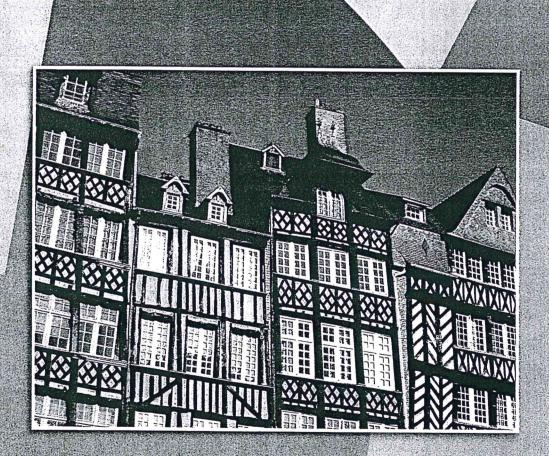
## Proceedings

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## P37 - Evaluation of curd cooking on microbiological characteristics of "Grana" type pressed cheeses processed from raw ewes' milk

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This work was carried out to pursue a double objective: to improve the hygienic safety of cheeses produced from raw ewes' milk; and to produce a new typology of cheese through the application of "Grana" technology.

With this in mind, raw milk from an individual farm was transformed under controlled condition at a pilot dairy plant. The production technology included the partial skimming of the evening and morning milk mixture by cream surfacing, the addition of a natural whey starter cultures (NWSC) prepared with four selected *Streptococcus thermophilus* strains (PON6, PON244, PON261 e PON413) isolated from raw ewes' cheese productions (Gaglio et al., 2014), milk clotting at 38°C, curd cooking at 56°C, cheese moulding at room temperature, immersion salting and ripening for 9 months.

In this study, 10 microbial groups were investigated from raw milk until ripened cheeses. Lactic acid bacteria (LAB) were in the range 10<sup>4</sup> - 10<sup>5</sup> CFU/ml before NWSC addition. After curdling, these bacteria increased to 3 Log cycles and were counted at 10<sup>6</sup> CFU/ml after curd cooking. A rapid pH drop (to 6.05) was registered after almost 3 h from NWSC addition. The levels of members of the *Enterobacteriaceae* family were at about 10<sup>3</sup> CFU/ml in raw milk and decreased after curd cooking to 1 Log cycle. A similar behavior was shown by the other undesired microbial group till the complete disappearance of staphylococci. The microbiological counts of 9-month ripened cheeses showed the dominance of LAB and undetectable levels of undesired bacteria. Next Generation Sequence analyses are in progress to evaluate the total microbial composition of the final cheeses.

On the basis of the results, the main hypothesis of the work was accepted since the undesired microbia groups were reduced in number in comparison with uncooked hard pressed technology.
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