comparison to those showing the adhesion of LAB to the human intestine. The new assay system will be useful for the selection of probiotic candidates in future construction of functional foods including yogurt.

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2) International patent number: PCT/JP2005/011043

Key Words: Lactic acid bacteria (LAB), Adhesion, Human blood type-A

357 Identification of the microflora in the complete Ragusano cheese processing from milk produced at two different farm locations. G. Licitra[1,2], S. Parayre[3], H. Falentin[3], S. Carpino[1], V. Fallico[1], C. Pediliggieri[1], and S. Lortal*[3], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*, [3]*UMR Science et Technologie du Lait et de L'Oeuf*, *Rennes Cedex, France*.

Raw milk was collected in two farms of the Hyblean region sited on mountain level (ML) and sea level (SL). Raw milk was transformed in Ragusano cheese, using two different wood vats 'tina' at the CoRFiLaC experimental cheese plant. Milk, curd before and after cooking, stretching and cheeses (4 and 7 months aged) were analyzed by PCR–TTGE and enumeration microbiology. In addition the biofilm of the vats 'tina' was studied before putting milk in it. The total count for the raw milk samples from ML farm and SL was respectively 6 10^4 and 2.3 10^5.Using universal primers PCR–TTGE revealed many differences between the raw milk profiles, excepted few common bands identified as *S. thermophilus*, *L. lactis*, *L. delbruecki*, and *E. faecium*. Other various species detected were *Lactobacillus helveticus*, *Propionibacterium freudenreichii*, *Staphylococcus xylosus*, *Lactobacillus plantarum*. 'Tina' exhibited different biofilms: the 'tina' for ML milk was colonized by two clearly predominant species: *S. thermophilus*and *L. delbrueckii* whereas the one used for SL milk exhibited at least 5 different bands, *S. thermophilus* being predominant. By numeration, the count of Enterococcus and Lactic acid bacteria increased (0,5 to 1 log) when milk was transferred in the 'tina'. In both cases (ML–SL), the stretching step induced a simplification of the profiles and 3 of 5 dominant species only were detected by TTGE trough the entire process of ripening. At this stage and whatever the milk origin the profiles were rather similar. Classical numeration confirmed the presence of predominant viable thermophilic lactic acid bacteria growing until stretching and decreasing until the end of the ripening. In conclusion, the cheese making process of Ragusano cheese (pH and temperature, mainly during stretching) has a major role in selecting predominant natural microflora. The exact role of the tina in inoculating the milk has to be further explored.

Key Words: Ragusano cheese, PCR–TTGE, Microbiology

358 Rheological properties of rennet-induced milk gels made from milk protein concentrate solutions with different ratios of A_s-: β-casein. J. A. O'Mahony*[1,2], P. L. H. McSweeney[1], and J. A. Lucey[2], [1]*University College*, *Cork, Ireland*, [2]*University of Wisconsin*, *Madison*.

The rheological properties of rennet-induced milk gels made from milk protein concentrate (MPC) solutions with α_s- (i.e., α_{s1}- + α_{s2}-):β-casein ratios of 1.00:0.80 (MPC A), 1.00:0.70 (MPC B) or 1.00:0.87 (MPC C), each having identical concentrations of total casein (2.5%), were studied using dynamic low amplitude oscillatory rheometry. The ratio of α_s-:β-casein had no significant ($P > 0.05$) effect on rennet coagulation time. Storage modulus (G′; index of firmness), measured 30 min after addition of rennet, decreased with increasing ratio of α_s-:β-casein. Storage modulus for gels made using each of the three MPC solutions reached plateau values ~200 min after addition of rennet, with the plateau value of G′ decreasing significantly ($P < 0.05$) as relative concentration of β-casein increased in the MPC solutions. There were no significant ($P > 0.05$) differences in the frequency dependence of G′ in the frequency range 0.001 to 1 Hz between gels made using any of the three MPC solutions. On shearing the gels at a rate of 0.01 s^{-1}, the value for apparent yield stress and apparent yield strain increased significantly ($P < 0.05$) as relative concentration of α_s-casein increased in the MPC solutions. Thus, the ratio of α_s-:β-casein influenced the small and large deformation rheological properties of rennet-induced milk gels.

Key Words: Casein, Rennet, Rheology

Dairy Foods: Production Meets Processing: A Vital Link for High Quality Dairy Foods

359 Production meets processing: A vital link for high quality dairy foods. S. A. Rankin*[1], S. P. Washburn[2], B. Luth[3], G. Licitra[4], S. Carpino[4], and P. Kindstedt[5], [1]*University of Wisconsin*, *Madison*, [2]*North Carolina State University*, *Raleigh*, [3]*Tillamook County Creamery Association*, *Tillamook, OR*, [4]*CoRFiLaC*, *Regione Siciliana, Ragusa, Italy*, [5]*University of Vermont*, *Burlington*.

The American Dairy Science Association has a strong heritage of facilitating cutting edge research in the areas of milk production and milk processing. However, few research programs or symposia highlight the findings and benefits of research that involves both disciplines working in complement. The ADSA annual meeting provides a unique opportunity where researchers from both disciplines are present. This symposium is designed to present work linking the production of raw milk with the quality and safety of finished dairy foods. Symposium presenters will discuss collaborative research models, benefits and challenges of conducting such work.

Key Words: Production, Processing