W56 Effect of processing on the composition and structure of buttermilk and of its milk fat globule membranes. P. Morin*[1], R. Jiménez-Flores[2], and Y. Pouliot[1], [1]*Stela Research Group, INAF, Université Laval, Québec, Canada*, [2]*Dairy Products Technology Center, Cal Poly, San Luis Obispo*.

The effect of pasteurization of the cream on the composition and microstructure of buttermilk after pasteurization, evaporation and spray drying was studied. The composition of MFGM isolated from the buttermilk samples was also characterized. Pasteurization of the cream induced a higher lipids recovery in the buttermilk. Spray-drying of buttermilk was found to have major effect on its phospholipid content and composition. Phospholipid content of buttermilk decreased in a proportion of 38.2 and 40.6% for buttermilk from raw and pasteurized cream respectively. Pasteurization of the cream induced the highest increase of whey protein recovery in MFGM isolates compared to all other processing steps applied on buttermilk. A reduction in the phospholipid content was also found in the MFGM isolates following spray drying. Transmission electron microscopy of the microstructure of buttermilks revealed extremely heterogeneous microstructures and could not reveal any effect of the treatments.

Key Words: Buttermilk, Milk fat globule membrane, Phospholipids