

W63 Sensory evaluation of a novel ingredient produced from buttermilk. S. Jinjarak¹, P. Morin², A. Olabi¹, and R. Jimenez-Flores*¹,
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Buttermilk was concentrated by microfiltration (MF) and diafiltered (DF) to half its original volume, and the resulting retentate was subjected to super critical fluid extraction (SFE). This process was applied to concentrate the phospholipids of the milk fat globule membrane. Chemical analyses were performed to determine protein, fat, lactose, solid, and ash content. Two types of models and statistical analyses were performed, first to compare four types of buttermilks with and without SFE treatment, and second, to compare the treatments (DF-SFE, MF-SFE, SFE, none) for whey buttermilk (WBM) and sweet cream buttermilk (CBM) only. For the first model, attributes generally related to defects such as cardboard, sour, rancid and salty properties were significantly different along with some appearance properties. SFE enhanced the quality of the ingredients by reducing the level of several undesirable attributes with only yellowness, viscosity and cooked aroma presenting significant differences. Lactose and ash content were significantly different with $p \leq 0.05$ and $p \leq 0.001$ respectively. As for the second model, yellow color was significantly different while several flavors were found to have more significant differences than appearance. The four treatments increased intensities of flavor attributes. MF and DF combined with SFE yielded higher mean scores over the other two treatments on cardboard flavor. Lactose was significantly different for CBM and WBM. Replicate effect was not significant for most attributes in both models. Grain, sweet, and buttery flavors were desirable factors and noted in all samples. The resulting ingredient had significant higher phospholipids, in particular sphingomyelin.

Key Words: Buttermilk, Sensory evaluation, Novel ingredient