

Drivers of Liking: Probiotic Petit Suisse Cheese

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Abstract : The currently concern for health has increased demand for low-calorie ingredients and functional foods as probiotics. Understand the reasons that infer on food choice, besides a challenging task, it is important step for development and/or reformulation of existing food products. The use of appropriate multivariate statistical techniques, such as External Preference Map (PrefMap), associated with regression by Partial Least Squares (PLS) can help in determining those factors. Thus, this study aimed to determine, through PLS regression analysis, the sensory attributes considered drivers of liking in probiotic petit suisse cheeses, strawberry flavor, sweetened with different sweeteners. Five samples in same equivalent sweetness: PROB1 (Sucralose 0.0243%), PROB2 (Stevia 0.1520%), PROB3 (Aspartame 0.0877%), PROB4 (Neotame 0.0025%) and PROB5 (Sucrose 15.2%) determined by just-about-right and magnitude estimation methods, and three commercial samples COM1, COM2 and COM3, were studied. Analysis was done over data coming from QDA, performed by 12 expert (highly trained assessors) on 20 descriptor terms, correlated with data from assessment of overall liking in acceptance test, carried out by 125 consumers, on all samples. Sequentially, results were submitted to PLS regression using XLSTAT software from Byossistememes. As shown in results, it was possible determine, that three sensory descriptor terms might be considered drivers of liking of probiotic petit suisse cheese samples added with sweeteners ($p < 0.05$). The milk flavor was noticed as a sensory characteristic with positive impact on acceptance, while descriptors bitter taste and sweet aftertaste were perceived as descriptor terms with negative impact on acceptance of petit suisse probiotic cheeses. It was possible conclude that PLS regression analysis is a practical and useful tool in determining drivers of liking of probiotic petit suisse cheeses sweetened with artificial and natural sweeteners, allowing food industry to understand and improve their formulations maximizing the acceptability of their products.

Keywords : acceptance, consumer, quantitative descriptive analysis, sweetener

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