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**Taste-odour interaction as a strategy to reduce sugar in yogurt**

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The high consumption of soft drinks, snacks and all kind of foods with high-sugar content has been criticized by scientists and health professionals all over the world, due to the bad consequences to health such as overweight, obesity, Type II Diabetes and all complications associated to it. Campaigns to decrease the high sugar content in food products have been launched in several countries. However, decreasing the sugar content without changing consumer acceptability has become an important challenge for the food industry, as it can affect sensory characteristics of the product, which are important cues in daily life, and constitute a main driver for food acceptance and choice. Many studies have shown that the perception of taste can be enhanced by odour, suggesting a good strategy to reduce sugar level. This preliminary study aimed at investigating intermodal odour–taste interaction for sweetness perception when 0.5% of coconut's aroma was added to natural sweetened yogurt. First of all, triangular tests were performed by 15 trained assessors using nose clip, who did the test twice, to confirm no difference between yogurt without coconut aroma and yogurt added of 0.5% of such aroma. This step was very important to demonstrate that without using the sense of smell was not possible to differentiate samples. Then, the perceived sweetness of the two samples (with and without coconut aroma) was evaluated by 113 yogurt consumers, aged between 18 and 62 years (average of 24 year old), in groups of about 15 people/session. They evaluated the perceived sweetness using scale that varied from 1 (not sweet at all), 5 (more or less sweet) to 9 (very sweet). Samples were served at 10± 2°C in expanded polystyrene cups with lid coded with three digit numbers. The order of samples presentation was balanced and they were served monadically to participants. After yogurt evaluation, consumers were asked to mark in a 9-point scale how much sweet they expected the coconut aroma to be. Data were analysed by ANOVA using the XLSTAT software. On average, no sweetness difference was found between samples. However, after calculating the difference between the sweetness of the yogurt added of coconut aroma and the sweetness without the aroma, three groups of consumers with different sweetness perception were identified. The majority of participants (n=59) perceived the yogurt added of coconut aroma sweeter than its counterpart, suggesting that the coconut aroma played a role on sweetness evaluation. A small group of seven consumers didn't find any difference in terms of sweetness between the two yogurts. The third segment (n= 47) perceived the natural yogurt sweeter than the one added of coconut aroma. The three groups of consumers scored the expected aroma of coconut as sweet (average varying from 5.1 to 6.0 in the 9-point sweetness scale). The results suggest an interaction between odour and sweet taste perception, which was individual dependent. The findings seem to be a helpful tool to decrease the added sugar in flavoured yogurts.

Keywords: cross-modal interaction, sweetness, consumer, coconut aroma