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Funding Source: Louis Stokes Missouri Alliance for Minority Participation

Determination of consistency of a descriptive sensory panel

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The primary problem in low-fat ice cream is improving the similarity of flavor with that of full-fat ice cream. In order to determine exactly how close the flavor profile of a low fat ice cream, which was reformulated with Simplese®, is compared to that of a full-fat ice cream using quantitative descriptive sensory analysis. The objective of this study was to compare the consistency of a Descriptive Sensory panel before and after sensory training. Twelve panelists were recruited from the graduate students of the University of Missouri Columbia. Half of the panelists had experience as trained panelists of ice cream tests whereas the other half did not. All panelists were asked to evaluate 26 attributes, including appearance, rate of melt, flavor, texture, mouth feel and aftertaste, in a couple of ice creams before the actual training. During the training period, the entire descriptive panel met as a group and received instructions regarding the attributes, the references and the test procedures from the panel leader. After a couple hours of training, the panelists were asked to evaluate the 26 attributes again to determine if the consistency of their scoring of the attributes had improved due to training. The consistency of panelists was analyzed by using principle component analysis (PCA), which indicated that the panelists were indeed more consistent after the training.