There are numerous laboratory instruments available today that can be used by confectioners to evaluate the quality of their finished products. However, it is very difficult to define what methodologies to utilize. Confectioners have to select, from among an enormous range of options, the appropriate product quality parameters and equipment variables based on what their consumers perceive to be the most important.

Gelatin is a commonly used ingredient in the production of sugar confectionery products. It performs a number of functions, particularly in forming and improving the product structure and texture. Gelled confectionery products include jubes, wine gums, pastilles and the popular gummi products. Their texture, clarity and color depend to a great degree on the types of ingredients used, formulation variables and how they are processed and handled.

Analytical methods for the analysis of gelatin-based gelled confectionery products are very useful. They can be used to minimize the expense and the time required for maintaining a trained sensory panel, giving fast and reliable results for quality control and R&D.

The main objective of this study was to develop reliable analytical methods to better understand consumers’ perceptions of texture, clarity and color in gelled confections by translating their language into analytical parameters.

Information generated through these correlated methods can be applied in the control and optimization of the confectionery process. This can help monitor the quality of raw materials when considering alternate ingredients during formulation optimization or product quality improvement. It can also be useful to assist in scale up and to evaluate shelf life variation.

DEVELOPING ANALYTICAL METHODS

Textural Characteristics

Equipment that measures texture can yield correlations with consumer perceptions if the right tests are conducted. It is possible to spend a lot of time and effort on physical tests that have little to do with how a product is perceived by the consumer.

The key to making texture measurements relevant is to simulate how the product is attacked in one’s mouth.

We established methodologies that could measure the textural behavior of gelatin...