Food Texture – how to get it right

Texture can be regarded as an expression of the rheological properties of a food. Research has revealed that the three major components of food product acceptability are texture, flavour and appearance. The ability to consistently reproduce the texture of food products is crucial for the success of food manufacturers. Food texture not only influences customer selection and preference, but also repeat buys.

For the last 50 years the food industry has invested heavily into academic research for an instrumental means of assessing the quality of their products. The need for a more sophisticated means of objectively quantifying the subjective characteristic of food products has been the main drive behind the venture by the industry. One aspect of food technology that is getting more recognition as an effective tool within the food industry is the Texture Analyser.

Characterisation of food texture generally falls into two categories of sensory or instrumental methods of analysis. Sensory analysis makes use of the human senses of touch, sight, smell, taste and sound. Sensory science employs trained, human panelists under very controlled conditions to focus on specific sensory attributes of the product in question.

Unlike sensory analysis, instrumental texture analysis can only characterize properties detected by the sense of touch. Evaluation of food texture by touch involves the use of fingers, lips, tongue, palate and teeth; all these characteristics of mouth-feel therefore provide a very nice complement to sensory analysis. The use of instrumental methods for texture analysis is becoming more popular in the food industry because it is a fast and cost effective method of food texture analysis.

Figure 1 / Brookfield's Texture Analyzer

The Texture Analyser (see Figure 1) is an easy-to-use instrument which measures the amount of force required to penetrate or pull apart an object with a probe appropriate to the food item under test. For meats, use a cutting blade (see Figure 2); for sliced breads, use a cylinder probe (see Figure 3); for cookies and crackers, use a snap test jig (see Figure 4); for packaged goods, use a dual grip assembly (see Figure 5).

Figure 2 / Small Scale Shear Blade

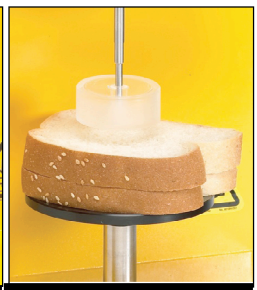

Figure 3 / Cylinder Probe

Figure 4 / Snap Test Jig

Figure 5 / Dual Grip Assembly

The Texture Analyser can be used across a wide range of applications and in different environments including R&D, Quality Control, shelf life studies, new product development, scale-up approvals and product matching in food applications (low calorie imitations of standard brand products). Instrumental

texture analysis can be applied across a broad range of market segments in the food industry to include:

- Hydrocolloids (thickening agents)
- Dairy
- Bakery
- Meats and Fish
- Confectionary
- Surimi
- Fruit and vegetables
- Pasta
- Snacks
- Packaging (tear strength to open seals)

For more information on the benefits that texture analysis can bring, consider reviewing the most widely read publication used in both academia and industry entitled “Food Texture and Viscosity: Concept and Measurement”, authored by Malcom Bourne, now in it's second edition published by The Academic Press.

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