



FDE443 SENSORY ANALYSIS

Lesson-14

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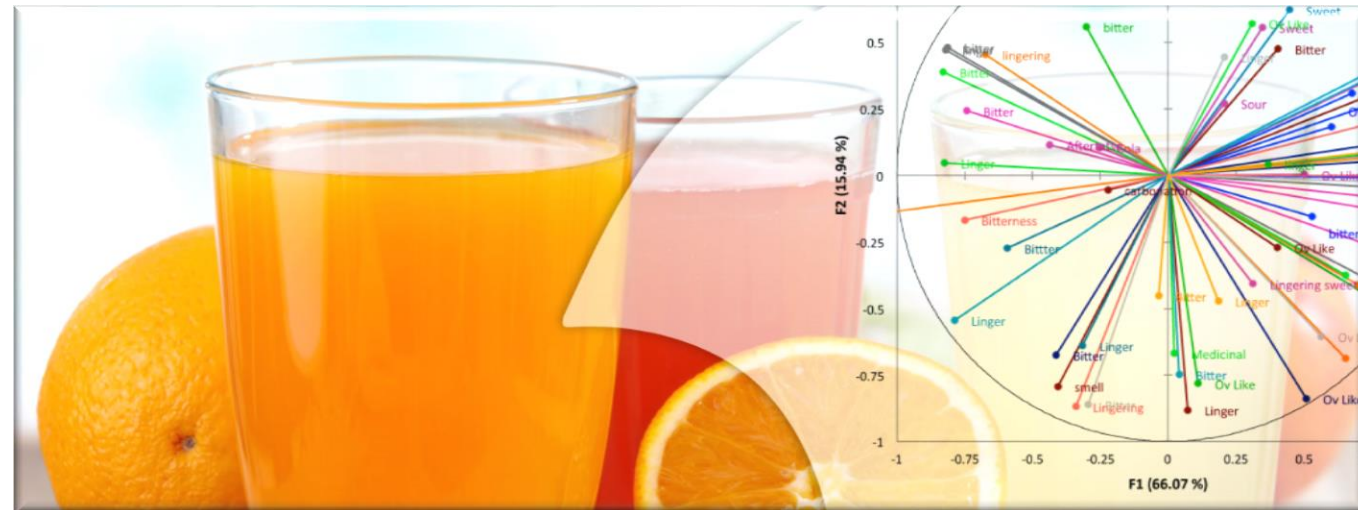
Descriptive Analysis Techniques

- ✓ Consumer data identifies which sensory attributes are needed to increase overall liking.
- ✓ Data from descriptive analysis is more accurately quantified and can significantly contribute to the direction of product development.
- ✓ Descriptive sensory analysis provides a more detailed assessment of the product's sensory profile.
- ✓ It determines both a qualitative and quantitative measurement of the intensities of each sensory attribute.



Descriptive Analysis

- ✓ The detection (discrimination) and the description of both the qualitative and quantitative sensory aspects of a product by trained panels of 5 to 100 panelists
- ✓ Smaller panels of 5 to 10 subjects are used for the typical product on the grocery shelf.
- ✓ The larger panels are used for products of mass production such as beers and soft drinks, where small differences can be very important.



Descriptive Analysis

- ✓ Following training, panelists independently rate intensity of each attribute.
- ✓ These methods provide different information regarding the sensory profile of the product.
- ✓ An appropriate selection of the method is important for obtaining the desired sensory information to improve the final product

Descriptive Analysis

- ✓ Panelists must be able to detect and describe the perceived sensory attributes of a sample.
- ✓ To define the product, and include *all of the appearance, aroma, flavor, texture or sound properties* of a product which differentiate it from others.
- ✓ Panelists have to learn *to differentiate and rate the quantitative or intensity aspects of a sample* and to define to what degree each characteristic or qualitative note is present in that sample.

Descriptive Analysis

- ✓ Descriptive tests are used to obtain detailed description of
 - aroma, flavor, and oral texture of foods and beverages
 - skinfeel of personal care products
 - handfeel of fabrics and paper products
 - appearance and sound of any product

Components of Descriptive Analysis

The Qualitative Aspect

✓ The components of a number of different descriptive profiles;

1. Appearance characteristics

- a. Color (hue, chroma, uniformity, depth)
- b. Surface texture (shine, smoothness/roughness)
- c. Size and shape (dimensions and geometry)
- d. Interactions among pieces or particles (stickiness, agglomeration, loose particles)

Components of Descriptive Analysis

The Qualitative Aspect

✓ The components of a number of different descriptive profiles;

2. Aroma characteristics

- a. Olfactory sensations (vanilla, fruity, floral, skunky)
- b. Nasal feeling factors (cool, pungent)

3. Flavor characteristics

- a. Olfactory sensations (vanilla, fruity, floral, chocolate, skunky, rancid)
- b. Taste sensations (salty, sweet, sour, bitter)
- c. Oral feeling factors (heat, cool, burn, astringent, metallic)

Components of Descriptive Analysis

The Qualitative Aspect

- ✓ The components of a number of different descriptive profiles;

4. Oral texture characteristics

- a. Mechanical parameters, reaction of the product to stress (hardness, viscosity, deformation/fracturability)
- b. Geometrical parameters, i.e., size, shape and orientation of particles in the product (gritty, grainy, flaky, stringy)
- c. Fat/moisture parameters, i.e., presence, release and adsorption of fat, oil, or water (oily, greasy, juicy, moist, wet) Aroma characteristics

Components of Descriptive Analysis

The Qualitative Aspect

✓ The components of a number of different descriptive profiles;

5. Skinfeel characteristics

- a. Mechanical parameters, reaction of the product to stress (thickness, ease to spread, slipperiness, denseness)
- b. Geometrical parameters, i.e., size, shape, and orientation of particles in product or on skin after use (gritty, foamy, flaky)
- c. Fat/moisture parameters, i.e., presence, release, and absorption of fat, oil, or water (greasy, oily, dry, wet)
- d. Appearance parameters, visual changes during product use (gloss, whitening, peaking)

Components of Descriptive Analysis

Intensity: The Quantitative Aspect

- ✓ The intensity or quantitative aspect of a descriptive analysis expresses the degree to which each of the characteristics (terms, qualitative components) is present.
- ✓ This is expressed by the assignment of some *value* along a measurement scale.

Commonly Used Descriptive Test Methods

- ✓ Flavor profile analysis
- ✓ Texture profile analysis
- ✓ Quantitative Descriptive Analysis (QDA®)
- ✓ The Spectrum™ Descriptive Analysis
- ✓ Time-Intensity Descriptive Analysis
- ✓ Free-choice Profiling

Data documentation-descriptive analyses

- ✓ *Spider charts, radar charts, star charts* are useful
 - ✓ Excellent tools to visually compare and contrast
- ✓ The most commonly used chart for Descriptive Analysis projects are spider chart.