

# **SENSORY QUALITY CONTROL**

# Food quality control and sensory evaluation

- ✓ Primary consideration for food selection is the product's palatability or eating quality
- ✓ In order to have a market edge/success, the food and beverage industry should ensure that
  - ✓ the quality of food should be appealing and appetising
  - ✓ the eating quality attributes of aroma, taste, aftertaste, tactual properties and appearance should be acceptable to the consumer

# Food quality control and sensory evaluation

- ✓ Definition of sensory evaluation (by Institute of Food Technologist-IFT):

*“A scientific discipline used to **evoke, measure, analyze and interpret** those responses to products as perceived through **the senses of sight, smell, touch, taste and hearing**”*

# Five senses

- Taste
- Smell
- Sight
- Touch
- Hear

# Food quality control and sensory evaluation

- ✓ Areas sensory analysis is applied to;
  - ✓ inspection of raw materials
  - ✓ product development
  - ✓ product improvement
  - ✓ cost reduction
  - ✓ quality control
  - ✓ selection of packaging material
  - ✓ shelf life/storage studies
  - ✓ establishing analytical/instrument/sensory relationship
  - ✓ process development

# Types of sensory analysis methods

- ✓ Difference (*or discrimination*) tests
- ✓ Descriptive analysis
- ✓ Consumer acceptance testing

# Food quality control and sensory evaluation

## *Difference tests*

- ✓ Paired-comparison test
- ✓ Triangle test
- ✓ Duo-trio tests
- ✓ Two-out-of-five test
- ✓ A, Not-A test

# Food quality control and sensory evaluation

## *Descriptive sensory analysis*

- ✓ It uses several techniques
  - ✓ to discriminate products based on their sensory characteristics
  - ✓ a quantitative description of the sensory differences
- ✓ No judgment of “good” or “bad”



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## *Descriptive sensory analysis*

- ✓ The panel identifies and quantifies sensory characteristics of products
  - 8-12 panelists-trained
  - Detailed quantitative information

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## *Descriptive Tests*

- Quantitative Descriptive Analysis
- Sensory Spectrum
- Flavor Profile Analysis
- Texture Profile Analysis

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## *Data Analysis*

- ✓ Analysis of Variance (ANOVA) followed by post hoc tests for means separation
- ✓ Correlation and regression between attributes
- ✓ Data reduction techniques such as Principle Component Analysis (PCA), Factor Analysis, etc.

# Food quality control and sensory evaluation

- ✓ The use of sensory evaluation in quality programs is not yet well established.
- ✓ There are variations in different food industries that are originated from;
  - ✓ the diversity in sensory evaluation used in the quality program
  - ✓ the purpose of the evaluation