



# FDE443 SENSORY ANALYSIS

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# FDE443 SENSORY ANALYSIS

## Course Goals

- Acquire detailed information on techniques used in sensory evaluation of foods, and principles of sensory analyses
- Understand the importance of sensory analyses in quality control and apply the knowledge gained on sensory evaluation in solving problems in the food industry
- Gain experiences in design and implementation of sensory analyses and interpretation of the results obtained from sensory evaluation

# FDE443 SENSORY ANALYSIS

## Course Content

- Definition of sensory evaluation, sensory analysis in quality control, physiological and psychological fundamentals of sensory function, human senses related to sensory attributes, sensory interactions, controls for test room, product, and panel, selection and training of panel members, guidelines for selection and application of sensory evaluation techniques for testing the quality of foods, measurement of sensory thresholds, difference tests, descriptive analysis, acceptance and preference testing, consumer panel, basic statistical methods for sensory data evaluation

# FDE443 SENSORY ANALYSIS

## Course Learning Outcomes

- 1) Understand the importance of sensory evaluation in quality control and quality assurance
- 2) Apply the knowledge obtained on sensory analyses in solving problems in the food industry
- 3) Design sensory laboratory
- 4) Acquire the ability on designing, implementation and interpretation of the results for sensory evaluation of a food product
- 5) Apply the difference and descriptive techniques for specific foods
- 6) Gain the ability to perform sensory evaluation in different foods by using different evaluation methods
- 7) Understand international professional taste panel conditions in sensory evaluation
- 8) Acquire the ability to control senses and to use human senses as an analytical tool

# FDE443 SENSORY ANALYSIS

## References

- Stone, H., Bleibaum, R., Thomas, H. 2020. *Sensory Evaluation Practices*. 5th Edt. Elsevier Publ. (Source Book).
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- Altuğ, T., Elmacı, Y. 2005. *Gıdalarda Duyusal Değerlendirme*, Meta Basım Matbaacılık.
- Jellinek, G. 1985. *Sensory Evaluation of Food: Theory and Practice*, Ellis Horwood Ltd.
- Civille, G.V., Lyon B.G. 1996. *Aroma and flavor lexicon for sensory evaluation terms, definitions, references, and examples* , ASTM publications.
- “Sensory Analyses in Foods« Training Program Notes. 1994. TÜBİTAK-MAM, Gebze.

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## References

- Journals;
  - Journal of Sensory Studies
  - Journal of Food Science
  - Food Technology
  - European Food Research and Technology
- Web pages;
  - <http://www.ift.org/divisions/sensory/index.html>
  - <http://www.astm.org>
  - <http://www.foodsensory.net> (<http://www.dlg.org>)

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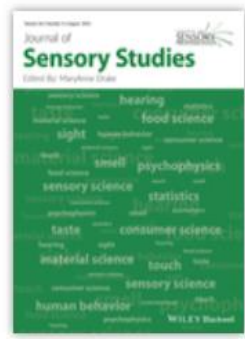
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## Sensory and Consumer Sciences



Within the sensory science focus area, you'll learn about the latest advancements in the science of sensory and consumer research as they apply to food. Explore new and improved sensory methods, sensory science's role within the food product development process, the relationship between sensory and market research, sensory science's focus on consumer understanding, and much more.

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### Resources

- Sensory Evaluation
- Smell & Taste
- Visual Appeal
- Sweetness

### Sensory Services

The IFT Services Directory provide listings for companies offering [Sensory Evaluation services](#) in the area of Ingredient & Product formulation.

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## Sensory Evaluation

### Guidelines for the Preparation and Review of Papers Reporting Sensory Evaluation Data

Updated January 30, 2014

The Sensory and Food Quality section of *JFS* publishes original and applied research related to the sensory and quality aspect of foods, beverages, ingredients, and research about the perceptual process. Researchers considering submitting manuscripts or initiating research with intent of submitting to this section should familiarize themselves first with the [general guidelines provided by the journal](#) and those described here prepared by the Scientific Editor and Associate Editors, and with information provided by the Sensory and Consumer Sciences Division of IFT (*J Food Sci.*, 67(9):3553 (2002)). These are intended to serve as a tutorial for authors as they prepare their manuscripts, reflecting what reviewers will be looking for as they go through the review process. Researchers not directly involved in sensory or quality testing are advised to consult with associates in the field and/or read current texts cited in the aforementioned guidelines.

For manuscripts focused on sensory quality, authors must be sure that their manuscripts not only include the basic required elements (title page, abstract,

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## Sensory Evaluation Standards

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ASTM's sensory evaluation standards are instrumental in the assessment of consumer products by the use of the human senses (sight, smell, taste, touch, and hearing). The discipline of sensory analysis requires the use of a panel of human evaluators, wherein test results are recorded based on their responses to the products under test. Statistical analysis is then employed to generate inferences and insights regarding the product. These sensory evaluation standards help consumer goods developers and manufacturers in the evaluation of their goods to ensure product quality, consumer satisfaction, and marketing success.

### List of sensory evaluation standards developed by ASTM:

Jump to:  Go

#### Food and Beverage Evaluation

Designation	Title
E1083 - 00 (2011)	Standard Test Method for Sensory Evaluation of Red Pepper Heat
E1346 - 90 (2010)	Standard Practice for Bulk Sampling, Handling, and Preparing Edible Vegetable Oils for Sensory Evaluation
E1395 - 90 (2011)	Standard Test Method for Sensory Evaluation of Low Heat Chilies
E1396 - 90 (2011)	Standard Test Method for Sensory Evaluation of Oleoresin Capsicum
E1627 - 11	Standard Practice for Sensory Evaluation of Edible Oils and Fats
E1810 - 96	Standard Practice for Evaluating Effects of Contaminants on Odor and Taste of

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### ASTM E1958 -07e1 Standard Guide for **Sensory** Claim Substantiation

...This guide covers reasonable practices for designing and implementing **sensory** tests that validate claims pertaining only to the **sensory** or perceptual attributes, or both, of a product. This guide was developed for use in the United States and must be adapted to the laws and regulations for advertisement claim substantiation for any other country. A claim is a ... [More](#)

### ASTM E1885 -04 Standard Test Method for **Sensory** Analysis—Triangle Test

... Significance and Use This test method is effective for the following test objectives: 5.1.1 To determine whether a perceivable difference results or a perceivable difference does not result, for example, when a change is made in ingredients, processing, packaging, handling or storage; or 5.1.2 To select, train and monitor assessors. This test method itself does not change ... [More](#)

### ASTM E2454 -05 Standard Guide for **Sensory** Evaluation Methods to Determine the **Sensory** Shelf Life of Consumer Products

...This guide provides appropriate **sensory** testing approaches and possible



# SENSORY ANALYSIS

Definition and  
Development

**Sensory Evaluation**

**Degustation**

**Sensory Panel**

**Panel test, Subjective test**

**Sensory Analysis**

**Organoleptic Analysis**

# Definition of sensory evaluation (by 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**”*



# Definition of sensory evaluation (by IFT)

*To evoke* reactions requires :

- ✓ Specific, rigorous research methods
- ✓ An understanding of physiology, anatomy, biochemistry, psychology, genetics (e.g. taste or odor blindness for certain substances)
- ✓ The requirements for and influence of the test procedures, the test environment, and more...



# Definition of sensory evaluation (by IFT)

***To measure*** reactions requires:

- ✓ Measuring instruments that are qualitative or quantitative in nature to determine human reaction to one or more variables in a product or material
- ✓ Knowledge regarding measuring instruments and their application, statistics, computer science, research methodologies/protocols, the effect of the test environment, requirements for tests, test facilities and more...

# Definition of sensory evaluation (by IFT)

***To analyze*** reactions requires:

- ✓ The application of the correct statistical software, test statistics, computer literacy
- ✓ Knowledge of physiology, psychology, behavioral science and more to evaluate qualitative and quantitative results

# Definition of sensory evaluation (by IFT)

*To interpret* reactions requires:

- ✓ Knowledge of statistics, food science, computer software, chemistry, biochemistry, physics, gastronomy and more
- ✓ The ability to write detailed and precise executive summaries
- ✓ Good presentation skills and the ability to advise courses of action based on the facts, without being prescriptive