OVERVIEW OF THE ROMANIAN STANDARDS IN SENSORY ANALYSIS

BY

GABRIELA CIOBANU* and OCTAVIAN CIOBANU**

Abstract. Sensory analysis standards are indispensable instruments in the assessment of consumer products by the use of the human senses: sight, hearing, smell, taste and touch. Paper presents an overview of Romanian standards in sensory analysis and a compare between Romanian and international standards. Sensory analysis standards help developers and producers in the evaluation of their products to ensure product quality, consumer satisfaction, and marketing success.

Key words: sensory analysis, standards.

1. Introduction

Sensory analysis is a discipline dealing with planning, preparation, carrying out and evaluation of sensory tests, including interpretation of results and using human senses as measuring instruments.

Sensory analysis can be divided into three sub-sections:
– Effective testing (objective data about products);
– Affective testing (subjective data such as preferences; ex: tests to evaluate the popularity of an aroma or gustatory impression);
– Perception (the biochemical and psychological aspects of sensation).

Effective testing deals with obtaining objective data about products. Test ranges from basic discrimination testing to descriptive profiling. The type of panel required for this type of testing would normally be a well-trained team of experts. An expert possesses technical knowledge and experience and is responsible for testing particular products/product groups.

Affective testing (or consumer testing) deals with the obtaining of subjective opinions or about the popularity of an aroma. Affective testing needs
large panels of untrained personnel, although smaller focus groups can be utilized to gain opinions into products. The testing can vary from simple comparative tests to questionnaires regarding the acceptance of individual characteristics.

Perception deals with the biochemical and psychological aspects relating to human sensations. Perceptions are information transmitted by the sensory organs without any recognition features, but having quality and intensity characteristics. Knowing the psychological mechanisms involved it may be possible to find why certain characteristics are preferred over others.

Sensory analysis standards are indispensable instruments in the assessment of consumer products by the use of the human senses: sight, hearing, smell, taste and touch. The practical activities of sensory analysis require the use of a panel of human evaluators. Test results are recorded based on human evaluator’s appreciations to the products under test. Statistical analysis is then employed to generate conclusions and opinions regarding the product.

These sensory analysis standards help developers and producers in the evaluation of their products to ensure product quality, consumer satisfaction, and marketing success.

Paper presents an overview of Romanian standards in sensory analysis and a comparative study between Romanian and international standards.

2. Method

Standards are useful for all types of sensory evaluation laboratories, in particular those in industry, in research and development organizations, in service organizations and in the field of official authorities concerned with product control. It can be assumed that the sensory analysis laboratory can perform all types of sensory tests. This means analytical tests such as discrimination tests, descriptive analysis (sensory profile), and consumer tests (hedonic tests). The individual profile of sensory activities of an organization determines the boundaries and conditions to be considered for planning and implementing the sensory evaluation laboratory and its staff.

Standards provide guidance on staff functions in order to improve the organization of a sensory evaluation laboratory, to optimize the use of personnel, and to improve the efficiency of sensory tests. Standards are applicable to any organization planning to establish a formal structure for sensory evaluation. The main aspects to be considered are the education, background and professional competence of staff members, and the responsibilities of staff members at different functional levels.

The application of this guidance by the organization is flexible and depends on the needs and possibilities within an organization.
3. Discussions

The application of standards by a country or by an organization is flexible and depends on the needs and possibilities within the country or organization.

Examining the ISO standards in this domain, 38 ISO standards were found to be active, and some of them partially under development. Romanian organizations and laboratories have today 24 Romanian standards in Sensory analysis, translated from ISO standards (Table 1).

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<tr>
<th>ISO Standards</th>
<th>Romanian standards</th>
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<tr>
<td>ISO/DIS 3972 Sensory analysis – Methodology – Method of investigating sensitivity of taste (UD) [4]</td>
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<td>ISO 4597:1982 Sensory analysis – Methodology – Guidelines for the preparation of samples for which direct sensory analysis is not feasible [15]</td>
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<td>ISO/DIS 8586 Sensory analysis – General guidance for the selection, training and monitoring of selected and expert assessors (UD) [25]</td>
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<td>ISO 8589:2007 Sensory analysis – General guidance for the design of test rooms [31]</td>
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<td>ISO/DIS 11132 Sensory analysis – Methodology – General guidance for monitoring the performance of a quantitative sensory panel (UD) [47]</td>
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<td>ISO/WD 11136 Sensory analysis – Methodology – General guidance for conducting hedonic tests with consumers in an controlled area (UD) [48]</td>
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<th>ISO Standards</th>
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<td><strong>ISO 13300-1:2006</strong> Sensory analysis – General guidance for the staff of a sensory evaluation laboratory – Part 1: Staff responsibilities [55]</td>
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<td><strong>ISO 13300-2:2006</strong> Sensory analysis – General guidance for the staff of a sensory evaluation laboratory – Part 2: Recruitment and training of panel leaders [56]</td>
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<td><strong>ISO 16657:2006</strong> Sensory analysis – Apparatus – Olive oil tasting glass [59]</td>
<td>Not translated</td>
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<td><strong>ISO 22308:2005</strong> Cork stoppers – Sensory analysis [60]</td>
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<tr>
<td><strong>ISO/DIS 29842</strong> Sensory analysis – Methodology – Balanced incomplete block designs (UD) [61]</td>
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*UD = under development

Initially, during 80’s there were only some standards in this domain:
- STAS 12655-88 Produse alimentare. Analiză senzorială. Condiții pentru degustători;

Another standard, SR 6345/95 contains partially data on sensory analysis for milky products.

Starting from 2000, 24 ISO standards were adapted and translated into Romanian, representing about 64% of ISO standards. Only 14 ISO standards are still not translated.

Examples of not translated standards:
- ISO 3103:1980 Tea - Preparation of liquor for use in sensory tests;
- ISO 6668:2008 Green coffee - Preparation of samples for use in sensory analysis;
- ISO 16657:2006 Sensory analysis - Apparatus - Olive oil tasting glass;

Also, standards about general guidance for the staff of a sensory evaluation laboratory or general guidance for monitoring the performance of a quantitative sensory panel still need to be translated. Some of them are covered by old Romanian standards STAS.

4. Conclusions

The Sensory analysis standards are very important tools in the assessment of consumer products by the use of the human senses. There are 24 Romanian standards in Sensory analysis, adapted from ISO standards, representing about 3/4 of ISO standards. These show a good adaptation of Romanian standards to ISO standards and show that standardization depends on the needs and possibilities within the country [62]. These sensory evaluation standards help consumer goods developers and manufacturers in the evaluation of their goods to ensure product quality, marketing success and consumer satisfaction.

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REFERENCES

PREZENTARE GENERALĂ A STANDARDELOR ROMÂNEȘTI
ÎN ANALIZA SENZORIALĂ

(Rezumat)

Standardele privind analiza senzorială sunt instrumente indispensabile în evaluarea produselor de larg consum (produse alimentare, cosmetice și farmaceutice) prin utilizarea simțurilor umane: auz, vedere, miros, gust și pipăit. Lucrarea prezintă o imagine de ansamblu a standardelor românești în analiza senzorială și o comparare între standardele românești și cele internaționale. Standardele de analiză senzorială ajută dezvoltatorii și producătorii în evaluarea produselor alimentare, cosmetice și farmaceutice pentru a asigura calitatea produsului, satisfacția consumatorilor și succesul de marketing.