

Book review

Sensory analysis for food and beverage quality control – A practical guide

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One of the most noticeable indicators that sensory analysis becomes a more and more highly esteemed science is the increasing number of books and publication in the field. For a considerably long time sensory tests were only applied procedures (usually in a larger research project). But in recent time more and more researchers use 'pure' sensory science to investigate different types of problems.

On the other hand, it is a typical experience of the academic people in food science that if they are asked to give consultancy for industrial partners many difficulties may arise. The most frequent one is a confrontation of the good sensory practice (applied in a research lab) and the much complicated environment of an industrial laboratory. Very often it can be heard from industrial people, that some requirement of the sensory standards cannot be implemented as a routine procedure at their company.

The book edited by David Kilcast is building a bridge between the two sides. It uses all the elements of good sensory practice, while on the other hand understands and knows the difficulties and challenges of any person working in production, product development or quality assurance. The constitution of authors shows a healthy ratio: both academic and industrial experts were involved in writing the book.

The length of the chapters makes it easy to read to even those who have a very limited time for that purpose. The book is divided in three major parts. Part I deals with the designing of a sensory quality control program. The first chapter gives an overview of such a program. The author points to the fact that the success of any program strongly depends on the support of the management. Even in this chapter, which seems to be a theoretical one dealing with the basics the reader will find useful and relevant information how to start a successful sensory project. Especially at the beginning of such projects it might be recommended to rely on external support and consultancy.

The quality and performance of any procedure is strongly defined by the people who are involved in that activity. The second chapter gives much help on the topic of selection and management of staff for sensory quality control. Though this chapter follows very faithfully the ISO standard (8586-1) it adds practical explanations to the critical points, and makes a message more user friendly than reading standards. A case study demonstrates the procedure of panel establishment and maintenance in practice.

The final chapter (Chapter 3) of the first part deals with the specialized topic of proficiency testing of sensory panels. In case of multinational companies, who have multiple sensory test sites it is vital to know, whether the panels at the different locations work accurately and in harmony with each other or not. Many QC/QA problems can be solved if the readers apply proficiency testing in practice at their panels.

The second part of the book focuses on the methods for sensory quality control. In Chapter 4 we get a complete and practical overview of those methods which are approved by

the ISO standards. Personally I think that it is a very good attitude that the author encourages the readers to build do-it-yourself methods, which might be the best adapted to their special requirements. The introduction of standard methods involve: 'A' – not 'A' test, paired comparison methods, scaling, ranking, scoring and several other types of tests. Even for those who are familiar with those procedures this chapter will be very useful. Firstly, it contains all the important information in one chapter. Secondly it can be used for training of less experienced colleagues and also as a reading for university/college lectures.

Chapter 5 deals with a topic which is very much talked about. How can we specify the sensory characteristics of a product in everyday practice? It worth to mention that the key criteria shall be defined by involving sufficient consumer input. This is one of the valuable characteristics of the book that it integrates consumer and expert information to solve sensory problems. The use of reference samples is also mentioned, which is practically the only reliable way to remove the subjective character of sensory tests in this field.

Chapter 6 is combining instrumental and sensory methods in food quality control. Though in many scientific publications it is not a question whether we should integrate the two fields or not, in industrial environment this issue is not always so clearly viewed. Among the possibilities of instrumental measures the electronic-nose and electronic-tongue technologies are also briefly mentioned. These procedures, which are based on the principles of the human senses very often give useful input for QC sensory applications.

Statistics is a vital part of any research in the field of natural sciences. Still in the mind of many this field is considered as 'academic' and 'theoretical'. In Chapter 7 two skilled authors (Christopher Findlay, Compusense and Anne Hasted, QI Statistics) give an easy to understand and still technically sound overview to those who did not prefer statistics too much. They deal with such kind of important issues like product matching, assessor proficiency and validation, sensory – instrumental correlations, etc.

The third and final part of the book deals with sensory quality control in practice. Shelf-life assessment is the first question which is discussed in Chapter 8. In a practical case study the authors leads us step-by-step through those relevant questions which seem to be obvious, but which are often missed in such kind of studies. Of course shelf-life studies always involve other type of investigations (microbiology, measurement of physicochemical attributes, etc.), but sometimes sensory can be a bottleneck in the whole question.

Chapter 9 focuses on sensory quality control for taint prevention. When a routine sensory session gives the conclusion that the product shows off-flavour or off-odour any QC/QA manager would appreciate a chapter like this. Though this field can be very specific to the product under testing, it gives a good overview of the whole issue.

Another important and interesting question is the sensory quality definition of food ingredients. The authors are coming from an expert of this field (Puratos N.V. Belgium). It is not surprising that they show a strong consumer-orientation in this question. The majority of this chapter consists of two case studies – it will be much appreciated by those readers who are working in food production.

Chapter 11 deals with chilled and frozen ready meal, soup and sauce sectors. The authors give a very logical and precise structure of sensory QA through the whole process. They start with recipe development, continue with scale-up phase and production process and finish with product dispatch.

Wine and sensory are like twins in the food sector. Still it is very typical that wine is treated as a 'different' kind of product, with different requirements for its sensory testing. The author looks back on the history and the European standards and concept of wine-quality.