Making sense of the interface between research and marketing

On the occasion of the centenary of the University of Pretoria (UP)/ the European Sensory Network (ESN)/ an international association of leading academic and research institutions in the field of sensory and consumer sciences/ met recently for four days in Pretoria. ESN members held a seminar/ workshops and lectures on the Hatfield Campus/ with the events attended by delegates from the local food industry/ research organisations/ academics and students. By Kim Cochrane.

The aim of the event was, however, not to promote new research methodologies and techniques, but rather to demonstrate the value of sensory evaluation and the principles behind the correct use of sensory methodologies, says Dr Riette de Kock, a senior lecturer at UP’s Department of Food Science.

’Sensory evaluation is a powerful tool that can be used for decision-making at the interface of company R&D and marketing activities. But company executives unfamiliar with sensory testing often underestimate the complexity of these tests as well as the need for specialists to plan, run and interpret them.’

Representatives from 17 member countries recently met at the University of Pretoria to present a seminar and series of workshops. Front row: Miguel Quetglas, Spain; Maria Jose Sanchez, Spain; Ronit Davidovitch, Israel; Tunde Kuti, Hungary; Irouchka Moyersoen, Belgium; Keren Corley, Israel; Maria Joao Monteiro, Portugal; Riette de Kock, South Africa; Emilia Marfinsdottir, Iceland; Marise Kinnear, South Africa; Chantal Gilbert, UK. Middle row: Wender Bredie, Denmark; Olaf Biedekarken, Germany; Huguette Nicod, France; Anne Goldman, Canada; Fiorella Sinesio, Italy; David Lyon, Switzerland; Comor Delahunty, Australia; Ep Koster, Netherlands. Back row: Gerner Hansen, Denmark; Claire Salmont-Rosse, France; Klaus Duerrschmid, Austria; Regina Gramlunger, Germany; Raija-Liisa Heinis, Finland; los Mojet, Netherlands.

FOOD REVIEW - MAY 08
Mojet (WUR-C/CS) explains the need for sensory tests that can measure the dynamics of food preferences.

The seminar, evening lecture co-hosted by SAAFoST’s Northern Branch (‘Future directions for Sensory and Consumer Science’), UP centenary dinner and workshops were attended by 184 delegates, including the 27 ESN member representatives from 17 countries, she says.

The international group was hosted by the Department, which has been an ESN associate member since 2005. ‘This was the first time that UP has hosted the ESN. It was a great opportunity for us to strengthen our contacts with European partners. These contacts are highly valuable for us, since Europe is South Africa’s main food export market. They help us in assisting South African food companies to understand the needs and demands of the European market.’

**No magic answers**

Issues addressed over the few days included sensory testing with consumers; testing of products with consumers across diverse cultures and literacy levels; translation of consumers’ needs and wants into concrete sensory product characteristics; sensory evaluation techniques for descriptive sensory analysis; a session on managing a sensory panel for day-to-day QC activities; as well as a PanelCheck (a tool for visualising –
performance of sensory panels and assessors) workshop, among others. ‘All the topics are very relevant for South African food companies. Unfortunately there are no magic answers and designing “best scenario” sensory tests always requires thorough problem and question definition, communication and planning.

‘The multiple aspects influencing the choice of test method, panel, samples and environment were highlighted by various ESN representatives during a series of presentations,’ states Dr De Kock.

Understanding consumer preferences is vital

In her view, the most interesting trend to come out of the event with specific relevance to the SA market is that in the highly competitive FMCG market, understanding consumer food preferences is vital.

‘Methods to obtain and measure consumer responses to different flavours and textures have to provide reliable and valid results. In addition, the development of successful food products that deliver on appearance, aroma, flavour and texture rely on the accurate measurement and description of sensory sensations using trained sensory panel lists and instrumental measures.’

Dr De Kock was one of the presenters of the “managing a sensory panel for day-to-day QC activities” workshop session.

In terms of noteworthy findings to come out of the session, she says: ‘We first looked at the challenges around managing a sensory panel for QC. Delegates concluded that the tight time constraints for QC testing is a real problem when working with human senses. An underestimation of the requirements in terms of technician time, resources and staff to set up an effective programme is an additional issue.’

She says two quality systems namely the Quality Index Method (QIM) and Sensory Analysis Critical Control Points (SACCP) method were presented and their suitability in a
On average, an advertisement is noticed by 57% of readers of which 42% can recall the correct brand or product name. This leads to an average net “effective score” of 26%.

A typical case study discussed. ‘The QIM has been used most effectively in the fishing industry in Europe. SACCP was presented as a systematic approach to the identification, evaluation and control of sensory quality defects in food products. The aim of which is to identify and carefully control those production and processing factors that have important effects on sensory quality. Ideally, a SACCP programme should limit end product testing. Its effectiveness, however, depends on a company’s ability to clearly establish and specify - using measurable practical standards - the tolerable variation in sensory quality of products for its customers.’

According to her, it was concluded that sensory testing for QC purposes required a simple-enough system that could be understood and used by all staff members involved in quality assessment. The system should identify acceptable and unacceptable products based on clearly defined sensory standards. It should be acceptable to suppliers and customers. Staff members should receive training and their performance monitored from time to time.
Eye-tracking and tachistoscopic research trends

During the evening lecture in association with SAAFoST, Prof Wender Bredie of Copenhagen University reviewed classical sensory methodology dealing with difference testing, descriptive analysis and consumer tests.

He then elaborated on instrumental techniques developed for sensory product analysis. Concluding with examples of newer sensory methodologies he mentioned studies with babies investigating the early formation of food preference, observational methods and sensory analysis studies incorporating simulated situational effects.

He also emphasised that researchers needed to know much more about the interactions between sensory stimulations and the subsequent physiological responses.

Irouchkia Moyersoen of Rogil Research in Belgium then presented a fascinating talk on eye-tracking and tachistoscopic research as an added value for traditional qualitative and quantitative techniques.

She put forward case studies of food and beverage advertisements/packaging to illustrate how monitoring consumers’ focuses could be used to evaluate the suitability of placement of key information.

Of particular interest is the memory trace of consumers. Eye-tracking research is also used to measure shelf impact and the effectiveness of products being able to “break through the clutter”.

It’s possible to measure the observation length and percentage of respondents who look in a certain area, and the viewing pattern of shoppers can provide information on how attractive a product is on the shelf and how quickly products receive attention. It appears there is a correlation with purchase intention.

More about the UP’s Department of Food Science

The Department originated in 1920 as the Department of Dairying. In 1980, the teaching was extended to cover the broader field of food science and technology, with the name changed to Department of Food Science.

Therefore 2008 celebrates its 28th year of existence as a Department of Food Science and over this time, no less than 450 degrees have been awarded.

Today the Department resides in the School of Agricultural and Food Sciences, one of the four schools in the Faculty of Natural and Agricultural Sciences. The academic staff complement is small by international standards, just six PhDs, but represents the highest concentration of NRF-rated food science academics in SA, says Dr De Kock.

The Department is responsible for two three-year programmes (BSc Food Science and BSc Nutrition and Food Sciences), and one four-year programme -BSc (Agric) Food Science and Technology, all leading to post-graduate qualifications.

The Department has a strong research-based postgraduate programme. From 1997, the Department, together with the Council for Scientific and Industrial Research in Pretoria, was designated as the official SADC centre for post-graduate education in food science and technology.

In terms of community engagement, the department for the most part focuses on providing short courses or workshops to industry in the areas of malting and brewing as well as sensory analysis of foods and dairy chemistry.
The key to understanding

In summary, one strong message coming out of the event and in particular out of the workshop presented by Olaf Biedekarken of the Institute of Sensory Research and Innovation Consultancy in Germany, is that when a company’s marketing and R&D perspectives are brought together, sensory science is seen as the “key” to understand what happens in the so-called process of “psychophysical transformation” between the sensory characteristics of a food product and the conclusions customers draw. -'

Note: ESN aims are to further the development and application of sensory science; improve sensory and consumer testing methodology for the benefit of the food and non-food industries; and to promote the application of sensory analysis in industry. More information is available on www.esn-network.com.