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Effects of Covid-19 on food trends and running on sensory and consumer tests

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The COVID-19 pandemic has shaped the food trends. Several new trends have appeared. Immunity and health aspects became very important and influences food choice. The consumers seek for green and sustainable products. The brand loyalty has decreased as the consumers spent less but transparency of brands became more important than ever. Handling products in stores raised more attention including environmental-friendly packaging, which was also confirmed by the finding of GLOPACK H2020 project. Delivering precise, easy-to-understand and reliable information appears to be a preliminary key success factor for innovations related to packaging, such as sustainable, active and intelligent packaging. New trends and change of commercial channels have effect on ingredients, product and packaging concepts.

Sensory and consumer testing laboratories faced new challenges during the Covid-19 pandemic. Panellists should also have clear instructions on any additional measures in order to mitigate risks. These measures can be the limitation of number of people in the panel to stay the appropriate distance apart, temperature monitoring, sanitizing, health declarations and wearing face coverings. Remote discussions also can be a solution, but consideration should be given to specific protocols, how to minimise variability for reliable results.

References:



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Sensory analysis techniques in the food science higher education

Zoltán KÓKAI (Hungarian University of Agriculture and Life Sciences, Institute of Food Science and Technology, Department of Postharvest, Supply Chain, Commerce and Sensory Science)

The scope and relevance of sensory testing methods in higher education in food science has increased significantly over the last few decades. In addition to scoring methods, which used to be almost exclusive, modern methods based on international guidelines have become available, making complex food science research more efficient. Analytical approaches provide data matrices that can be integrated with instrumental measurements and analysed together with multivariate statistical methods. The practical implementation of these procedures requires a number of prior, conscious design considerations that have not been included in previous research practices.

Food product development with Co-creation on the example of the silver market, assessing the needs of consumers with age 65+

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The EIT Food Consumer Engagement Labs project aims to create new product concepts in the food industry with the active involvement of consumers. Unlike typical sensory panels and consumer surveys, the Labs do not involve testing sample products but the creation of innovative, non-yet-existing combinations of product features and benefits.

The methodology has been developed jointly by the food industry and scientific experts so that non-expert consumers can be involved in creating product concepts.

In 2020-2021, the study was conducted in 6 countries. Participants were: Hungary, Estonia, Greece, Italy, Latvia and Slovakia. As a result of the project, a new bakery product was introduced to domestic customers in the first half of 2021. The product developed is a sliced sweet potato guest bread with spicy crumbs

In 2021, the University of Szeged, Faculty of Engineering, examined the evaluation of plant-based meat substitutes in the diet of the elderly age group. The participants worked together to create new, meat-free but high protein recipes that help maintain health.

The project leader organisation was the University of Warsaw, Poland.

Members of the Hungarian project team 2020: Research Group of Cereal Science and Food Quality, Budapest University of Technology and Economics; Campden BRI Hungary Nonprofit Ltd.; BRAVURA-GLOBAL Ltd., and Alba Kenyér Bakery PLC (Alba Bread Bakery PLC. The Ed.)

Members of the Hungarian project team 2021: University of Szeged, Campden BRI Magyarország Nonprofit Kft.

References:



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Colour masking in sensory testing

László SIPOS (Hungarian University of Agriculture and Life Sciences, Institute of Food Science and Technology, Department of Postharvest, Supply Chain, Commerce and Sensory Science)

The standard colour comparison criteria (ISO 11037) are that assessors have normal vision, perform sensory tests under reproducible illumination (CIE) and in a reproducible visual inspection environment in the assessment booths of a sensory laboratory. Assessors must be in good general health for the sensory tests. They must not have any deficiencies that could affect their perception or adversely affect their sensory performance and thus affect the reliability of their judgements. Human vision, and therefore the vision of sensory assessors, is essentially determined by three factors: visual acuity, contrast sensitivity and colour vision. The presentation covered these tests in detail.

Furthermore, the standard colour comparison criteria (ISO 11037) require that sensory testing should be carried out under lighting conditions where colour does not cause the sensory tester to have an expectation error. Currently, the colour masking methods used in practice - eye-binding, black test beakers, colour filters, spectrally fixed colour illuminations, colour filter lenses - are fraught with errors. In sensory laboratory practice, spectrally fixed colour (usually red) fluorescent tubes are typically used, but this is not appropriate for masking most products. A spectrally controllable light booth, which is expected to become common in both domestic and international sensory testing laboratories, may help to eliminate these errors.

Food Science Applications of Eye-Tracking Cameras

Attila GERE (Hungarian University of Agriculture and Life Sciences, Institute of Food Science and Technology, Food Sensory Analysis Laboratory)

Eye-tracking cameras are getting more common in our daily lives: they offer a wide range of applications from vehicle safety systems through medical diagnostics to education. The biggest advantage of eye-tracking is that our eye movement is hard to be altered intentionally, thus information obtained by eye-tracking cameras can be more reliable than the results of surveys. In the Food Sensory Analysis Laboratory of the Institute of Food Science and Technology we are conducting research on the factors influencing eye-tracking analysis and the relationship between eye movement and food choices. Our results show that beside the characteristics of the presented stimuli, bad mood of the participants also affects the outcome of the test. We also found that food choices can be reliably predicted based on eye movement, which provides scientific background for our new developments.