

Testing quality attributes of liquid foods with the electronic tongue

Corvinus University (Hungary) is a teaching and research establishment in the fields of agricultural sciences, business administration, economics, and social sciences.

The Food Quality Sensing Research Group of the Faculty of Food Science at Corvinus University is specialized on determining quality attributes of different liquid foods. The Group has several years of experience in the field of testing food quality attributes including a large scale of different defects of the quality.

How ASTREE helps characterizing and improving food products

“The taste analyzer and the trained sensory panel measurements showed a high correlation.”

The post-qualification of food products can be of special importance for detecting defects that were not detected during usual quality control process at the production level, such as consumer claims. In such cases the objectivity and the fast analysis capability of the electronic tongue are of great advantage.

The Research Group has a widespread experience in testing different foods according to different parameters, such as the relationship existing between food quality and concentration, with special respect to the concentration of fruit and vegetable juices (apple, apricot, orange, carrot, beetroot, etc).

Many works have been conducted in the laboratory such as:

- Differentiation of teas based on geographical origin,
- Profiling and characterization of fruit juices
- Assessment of mineral waters' taste
- Evaluation of treatment process effects on juices' taste
- Follow-up of sensory changes of fruits over time
- Taste comparison of beverages containing different sweeteners

Next to the above mentioned works, thanks to the good cooperation with the Sensory Laboratory of Corvinus University, many comparative studies were also introduced.

Corvinus University



Activity

Research in Food Quality Sensing

Context

Need a fast and objective taste analysis method to meet industrial needs for monitoring customer claims

Equipment

ASTREE Electronic Tongue

User contact

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Website

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The Food Quality Sensing Research Group of the Faculty of Food Science at Corvinus University

Pr Fekete, leader of the research group, comments: "The electronic tongue is an important tool for encouraging product development according to predefined taste attributes, or maybe taking into account a reference

product of definite taste attributes. Therefore, a product of predetermined taste attributes can be developed according to the taste requirements of the company being responsible for the development.

Another important field of applications of the electronic tongue is to determine the influence of storage conditions on the quality attributes of different fruits and vegetables. The effect of the different packaging materials on the quality of definite products is a topic that is of the same importance as the storage."

Frequently occurs the question: "what is the relationship between the electronically sensed taste attributes and the human sensing"?

"In all studies where the trained sensory panel and the taste analyzer were both employed, the instrumental and human measurement showed a high correlation. In a number of studies, the ASTREE electronic tongue even showed a higher accuracy on samples discrimination than sensory evaluation", answers Pr Fekete.