



Using e-sensory technology to optimize recipe for sugar reduced ginger breads

As part of the development of Bayn Europe AB's cloud-based platform and e-sensory tool for sugar reduction, awarded the Seal of Excellence by the EU Commission for the EU Horizon 2020 and funded by Vinnova, the sugar reduction specialist is performing research into using e-sensory technology to optimize sugar reduced recipes. Mathias Lundgren, PhD. Physical Chemistry, has worked with gingerbread cookies, mapping the aroma profile of different recipes to find ways to better mimic the original gingerbread cookie when reducing sugar in the recipe.

Traditionally, human sensory panels have been used to map the taste profile of food products, but in recent years new technologies have also made it possible to measure sensory properties and translate the results into the language of human sensory. In electronic sensory (e-sensory) of food and beverages, measurements are selected which give a direct relation to the human sensory attributes. To each sample tags such as experience, feelings and memories can also be attached. In the study, aroma profile analyses have been used to compare a sugar reduced gingerbread cookie with the original full sugar recipe.

"To replace sugar is not an easy task for the food industry as sugar is not only added to sweeten, but also plays an important role for texture, taste and colour. The use of e-sensory has been shown to be a valuable tool when developing new recipes of food products to match the aroma profiles to the target recipe. Looking at the results from the study I believe that using modern technology, such as e-sensory, can be an excellent and effective tool to reach healthier sugar reduced products", explains Mathias Lundgren, PhD. Physical chemistry, Bayn Europe AB.

For the study, two recipes of gingerbread were prepared. The sugar reduced gingerbreads were made by replacing the sugar with Eureba Bakery Blend. To compare the sensory data measured from the two recipes, an e-sensory aroma database with data from ten different gingerbread cookie manufacturers in the Swedish market was used. It was found that different aroma profiles were found in the two recipes. Based on the e-sensory analysis, Lundgren learnt that adding more cinnamon or orange peel to the sugar reduced recipe would make the sensory more like the original recipe.

"E-sensory technology is one of the components that will be used on the cloud platform that Bayn Europe is currently building. Looking at the results from the gingerbread study, we can see that e-sensory can successfully be used to help optimize sugar reduced recipes to be more like full sugar recipes. We are certain that this technology development can shorten the development time and eliminate the risk of uncertainty for food and beverage producers looking to reduce sugar. We will now continue to conduct research using e-sensory on other types of recipes", says Patrik Edström, CEO Bayn Europe AB.

The results of the ginger bread e-sensory study can be found in Bayn Europe's new white paper [here](#):

Det här pressmeddelandet kommer även att finnas på svenska på [hemsidan](#) under nyheter.

For more information, contact Patrik Edström, CEO at Bayn Europe AB, e-mail pe@bayn.se

Bayn Europe is an independent supplier of cutting edge and healthy sugar reduction solutions for the food and beverage industry. Bayn's ingredient solutions from natural sources, refined through scientific research and extensive market experience, facilitate new healthier formulations and recipes focused on taste and texture to help food and beverage companies around the world reduce sugar and calories in their products. For more information www.bayneurope.com

Bayn is listed on Nasdaq Stockholm, First North, under the short name BAYN

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