

Press Release

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Initial research indicates BENEEO's low glycaemic carbohydrate, Palatinose™, enhances mood and memory

Initial research into the effects of BENEEO's functional carbohydrate, Palatinose™ (isomaltulose), on health, mood and cognition has shown that its use can enhance a person's mood and memory.

Due to the slow but complete hydrolysis and absorption of Palatinose™, that provides energy to the body in a sustained way, there was interest in investigating if this sustained energy delivery would manifest in improvements in mood and cognition. The subsequent research carried out by Hayley Young and David Benton from the Department of Psychology, Swansea University, Walesⁱ and funded by BENEEO, shows significant mood and memory improvement amongst middle aged and older adults who have a better glucose homeostasisⁱⁱ.

The results of the study, registered in ClinicalTrials.govⁱⁱⁱ, contribute to an increased understanding of brain function in relation to carbohydrate metabolism. Anke Sentko, Vice President Regulatory Affairs and Nutrition Communication at BENEEO, comments: The current work underlines the importance of research into the metabolic effects of carbohydrates with different physiological properties and it particularly shows the potential of the slowly, yet fully absorbed carbohydrate Palatinose™ for health and mental performance."

In the study, 155 middle aged and older adult volunteers were randomly divided into 3 groups. Participants in each group consumed a breakfast that included yoghurt and a drink with 40 grams of glucose, sucrose and Palatinose™ respectively, representing decreasing glycaemic loads and an identical amount of calories. Mood and memory function tests were then carried out on all the participants. When analysing the subgroups according to their glucose tolerance (poor GT versus better GT) the statistically significant differences in validated mood and memory tests, which were not observed when interpreting the overall data, became obvious.

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The Palatinose™ group of participants with a better glucose homeostasis performed significantly better on mood and memory. As well as showing better episodic memory compared to glucose and sucrose, they also made fewer mistakes than those who had ingested glucose. This occurred long after the meal, when blood glucose levels were declining. It was discovered that the group with better glucose homeostasis were in a better mood (measured by subjective scoring of related adjectives on a percentage scale) and were able to remember more words from a list, for instance, at 105 and 195 minutes after eating a breakfast with Palatinose™, compared to a breakfast with sucrose or glucose.

- ENDS -

Editor's Notes:

Palatinose™ is the only fully digestible, low glycaemic carbohydrate that provides prolonged energy release in the form of glucose while being completely toothfriendly. Its low glycaemic and toothfriendly benefits have been approved by EFSA. Derived from sugar beet, Palatinose™ is a disaccharide, providing the full carbohydrate energy (4 kcal/g); the white, crystalline powder is low hygroscopic and has a milder sweetness than sugar.

The BENEО-Institute is an organisation which brings together BENEО's expertise from Nutrition Science, Nutrition Communication and Regulatory Affairs teams. It acts as an advisory body for customers and partners reaching from ingredient approval, physiological effects and nutritional composition to communication and labelling. The key nutritional topics that form the basis of the **BENEО-Institute's** work include weight management, digestive health, bone health, physical and mental performance, the effects of a low glycaemic diet in the context of healthy eating and disease prevention, as well as dental health.

The **BENEО-Institute** facilitates access to the latest scientific research and knowledge throughout all nutritional and regulatory topics related to BENEО ingredients. It provides BENEО customers and partners with substantiated guidance for some of the most critical questions in the food industry. BENEО is a division of the Südzucker Group, employs almost 900 people and has production units in Belgium, Chile, Germany and Italy.

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ⁱ Source: The glyceamic load of meals, cognition and mood in middle and older aged adults with differences in glucose tolerance: A randomized trial. Hayley Young, David Benton, e-SPEN Journal, 24 April 2014, <http://dx.doi.org/10.1016/j.clnme.2014.04.003> In Press, Accepted Manuscript

ⁱⁱ Better glucose homeostasis was defined as blood glucose levels not dropping below fasting baseline levels, as well as having a better glucose tolerance (blood glucose being back to less than 7 mmol/l at 120 minutes after the meal).

ⁱⁱⁱ Source: Clinical Trials Identifier: Clinicaltrials.gov NCT01842022