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Isomalto polysaccharides: Soluble food fibers made from starch and their probiotic effects

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In today's western diet there is a lack of fibers which is supposed to be connected to typical western style diseases such as diabetes type II and colon cancer. According to WHO figures we eat approximately half of what we should eat. Apart from the quantity, the quality of the fiber plays a role too. Many parameters determine the effects of a particular fiber on health promotion. Soluble, insoluble, structure, molecular weight and distribution are just a few of these parameters. This puts a quest for more fibers and a better understanding of the health promotion in relation to the structure. In this presentation, a new way of making isomalto polysaccharides from starch using an enzymatic conversing is presented. The mechanism of the conversion will be discussed. It will be demonstrated that linear substrates promote the conversion. The resulting products show promising results *in vitro* testing for prebiotic effects. SCFA's are formed and the growth of bifidogenic bacteria and lactobacilli is proven. In this, *in vitro* testing, it was demonstrated that isomalto polysaccharides are fermented slowly and the structure of the transient carbohydrates during fermentation was elucidated. A further outlook for the research will be discussed.

Biography

Dr Piet L Buwalda has a passion for carbohydrate modification and in particular enzymatic modification. His focus was on transferase reactions with starch towards functional ingredients for dairy products. In recent years his focus has been on enzymatic modification of starch for food fibers and their health-promoting effects. He has been working in the starch industry (AVEBE) for more 25 years and has recently been appointed as a part-time associate professor at the Wageningen University.

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