

Natural carbohydrates reduce need for antibiotics

Research conducted by Dr. Michael Gänzle and Dr. Ruurd Zijlstra has shown that naturally occurring carbohydrates from certain foods can help reduce the need for antibiotics in animal production.

The AFNS researchers have shown that lactobacilli found in certain fermented foods, such as yogurt, cheese and sourdough, produce a range of interceptive carbohydrates with the ability to attach to receptors on harmful toxins and pathogens, preventing them from attaching to targets in the intestine and initiating disease. If proven effective these products could be used as additives in food and animal feed to decrease the incidence of disease.

The results could prove to be of great value to the global agricultural industry. Many European countries have banned the use of antibiotics in animal feed due to growing concerns over the diminishing effectiveness of some antibiotics.

"In animal production, farmers often use antibiotics at low concentrations in the diet as a feed additive," said Gänzle. "This can help to reduce incidents of illness and increase weight gain. The problem is that this practice contributes to antibiotic resistance, which can be passed on to humans."

Gänzle feels that an additional application of his research could be the improvement of infant formula, which currently does very little to inhibit pathogen adhesion.

Through funding granted by the Natural Sciences and Engineering Research Council of Canada (NSERC), Gänzle and Zijlstra are in the process of establishing an extensive library of various carbohydrates and their applications, and although the use of antibiotics is far from obsolete, this research holds promise for delivering products that may reduce dependence on them.

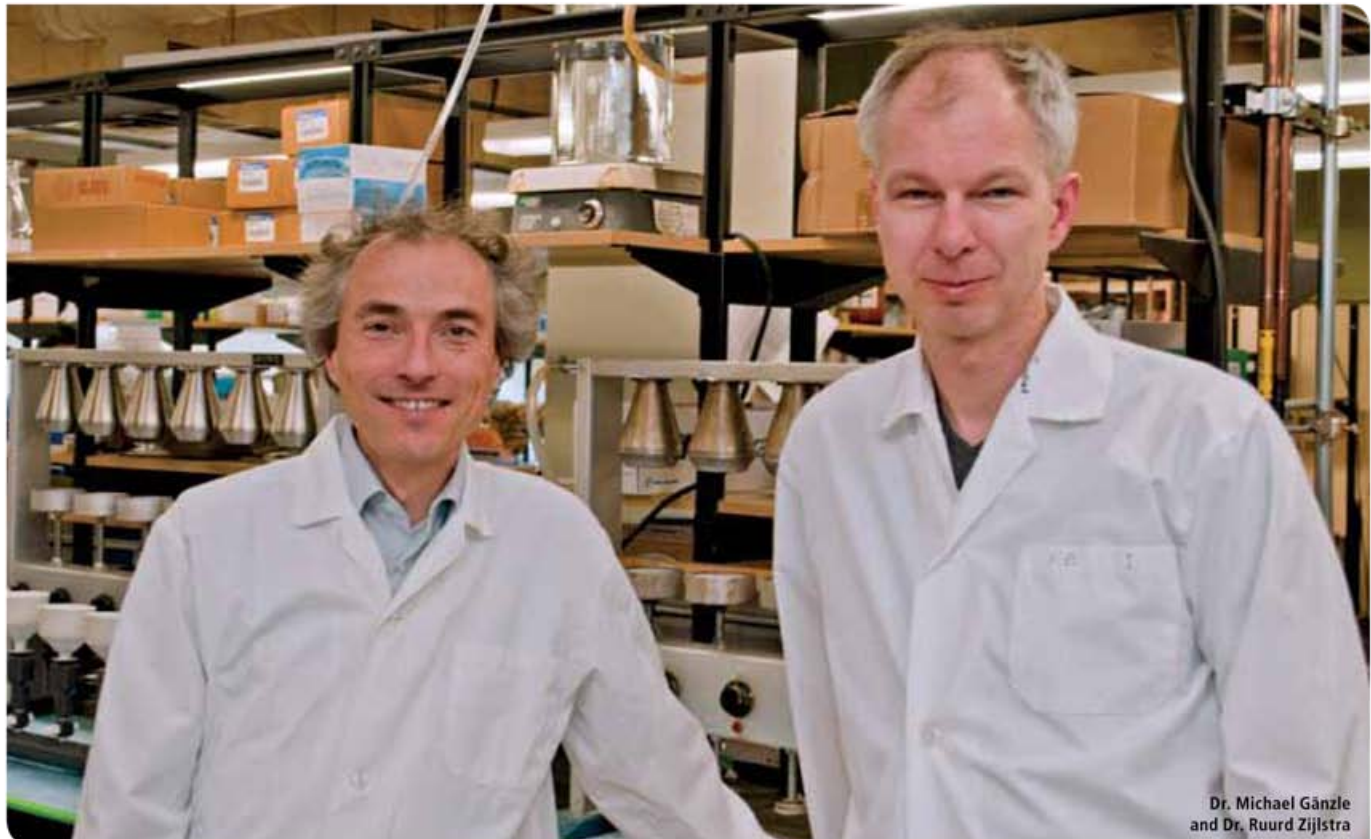
"There's never going to be a single compound that can replace antibiotics," said Zijlstra, "but there is no doubt that the use of these carbohydrates will prove to be a very important piece of the puzzle."

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