

Bread, what's in a loaf?

Healthgrain is a European project that kicked off in June 2005. This ambitious research programme aims to ensure that future consumers have a wide choice of products at least as healthy as wholemeal products. Within Healthgrain, TNO is heading up the Industrial Platform, whose members are 60 companies from 13 countries.

Most consumers know that wholemeal products are healthy because they are rich in nutritious fibre. ‘Wholemeal products help prevent cardiovascular diseases and obesity, among other things. These benefits are derived from fibres and bio-active substances like vitamins, minerals and antioxidants. All these ingredients are found primarily in the grain's outer layers. White bread is made from wheat flour, in which those outer layers are almost entirely missing,’ says Jan-Willem van der Kamp, international projects advisor at TNO.

TASTY AND HEALTHY

How exactly the healthy substances in grain work is still a grey area. ‘One of the aims of the Healthgrain project is to clarify this,’ explains Van der Kamp. ‘At TNO we are using the TNO Intestinal Model, or TIM, to illuminate this. TIM is our model that simulates the operation of the digestive system. Combined with the appropriate tools, it gives us an impression of the health effects of ingredients and preparation processes. We have already shown that grain's aleuron layer can limit inflammatory reactions. Inflammations can be the trigger for diabetes or cardiovascular diseases.’

The ultimate aim of the Healthgrain project is to give future consumers a wide range of ‘more-than-wholemeal’ products, products with a high content of healthy substances. ‘It's not just a question of finding out how we can make these products healthy; we also need consumers to find healthy grain products tasty. TNO is researching how wheat quality and wheat processing can effect the quality of the end product. This research has already delivered knowledge we can use,’ says Van der Kamp.

The European project has 44 partners. Some are researching how new milling and separations processes can make ‘more-than-wholemeal’ products more appealing. ‘Others are assessing the levels of bio-active substances in various grain species. This knowledge is already being used by companies when they purchase grains and in developing new species,’ explains Van der Kamp.

KNOWLEDGE TO MARKET

TNO has another role within Healthgrain, says Van der Kamp. ‘We are heading up the Industrial Platform, a special initiative. Healthgrain is providing new understanding and methods, but won't be introducing any new products. The 60 companies who are members of the Platform range from large food multinationals to small innovative companies. For a fee, they can attend meetings, participate in workshops and share in other ways in the knowledge Healthgrain is providing. We've found that the requirement to pay a fee increases engagement. From each participating country we also invite one or two well-known nutrition experts in order to inspire our stakeholders' trust in the new insights we are developing. So you see, developing knowledge isn't the extent of Healthgrain's value, it is also taking that knowledge straight to market.’

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