



## Oats in the Netherlands

Oat research and production chain development initiatives started at Wageningen UR (University & Research centre) aiming at facilitating the crop's comeback in the Netherlands:

- Field performance of ancient and current Dutch and European oat varieties, including hulled and naked varieties, is under investigation with regard to soil type and crop rotation potential.
- Major compounds of the oat grain (starch, protein, fibre, oil, and polyphenols) are under analysis to explore genetic and environmental effects of their synthesis and their application in innovative food products.
- Recent research revealed the absence in oats of all coeliac-stimulating gluten fragments, which further confirms the safety of oats in a gluten-free diet.
- Bread baking quality of oat meal and flour is studied with focus on the development of baking standards using dough systems for general and gluten-free applications.
- As in animal feed, oat serves similar health effects as in humans related to immunological robustness and satiety and may contribute to increased quality of animal-derived food products.
- With research on gluten-free oat beer, a forgotten medieval tradition will be restored into an innovative product.

Wageningen UR's oat initiatives have recently resulted in the establishment of 'De Nederlandse Haverketen' (The Dutch Oat Chain). This public-private partnership between the agro & food industries and research & patient organisations is aimed at promoting oats as a healthy and versatile crop in innovative field, feed and food applications, also for people with intolerance and sensitivity to gluten. As a result of this cooperation, gluten-free oat bread and breakfast cereals have recently been introduced to the market.

You can contact the Dutch Oat Chain via [haverketen@wur.nl](mailto:haverketen@wur.nl).

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# Oats

Healthy

Nutritious

Sustainable



## Oats are healthy

The oat grain contains high amounts of unique soluble fibres (beta-glucans), especially in the bran fraction. These are helpful to digestion and stimulate the intestinal microflora and immunity. They also increase faecal bulk, lower cholesterol and enable better balancing of the postprandial blood glucose level, the latter being beneficial to diabetics. The unsaturated fatty acids content is high, which may help in reducing the risk of heart and vascular diseases. The eminent oat proteins are safe for people with gluten sensitivity and gluten intolerance (coeliac disease), and oat starch is completely degradable. Polyphenols in the bran are known for their retarding effects on atherosclerosis and inflammation. Last but not least, the oat germ is rich in vitamins and minerals.

### Scientific proof

Oats are one of the few products authorised to bear the health claims of reducing blood cholesterol levels and increasing faecal bulk. The approval of health claims is based on scientific proof verified by the European Food Safety Authority (EFSA).

## Oats are nutritious

As well as being healthy, oats are recognised for their nutritious value. Oats contain energy in the form of starch and oil. The starch degrades slowly and completely into glucose. Fibres, starch and oil provide long-lasting satiety, which is helpful in the struggle against obesity.

### Oat products

The range of products made from oats remains small. Oats are mainly known as porridge and as a basic ingredient of muesli. Active product innovation is focusing on oat bread, cruesli, cookies and snacks, oat pizza and pasta, oat milk and beer. Historical research has shown that oat beer preceded the current barley and wheat beers. Oat oil is of interest as edible oil and in cosmetic applications.

## Oats are sustainable

The climate and soils in north-western Europe are highly suitable for the cultivation of oats. Oats require only low nitrogen fertilisation and low input of chemicals for crop protection. They are easy to grow organically and fit well within various crop rotation systems as a breaker crop to improve soil quality.

### Oats belong in the north-western European landscape

For several millennia, oats played a crucial role in human food and animal feed in north-western Europe. Until the 1950s, oats were a major crop in this region. The importance of oats decreased significantly, however, due to the mechanisation of agriculture and replacement by higher-yielding crops, such as maize and winter wheat. Now the health aspects of oats in field, feed and food are increasingly being recognised. The time has come for a large-scale comeback of this healthy, nutritious and sustainable crop.

