Oats in the Netherlands

Oat research and production chain development initiatives have begun at Wageningen UR (University & Research centre), aimed at facilitating the crop's comeback in the Netherlands.

- Investigations and comparisons of the field performance and yield characteristics of various cultivars, and their potential in crop rotation, have been carried out in clay and sandy soils, including field tests with various old and recent Dutch and European oat varieties.
- These trials have also been used to determine the effects of cultivation conditions on the levels of major compounds (starch, protein, oil, fibre, vitamins and phenolics) with a positive health value. This information will be added to the health claim dossiers.
- When produced in a guaranteed gluten-free production chain, oat products are suitable for people with intolerance and sensitivity to gluten. Recently, some studies have raised concerns about the safety of oats for celiac disease patients. Wageningen research has addressed these concerns and demonstrated that all 29 internationally agreed toxic gluten protein fragments present in wheat, barley and rye are absent in all oat species.
- Baking oat bread is difficult due to the absence of gluten, which is normally used to raise the bread. The bread-baking qualities of a selection of oat varieties are under investigation with the focus on developing bread-baking standards using a dough system for general and gluten-free applications.
- Oats have several, rarely explored functionalities in animal health. The most important of these relate to the positive effects on the immune system of farm animals, reducing the need for antibiotics. Oat feed may also increase satiety in these animals, lowering mutual aggression and stress in the stable and, indirectly, positively influencing the quality of the consumable products from these animals. This research is planned as part of a European project on oats.

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, and 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.

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WAGENINGEN UR
For quality of life

Oats

healthy,
nutritious and
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 micro-flora 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 (celiac 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 satiation, 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. But 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 (Pils) 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 the field, feed and food are increasingly being recognised. The time has come for a large-scale comeback of this healthy, nutritious and sustainable crop.