

4th European Symposium on Oats— Oats and Healthy Foods

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The food uses of oats has been the topic of European conferences held in Helsinki, Finland (1998), Cambridge, England (1999), and Uppsala, Sweden (2001). The 4th European Symposium on Oats—Oats and Healthy Foods was held in Brussels, Belgium, February 15–16, 2006. More than 50 professionals from industry and academia attended the two-day symposium organized by Cereals&Europe and endorsed by AACC International to discuss current issues relating to oat soluble fiber, health claims, analytical issues, and the suitability of oats for celiac patients. Novel food applications for oats were presented by invited speakers and during a tasting session.

Oats have a well-known, positive image in Northern and Central Europe. Recent clinical data seem to bolster the position that oats are a “naturally functional food ingredient” with cholesterol-lowering and glycemic response-attenuating properties, as well as other properties associated with whole grains.



In his informative overview of health claims and the European regulatory situation, David Richardson (DPR Nutrition Ltd., U.K.) introduced “substantiation based on generally accepted scientific data” and “well understood by the average consumer” as concepts being used in the preparation of new European legislation. Given the claims that already exist (i.e., the U.S. FDA claim that oats “may reduce risk of heart disease” [1997]; the U.K. JHCI claim that oats “can help to reduce cholesterol” [2004]; and the two Swedish SNF claims that oat “may help reduce cholesterol” and “reduces blood glucose and insulin response” [2001 and 2002, respectively]), a European health claim for oats seems warranted. John J. Smith (Quaker Oats, USA) emphasized that within the current whole-

grain promotion and health claims for whole grains, oats have an exceptionally beneficial position with their β -glucan content.

Heli Anttila (University of Helsinki, Finland) presented the background and techniques for a novel viscometric procedure, based on the enzymatic hydrolysis of starch and protein and the measurement of the viscosity of the soluble fiber extract at increasing concentrations plotted against β -glucan content, that could complement the current analytical procedure for soluble dietary fiber. Adrian Meyer (CreaNutrition, Switzerland) showed how clinical data and health claims have increased the demand for oat bran products that are high in β -glucan. In 2005 the Dutch Voedingscentrum acknowledged that a multigrain bread containing β -glucan significantly reduces cholesterol.

Rickard Öste (CEBA AB, Sweden) explained the development of a dairy-free milk, containing only pure oats, water, and rapeseed oil, that is a leader in the Swedish nondairy products market. An oat-based yogurt-type product was described by Hannu Salovaara (University of Helsinki, Finland): cooked oat bran is fermented with probiotic bacteria, providing a dual benefit. The product leads the nondairy yogurt sector in Finland. Susan Lawlor (Glanbia Nutritionals, Ireland) introduced a soluble fiber concentrate, containing 54% oat β -glucan. This product was reported to increase intestinal viscosity, surpassing the effects of conventional oat products, as well as significantly reduce LDL cholesterol levels.

Although direct clinical evidence for the toxicity of its proteins has never been shown, there is some controversy concerning the use of oats in the diets of celiac patients. Several clinical studies have shown that regular oat flakes are well tolerated by individuals sensitive to gluten proteins, as discussed by Paul Ciclitira (Rayne Institute, U.K.). Possible contamination of oats with wheat, rye, or barley, the lack of analytical purity tests, and the possible presence





of a sensitive subgroup among celiac patients all are reasons for concern. Peter Shewry (Rothamsted Research, UK) pointed out that the repetitive amino acid sequences of avenins resemble those of S-rich gliadins, but they do not contain any of the precise epitopes known to be active in celiac disease. This difference could be a potential explanation for why oats are suitable for celiac patients.

Päivi Kanerva (University of Helsinki, Finland) discussed the two commercially available immunological techniques (ELISA assays) to test for purity. The 1989 test, based on Ω -gliadin antibody, cannot detect barley and rye prolamins to the same extent as wheat gliadins. The 2003 method is based on a monoclonal antibody R5 raised against rye secalin and has an embedded risk of false-positive results and overestimation of contaminating prolamins present. Carola Lindholm (Lantmännen AS-Faktor AB, Sweden) described the strict control and production of pure oat flakes, as practiced by Cerealia/Semper since 1999, that results in a maximum contamination of 20 ppm gluten (prolamin from wheat, rye, or barley).

The symposium showed that the potential present in oats has not been fully explored and utilized. The combination of scientific and commercial information presented during this symposium was inspiring and worth repeating.

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