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Editorial

Water in foods

This issue of *Food Chemistry* consists of the Proceedings of the Second International Workshop on Water in Foods called ''Eurofood's Water'' and held at Reims (France) on 26 and 27 March, 2002. The title of the Symposium was ''Water Structure, Water Activity and Water Determination in Foods''.

This second workshop comes after a first one held at Ispra (Italy) in April 2000 and devoted to water determination in foods. Many questions remained unanswered after the first workshop, especially as regards the type of water (free, bound or occluded) determined. In fact, the determination of water content in a food product, whatever the accuracy of analytical method, is not sufficiently informative about its shelf-stability. That is why the Reims workshop aimed at covering three aspects of water in foods, namely the physical states of water in presence of food constituents (water structure), the availability of water and its consequences on the thermodynamic and kinetic changes in foods (water activity) and the different techniques of analyses of water content in different food products (water determination). These three topics were addressed in three sessions of the workshop.

Session I was dedicated to the memory of Professor Jan Kroon, Head of department of Crystal and structural chemistry at the University of Utrecht (NL). One of his last works dealt with water behaviour as a protein solvent near the glass transition temperature. The papers presented at this session aimed at the elucidation of the structure of liquid water on the one hand and the study of water-solute interactions in meat using NMR imaging.

Session II dealt with the thermodynamic activity of water (a_w) and its importance in food processes, such as addressed especially as regards the preservation of plant foods and the caking of food powders. Other aspects of water activity, such as the energy of binding of water to the surface of biological materials or the dielectric properties of foods were addressed.

Session III was devoted to the determination of water in foods. The Karl Fischer titration method was approached from different angles as well as other methods, such as microwave and NIR spectroscopy. Examples of determination of water in different food products were also reported.

The tripartite approach of water in foods allows a better understanding of processes at the origin of modification of foodstuffs and helps in finding optimal conditions to increase their shelf-life.

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