herstellern gestaltet sich logischerweise ebenfalls ziemlich vielschichtig.

sp: *Welche Erfahrungen haben Sie dabei sammeln können?*
RM: Wir wissen, dass der Zeitfaktor bei allen notwendigen Änderungen eine immense Rolle spielt, also genügend Zeit für Umstellungen gewährt werden muss. Neue, schwer zugängliche Themen müssen zunächst in die Köpfe der Beteiligten, verstanden und anerkannt werden, erst danach sind Anstrengungen für Lösungen zu erwarten. Ferner darf nicht vergessen werden, dass wir heute extrem vernetzte internationale Handelswege haben und viele Rohstoffe beispielsweise aus den Tropen zu uns kommen, weshalb nationale Alleingänge nicht sinnvoll sind.

sp: *Wo werden wir analytisch in zehn Jahren sein?*
RM: Wir werden bald noch viel schneller und vor allem sensitiver messen können. Ganz easy werden wir bald routinemäßig vielfach in den ppt- bzw. ppq-Bereich vorstoßen! Dabei ist zu bedenken, dass eine ständig sensitiver werdende Analytik auf keinen Fall die Fragen nach der Relevanz solcher Sub-Spuren lösen kann – ganz im Gegenteil. Die dringend benötigten Antworten zur Wirkung extrem niedriger Dosen können von Toxikologen nur sehr schwer oder gar nicht mehr gegeben werden. Ich wünsche mir, dass Experten und Politiker in derartigen Situationen mehr Standing beweisen und nicht in jeder dieser Sackgassen hängen bleiben würden.

sp: *Und werden die süßen Sachen dann immer noch so schmecken?*
RM: Natürlich. Dazu trägt das LCI mit seinen Untersuchungen und seiner Kernkompetenz in Qualität und Lebensmittelsicherheit bei!

sp: *Herr Matissek, herzlichen Dank für das Gespräch.*

LCI project: minimisation of MOSH/MOAH

Founded in 1950, the LCI (Lebensmittelchemische Institut – Food Chemistry Institute) works on issues involving food, nutrition and biosciences for member companies of the National Association of the German Confectionery Industry. An overview of the activities was provided by LCI head and director, food chemist Prof. Dr. Reinhard Matissek.

According to Matissek, the minimisation of MOSH/MOAH mineral oil components in food was a big issue at the ISM. The LCI conducted a research project on these. Mineral oil components can make their way into both plant and animal-based food in several ways. On one hand, these are mineral oil saturated hydrocarbons, MOSH for short, and to a lesser extent mineral oil aromatised hydrocarbons, MOAH. From a risk evaluation perspective, intake from MOSH should be minimised and MOAH completely avoided. For these incriminated concentrations, the sum value of the substances are traces, i.e., in the ppm and ppb range. For the mostly unknown individual compounds, the actual concentration is many times smaller. In order to minimise and avoid such traces in confectionery and snacks, a major initiative was called into being and around 500,000 euros was invested in state of the art laboratory technology at LCI.

The goal of this research project is to develop and establish reliable methods of analysis to examine raw materials, packaging materials, as well as food at all steps of processing and storage to target the source of entry. Another goal is to establish a databank whose entries can be used to trace back to the origin. The valuation next quantified the MOSH and MOAH fraction based on an automated LC-GC system and characterised with the help of a GCxGC-MS system.

Collaboration with stakeholders is complex. The main entry is not through the food industry itself, but rather through cardboard containing recycled paper. From packaging material and beyond, there are additional entry points already identified as well as many that have not yet been researched. The challenges are immense, as not only are the entry points complex, but both compound groups are mixtures of hundreds of thousands of individual compounds. Collaboration between all participants is also very complex.

It is important that sufficient time is allowed for transitions. Today's extremely networked international trade plays a role. In the future, measurements will be made faster and especially more sensitive and will soon be into the ppt and ppq range. However, increasingly sensitive analysis cannot answer the question of the relevance of such sub-traces. The required answers as to the effects of extremely low doses can be given by toxicologists with extreme difficulty or not at all. Matissek hopes that experts and politicians take a stronger stance in these types of situations.

www.lci-koeln.de

Das Team des 1950 gegründeten LCI – Lebensmittelchemisches Instiut.
The team of the LCI, the Food Chemistry Institute was founded in 1950.