DLG • Eschborner Landstraße 122 • 60489 Frankfurt/Main Germany • press_agrar@dlg.org • **www.dlg.org**

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"Thinking Production and Safety Together" – Anuga FoodTec interview

Prof. Dr. Katharina Riehn, DLG Vice President, on modern analytics and leadership structures – Interview ahead of Anuga FoodTec 2027 – February 23–26, 2027, in Cologne

Innovative ingredients, changing manufacturing processes, and digital testing systems are transforming quality assurance in the food and beverage industry. On the occasion of the world's leading trade fair Anuga FoodTec 2027, taking place in Cologne from February 23 to 26, Prof. Dr. Katharina Riehn, Vice President of the DLG (German Agricultural Society), explains how modern analytics can identify risks at an early stage, where its limits lie, and which skills and leadership structures the food industry will need in the future. The DLG (German Agricultural Society) is the technical and conceptual partner of Anuga FoodTec.

Professor Riehn, how is digital analytics changing the interplay between preventive process control and laboratory testing?

Prof. Dr. Katharina Riehn: Digital analytics is fundamentally changing food safety. We are increasingly moving from predominantly retrospective control toward continuous, data-based process monitoring. Whereas conventional laboratory testing often provides only a snapshot, modern sensor systems and digital evaluation methods make it possible to detect changes in the production process at an early stage.

Where do you see the most important progress for food safety?
We can identify potential risks before they turn into actual safety problems. This does not make conventional laboratory analysis redundant by any means. It remains indispensable for detecting specific hazards, validating digital methods, and clarifying abnormal results. The future therefore lies not in replacing laboratory analysis, but in the intelligent linking of process data, analytical results, and scientific risk assessment.

When manufacturers use new protein sources, process ingredients produced by fermentation, or change recipes and processes: Which assumptions in their previous risk assessment do they need to review?
New raw materials and innovative manufacturing processes offer considerable opportunities for more sustainable food production. At the same time, we have to bear in mind that a change in the composition of a food can always change its hazard profile as well. Protein-rich ingredients from legumes, for example, can have different initial microbial counts, antinutritional compounds, and contamination profiles than conventional raw materials.

AI-supported inline controls are meant to detect deviations early …
The systems are promising wherever large volumes of continuously collected process data need to be evaluated. This applies, for example, to monitoring thermal processes, detecting unusual temperature curves, or the automated evaluation of optical and spectroscopic measurement data. AI can recognize complex patterns that might remain undetected when looking at individual parameters. This makes it possible to identify process deviations earlier and initiate targeted corrections.

How can the reliability of AI-supported testing systems be verified, even when raw materials or recipes change, or when the AI model is modified? When conditions change, performance has to be verified again. This requires continuous performance monitoring, documented changes, and, where necessary, renewed validation. An AI system must not be a black box. Responsibilities and the basis for decisions must remain clearly defined.

Under the keyword "Future Food Safety," Anuga FoodTec 2027 looks at future risks and control strategies. Where do you see the biggest information gaps along the supply chain?
One of the biggest challenges is that complex, international supply chains generate enormous amounts of data, but these data are often not sufficiently linked. Information on the origin of raw materials, production conditions, analytical results, and transport or storage conditions is often held in different systems. As a result, important connections that would be relevant for early risk detection are lost. This is particularly evident with mycotoxins. Climatic conditions during cultivation, harvest timing, drying, and storage all influence the risk of contamination. If this information is brought together systematically, risk-based controls can be developed far more precisely.

How could better data exchange help in a crisis?
In a crisis, too, reliable traceability is crucial. The more precisely we can identify the affected batches of raw materials and products, the faster and more targeted the measures can be.

How can you recognize an effective food safety culture in day-to-day operations, especially under time or cost pressure?
It shows above all when something does not go according to plan. What matters is whether employees can openly raise deviations, whether their concerns are taken seriously, and whether necessary measures are consistently implemented even under economic pressure.

What specifically do company leaders need to model and enable to make this happen?
Food safety must not be understood solely as the task of quality assurance. It must be part of daily decisions at all levels. This requires company leadership that sets clear priorities, provides sufficient resources, and acts credibly itself. If production targets regularly take precedence over safety requirements, even the best training programs will do little.

You teach food hygiene and food safety at Hamburg University of Applied Sciences (HAW Hamburg). Which skills should vocational training and university programs convey more strongly so that early-career professionals can work competently with digital analytics?
We need professionals who both understand the scientific foundations of food safety and can use and critically assess digital technologies competently. Not everyone has to be able to program. But they should understand how data are generated, how informative they are, and where the limits of automated evaluation lie. Interdisciplinary thinking is especially important: microbiology, toxicology, food technology, data analysis, and quality management need to be more closely linked.

How can the Anuga FoodTec Careers Day help people get to know suitable fields of work and employers?
The Careers Day on Friday, February 26, 2027, gives students the opportunity to connect these skills with concrete career prospects. Young professionals can find out what requirements companies have and how diverse the fields of work are, spanning research, product development, quality assurance, analytics, and digital transformation. We must not only prepare young people for today's technologies, but also enable them to use tomorrow's technologies critically and responsibly.

At the Anuga FoodTec Female Leadership Event, professional networks take center stage. Where can these networks support women on their way into leadership positions, and what changes do companies themselves need to tackle?
Networks and role models provide orientation, share experience, and open up career prospects. Mentoring, mutual support, and access to decision-making networks can strengthen women on their path to leadership positions. However, responsibility for equal opportunity must not be

placed on women alone. Companies must critically review their selection and promotion procedures and remove structural barriers. Companies as a whole benefit from this: diverse perspectives improve decisions and strengthen the capacity for innovation. Female Leadership is therefore part of a modern leadership culture. At the Female Leadership Event on Wednesday, February 24, 2027, from 4:45 to 5:30 p.m., women in Cologne will talk about their careers, stumbling blocks, and challenges.

DLG at Anuga FoodTec

The DLG (German Agricultural Society) is the technical and conceptual partner of Anuga FoodTec, which takes place 23–26.02.2027 in Cologne, Germany. The DLG stand at Anuga FoodTec is located in Hall 5.2, A060 B069.

More about Anuga FoodTec: Here
www.anugafoodtec.com/

Photo caption: Prof. Dr. Katharina Riehn

Media contact
Malene Conlong
+49 69 24788-237
m.conlong@dlg.org

DLG. Progress and sustainability in the agriculture and food industry

The DLG (German Agricultural Society), founded in 1885 by Max Eyth, stands for productivity and sustainability in innovation-driven improvements in agriculture and the food chain. The aim of the DLG is to promote progress through the transfer of knowledge - especially with regard to technology and quality control. Non-profit, politically independent and with an international network, the DLG has more than 30,000 members worldwide.

As one of the leading organizations in its sector, the DLG not only organizes trade fairs and events in the fields of agriculture and food technology but also tests food, agricultural technology and equipment. With its competence centers for agriculture and food, its demonstration farm where practical trials take place along with its numerous publications, the DLG continually promotes independent knowledge transfer. In addition, the DLG works on numerous national and international committees of experts to develop solutions for the challenges facing agriculture and the food industry.