

Micreos

Harnessing the power of nature to make food safer

acteria are all around us. Most of them are good and protect us, but some can cause irritation or infection. There has been an increase in food borne bacterial

B pathogens lately leading to serious problems and hospitalizations. In fact, a recent turn of events have suggested Listeria outbreaks in Spain, Germany, and The Netherlands affected over 1000 people leading to miscarriages, allergies, and even death. Antibiotics have always been considered as the antidote to bacterial infections; however, they do not distinguish between good and bad bacteria, and their use can lead to side effects and resistance. This renders them unsuitable for long-term use. To revolutionize the scenario, Micreos is pioneering antibacterial products that target only the unwanted bacteria while preserving the beneficial ones. By leveraging the phage technology, which employs the natural enemy of bacteria against it—bacteriophages, Micreos has developed several FDA and USDA approved food safety products under the brand PhageGuard against dangerous bacteria in the food chain including Listeria, Salmonella, and E.coli.

PhageGuard products target only deadly pathogenic bacteria, unlike antibiotics and chemical interventions and preservatives. "We firmly believe that with phages, nature itself has given a solution for modern-day challenges. Using state of the art technology we are able to harness that solution and make food safer," says Bert de Vegt, MD, Micreos Food Safety. PhageGuard provides a 'green' alternative to antibiotics in the food chain, reducing the risk of transfer of multi-resistant bacteria from animals to humans. At the same time, PhageGuard products are easy to apply via a dip or spray. "PhageGuard offers green, smart, and easy solutions that greatly fit with today's natural and clean label trend," says de Vegt. PhageGuard products are cutting-edge food safety tools for cooked meat, poultry, fish, dairy, cheese, produce and more that target the pathogenic bacteria and have no effect on taste, colour, texture or odour of the final product. PhageGuard products such as Listex for Listeria and PhageGuard S. against

Salmonella do not affect the organoleptics of the treated product in any way and leaves no ecological footprint.

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As most producers of RTE foods, Old World Provisions from Albany, New York, manufacturers of the finest New York-style delicatessen, is under risk of Listeria contamination. In this case on hot dogs while moving from the peeler to packaging. This is because Listeria can grow at low temperatures and its ability to form biofilms make it a dangerous pathogen in food processing plants. Old World Provisions started spraying PhageGuard's Listex into the thermo-formed pouches on the rolling stock packaging line to protect the hot dogs from contamination. As the package is sealed and shrunk, the liquid is evenly dispersed around the hot dogs, thereby preventing Listeria contamination. This is just an example of how easy it is to use phage solution in food production.

Following the philosophy of HAMAPASAP or Help as Many as Possible Soon as Possible, Micreos makes food safer. "We offer technology that helps to prevent foodborn illnesses, reducing the number of miscarriages and help to save lives by making use of technology that was created by nature," says de Vegt. The company adopts a science-driven approach, developed in close collaboration with its customers and a worldwide network of research partners, such as ETH Zurich and Ghent University. Best of all, PhageGuard contributes to a better world: safer products, healthier animals and happier consumers. Keeping this goal in mind, the company plans to expand in the portfolio by reducing Campylobacter in poultry by applying phage in the drinking water, thereby reducing the Campy burden on further processing facilities. Similarly, Micreos will increase the application of its technology into animal health, for example, phage intervention as an alternative for antibiotics in fish farming. Finally, the company will increase its geographical footprint in Europe, North America, Middle East, South Africa, and Australia. 



BERT DE VEGT