

# Discovery leads to new ageing cream and chicken feed

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Credit: Leiden University

What do a novel anti-ageing ingredient for cosmetics and a new type of chicken feed have in common? They were both produced using a new solvent developed by Leiden biologists in 2011. The medium is neither solid nor liquid, and the industry is now starting to see it's many possibilities.

We believe that all biochemical processes in cells take place in water or in lipid. But in fact, many products found in cells are neither water soluble nor lipid soluble. In 2011, Young Hae Choi and Robert Verpoorte at the Institute of Biology (IBL) at Leiden University

proposed that there might be a third medium in cells. This alternative medium, they argued, could be composed of solids that in certain molar ratios become a liquid. Choi and Verpoorte named the medium natural deep eutectic solvents (NADES). They introduced this concept in a publication in 2011.

But before they published the NADES discovery, Choi and Verpoorte filed a patent application, which is now granted in various countries. The patents cover the NADES as extraction solvent for industrial [applications](#) in the field of life sciences, such as agriculture, cosmetics, and pharmaceuticals.

The NADES hypothesis may be translated to a wide spectrum of applications to benefit society, the scientists believe. Such applications are being developed in collaboration with various companies. Two of these collaborations have recently resulted in the launch of products.

Within the cosmetics industry, a growing number of companies are interested in applying NADES, as it is now considered a valid technology to add novel ingredients from nature to their products, as exemplified by various collaboration requests.

Verpoorte and Choi have a long-standing collaboration with the France-based [company](#) Gattefossé, that obtained a license on their NADES patents. At the in-cosmetics fair in April in Amsterdam, the company introduced a novel ingredient for cosmetics based on NADES: Gatuline Link n Lift, an anti-aging product.

Another application of the NADES technology resulted from a [collaboration](#) with two other companies, Leiden University spin-off In Ovo and Netherlands-based Pas Reform. At the VIV Europe in June 2018, Pas Reform launched a new chicken feed product based on NADES, SmartStart.

"The discovery of NADES has now progressed from science to industry and is starting to impact on society. From our perspective, it teaches that there is still a lot we can both learn and benefit from nature," say Choi and Verpoorte.

Provided by Leiden University

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