



## EUROPEAN CONSORTIUM WILL UNLOCK THE POTENTIAL OF FEATHERS TO FOSTER CIRCULARITY IN AGRICULTURE

15 partners from 7 EU countries will work together to transform waste from the poultry industry into bio-based products for agricultural applications.

Brussels, 3 May 2021

The European poultry sector generates **3.6 million tonnes of waste feathers each year**, of which only around 25% are collected separately and valorised for feather meal and fertiliser applications.

A new European funded collaborative project - [UNLOCK](#) - was launched on 1 May to generate new value from a waste stream that contains nearly 90% keratin, a valuable protein that can be **a source for biodegradable materials**.

“In line with the EU Bioeconomy Strategy, the UNLOCK project will valorise chicken feathers to manufacture high-added value bio-based products for agricultural applications. Our solution will reduce this waste generated by the poultry sector while also substituting fossil-based materials currently used in agriculture by renewable ones.”

– highlights Sarah Montes from [CIDETEC Foundation](#), coordinator of UNLOCK.

In the course of the four-year project, funded by the [Bio-based Industries Joint Undertaking](#) (BBI JU), UNLOCK’s partners will design **economically and environmentally sustainable innovative value chains to create a feather-based bioeconomy**. Four different processes will valorise the feathers: from mechanical treatment to steam explosion, microbial fermentation or chemical hydrolysis, depending on the type of end products desired.

The bio-based products generated will be tailored to the needs of the agriculture sector, with the creation of **seed trays, nonwoven geotextiles, mulch films and hydroponic foams**. Furthermore, the keratin contained in those innovative materials will bring additional environmental benefits at the end of the product's life: keratin-based materials are targeted to be zero waste and allow for controlled biodegradability, while also enriching soils with organic nitrogen.

To start working on this challenging but promising initiative, the 15 European partners held an online kick-off meeting on 28 April. This made clear the strength of UNLOCK's well-balanced consortium, that covers the whole value-chain, from feedstock and supply chain analysis to equipment, processes, end-product fabrication and sustainability assessments.

The journey to transform traditional poultry systems to circular, sustainable ones may just have started, but by the end of the project **two first-of-a-kind commercial biorefineries will be established**.

Building on the success of the [KaRMA2020](#) project, UNLOCK aims to make further strides toward a more sustainable European agricultural sector.

You can follow the progress of UNLOCK on Twitter [@UNLOCK\\_BBI](#) and on LinkedIn [UNLOCK\\_project](#). More details on the project's objectives and achievements will soon be available at [www.unlock-project.eu](http://www.unlock-project.eu)

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The UNLOCK project has received funding of €5 million from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 101023306. It officially started on 1 May 2021 and will run until April 2025.

The consortium is composed of 4 Research and Technology Organisations ([CIDETEC Foundation](#) (ES) – coordinator of the project, [ŁUKASIEWICZ](#) Research Network-Institute of Biopolymers and Chemical Fibres (PL), [Asociación de Investigación de Materiales Plásticos](#) (ES), [RISE Processum AB](#) (SE)), 8 SMEs ([General Hydroponic Europe](#) (FR), [Bioextrax AB](#) (SE), [Bio-Mi](#) društvo sa ograničenom odgovornošću (HR), [TECHNOPackaging](#) (ES), [FARRELLY & MITCHELL](#) (IE), [Organic Waste Systems nv](#) (BE), [INKOA SISTEMAS](#) (ES), [Associació Comarcal Urgell d'Ajuda al Minusvàlid](#) (ES)), 2 Clusters ([Fundacja UNIMOS](#) (PL), [Greenovate! Europe EEIG](#) (BE)), and 1 large industry ([CEDROB S.A.](#) (PL)).

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