

UdL obtains €190,000 from the Knowledge Industry program

To develop veterinary supplements, chemicals from slurry and cosmetics with olive tree waste

Three projects from the University of Lleida (UdL) have received a total of 190,000 euros from the Knowledge Industry program of the Agency for the Management of University and Research Grants (AGAUR), aimed at converting the knowledge generated by research into products or services that improve people's lives. They focus on developing a new symbiotic supplement (which incorporates probiotics and prebiotics) for pig farms; using antioxidants extracted from olive pulp for the cosmetics industry; and obtaining industrial-scale chemical products from slurry without using fresh water, which would be an advantage in the current drought context.



In the Seed modality, the UdL has obtained funding for two projects, each with 20,000 euros. These are Iron-Enriched Postbiotic: Market Study & Pre-prototype Validation for Reducing Economic Loss in Pig Farming Due to Ferropenic Anemia-FerSac25, led by Professor of Microbiology at the UdL and researcher at the Institute for Biomedical Research of Lleida (IRBLleida) M. Ángeles de la Torre Ruiz; and Waste to product - De residu a producte (W2P), by Professor of Bioinformatics and also researcher at the IRBLleida Alberto Marín Sanguino.

The first will work with researchers and professors from the UdL Nuria Pujol Carrion, Judit Ribas Fortuny, José Antonio Moreno and Esther García. In collaboration with the team of the technical director of the Center for Experimental Research in Applied Biomedicine (CREBA), Dolores Garcia, they will develop the prototype of an iron supplement to combat iron deficiency anemia on pig farms, a "highly prevalent disease in piglets, especially in intensive livestock farming", explains de la Torre. The aim is to replace the current injections of iron dextran with the oral administration of a symbiotic based on "a biotechnological yeast strain highly enriched in organic, bioavailable and safe iron", she highlights.

After supplying the product as a food supplement to a group of piglets, the team will monitor different physiological and hematological parameters to assess its effectiveness. "The knowledge acquired in this project can be transferred to the human market, since iron deficiency anemia is a serious health problem worldwide", adds the researcher. "This animal model has a double health projection: on the one hand it allows a preclinical trial to be carried out prior to the human model and on the other hand, it offers a new alternative to significantly promote pig welfare and production in a sustainable way", underlines M. Ángeles de la Torre.

Meanwhile, Alberto Marín wants to reduce the consumption of fresh water by the chemical industry using a halophilic bacterium that grows in salt water. "Spain has one of the highest levels of water stress among the countries of the Organisation for Economic Co-operation and Development (OECD) and climate change is likely to reduce the average annual rainfall", warns the UdL professor and researcher in the Systems Biology and Statistical Methods for Research group. The starting point of this project "is a collection of strains developed from pig manure in our laboratory, already optimised for the industrial production of these chemical products", he

explains. As a result, pollutants such as ammonia, phosphate and sulphates are removed from livestock manure.

"Although we are quite advanced in terms of technology and intellectual property, our research will not be able to reach the market if we do not advance on all the other fronts that are critical for innovation," adds Marín. This project, which is part of the doctoral thesis of researcher in training Èrika Vilamajó Farré, "can open a path for industrial development in rural Catalonia and, at the same time, reduce the negative impact of one of its main economic activities: livestock farming," notes the UdL professor.

In the Product category, AGAUR has awarded €150,000 to the project Market potential and validation of a polyphenolic bioactive for cosmetic applications-REWOP (Potential of market and validation of a polyphenolic bioactive for cosmetic applications), led by the researcher from the Escola Politècnica Superior Anna Bacardit Dalmases. The director of the A3 Leather Innovation Center in Igualada, who had already worked with the revaluation of an olive residue for tanning leather, now proposes to use a by-product of oil production as a high-performance antioxidant of biological origin for cosmetic uses.

The aim is to confirm the antioxidant and skin-protective properties of polyphenols extracted from wet olive pulp using patented bio-processing techniques and in collaboration with industry partners. The ultimate goal would be to replace 10% of synthetic antioxidants in cosmetic formulations, valorizing 3 million tons of agro-industrial waste per year and achieving annual revenues of between 2 and 5 million euros.

The three types of grants from the Knowledge Industry program - Product, Seed and Innovators - total around 10 million euros this year, distributed among 124 projects throughout Catalonia.

Source: [Premsa UdL](#)