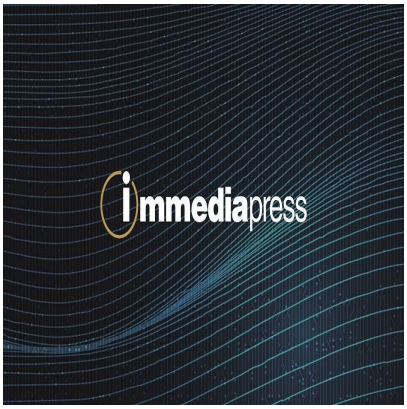

MGI Tech empowers the University of Lisbon to study impact of Saharan dust on Portuguese agriculture -Vineyards as Key Case Study

Descrizione

COMUNICATO STAMPA â?? CONTENUTO PROMOZIONALE

Dust events have increased up to twelvefold, carrying millions of microorganisms into Portuguese soils

Sequencing technology enables risk detection and unlocks biotechnological opportunities to boost agricultural resilience and quality

LISBON, Portugal, Jan. 19, 2026 /PRNewswire/ â?? MGI Tech Co., Ltd, a company dedicated to developing core tools and technologies that drive innovation in life sciences, supports the Faculty of Sciences of the University of Lisbon to identify and monitor microorganisms transported by Saharan dust by applying advanced sequencing technology. The aim is to understand how these bioaerosols â?? increasingly frequent due to climate change â?? are transforming Portuguese agricultural soils and affecting the quality and productivity of vineyards in Portuguese wine-producing regions, while simultaneously identifying opportunities to improve crop productivity, quality and sustainability.

Portugal, particularly the south, lies along one of the main deposition routes for Saharan dust. These intrusions transport millions of microorganisms, identifiable through DNA analysis, which can profoundly alter soil and plant microbiomes, as well as influencing soil fertility, disease resistance, grape quality and crop yields â?? key factors for the sustainability and competitiveness of the agricultural sector. The insights gained are expected to inform sustainable practices for a wider range of crops and agricultural ecosystems.

With the support of MGI Techâ??s high-sensitivity sequencing technology, including the DNBSEQ-G99 platform, capable of analysing millions of microorganisms in real time with high sensitivity, ULisboa is mapping the microbial composition of dust, soils and plants, enabling early risk anticipation and the identification of biotechnological opportunities.

â??The impact of dust is bidirectional: it can bring risks that threaten productivity, but it also carries microorganisms with biotechnological potential. We need to monitor and understand both sides to

protect and enhance Portuguese agricultural resillience,â?• explains Prof. Ricardo Dias, researcher at the University of Lisbon.

This knowledge paves the way for the development of precision agriculture solutions, including the identification of beneficial microorganisms, early pathogen detection and the creation of microbial consortia capable of improving vineyard resilience.

â??The G99 enabled us to identify, during storm CÃ©lia and in Portugal, a bacterial genus with potential to act as a natural fertiliser, demonstrating the immediate value of this kind of monitoring,â?• says Prof. Ricardo Dias. â??We have also been testing non-native microbial consortia that increase vineyard resilience, improve grape quality and reduce the need for pesticides. With this innovation in partnership with MGI, resilience does not begin when the dust settles â?? it begins when we analyse it.â?•

â??Our partnership with the University of Lisbon demonstrates how sequencing can turn dust into dataâ??starting in vineyards, but ultimately building a system of microbial intelligence for agriculture at large,â?• stated Duncan Yu, President of MGI.

In a year when Portugal recorded, in 2024, an 8% drop in wine production, according to the CEEV, and faces increasing challenges due to climate change and a significant rise in Saharan dust intrusions, this project represents a major step forward in protecting the national wine-growing economy. The integration of genomics into agriculture is opening the door to new ways of monitoring, managing and improving soils and crops, strengthening the countryâ??s position at the forefront of agricultural innovation and climate resilience.

Please watch the video here.

About the Faculty of Sciences of University of Lisbon | CIÃ?NCIAS ULisboa:

CIÃ?NCIAS celebrated its 1st centenary in 2011 and its history can be traced back to the creation of Portugalâ??s first university, the University of Lisbon, in 1288.

It is recognised as one of the most prestigious teaching and research institutions in Portugal, particularly in the sciences and related areas. This recognition comes from the quality of its programmes, which include 17 bachelorâ??s degrees, 40 masterâ??s degrees and 21 doctorates, reflected in an employability rate of 98%.

The Faculty is home to 13 research centres, recognised by the Foundation for Science and Technology, and stands out for its commitment to excellence in research and innovation. This commitment is evident in its per capita performance, which is the best in the University of Lisbon. The Tec Labs innovation centre, located on campus, is home to 35 start-ups, 6 of them international, with a focus on science and health.

The CIÃ?NCIAS campus occupies 1.5 hectares of green space and has off-campus research facilities, such as the Ribeira Abaixo estate in the Serra de GrÃ¢ndola and the Guia Maritime Laboratory in Cascais. Sustainability is a priority, promoted through the Living Laboratory for Sustainability, which includes social and environmental innovation projects such as HortaFCUL, FCULResta or CiÃªncias e Harmonia.

Every day, around 5,000 people pass through the campus, which is frequented by 6,000 students, 650 professors and researchers, as well as more than 200 employees who are part of the institution

About MGI

MGI Tech Co., Ltd. (or its subsidiaries, together referred to as MGI) is committed to building core tools and technologies that drive innovation in life science. Our focus lies in research & development, manufacturing, and sales of instruments, reagents, and related products in the field of life science and biotechnology.

We provide real-time, multi-omics, and full spectrum of digital equipment and systems for precision medicine, agriculture, healthcare and various other industries. Founded in 2016, MGI has grown into a leader in life science, serving customers across six continents and has established research, manufacturing, training, and after-sales service facilities globally.

MGI stands out as one of the few companies capable of independently developing and mass-producing clinical-grade gene sequencers with varying throughput capacities, ranging from Gb to Tb levels. With unparalleled expertise, cutting-edge products, and a commitment to global impact, MGI continues to shape the trajectory of life sciences into the future.

Learn more at: https://global-mgitech.com/, LinkedIn, X and YouTube.

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