

Biotechnology startup creates genome-editing platform focused on sustainable agriculture

U.S.-based InEdita Bio offers solutions that cut chemical fertilizers and pesticides while sustaining high productivity in challenging environmental conditions

SÃO PAULO, BRAZIL, BRAZIL, December 4, 2025 /EINPresswire.com/ -- To help reduce the impact of chemical fertilizers and pesticides on the environment and to ensure productivity in the face of climate change threats - thus contributing to the sustainability of global food production - the U.S.-registered company InEdita Bio has created a [genome-editing](#) platform applicable to all agricultural crops. With this

platform, it is possible to develop pest- and disease-resistant varieties, varieties with greater capacity for biological nitrogen fixation, and varieties more resilient to drought and high temperatures. The startup operates as a Life Science intelligence company, using molecular engineering to increase the sustainability of agribusiness.

InEdita Bio's platform enables the editing of key plant genes involved in cell metabolism and development, making it possible to improve any desirable agronomic trait. The InEdita platform can be used with any cell transfection method, including technologies that employ biological tools such as *Agrobacterium tumefaciens*, or physical tools such as microparticle bombardment or carbon nanotubes.

"Plants genome-edited by InEdita Bio require less water and fewer applications of chemical fertilizers and pesticides than conventional crops," explains Professor Paulo Arruda, co-founder and CEO of InEdita Bio.

To put the potential positive impact into perspective: 70% of the planet's freshwater



Chief Scientific Officer Viviane Silva, PhD, and Paulo Arruda, PhD, CEO of InEdita Bio

consumption is used for food production, according to UN data. In Brazil, where agricultural activity is extremely intense, this figure may be even higher. Moreover, grain production currently has a high cost due to the inputs used. For this reason, solutions like those from InEdita Bio may represent a turning point in food production in Brazil and worldwide, since biotechnology has proven to be a key tool for sustainability and food security.

“Today, about 90% of corn, cotton, and soybeans grown in the United States incorporate biotechnology - and farmers are increasingly adopting biotechnology for other crops such as alfalfa, sugar beet, and canola” adds the researcher. “Brazil, with its extremely favorable climate, has the potential to further increase production of major crops. But we need to significantly enhance the sustainability of our agriculture, and for that, we need solutions that consider environmental preservation, productivity, and efficiency in the field. Brazil is one of the world’s largest agricultural producers, leading in soybean production and accounting for 40% of global output. However, our soy relies heavily on chemical pesticides, with an economic cost close to 3 billion dollars per year,” explains Arruda.

Founded in 2022, InEdita Bio consists of five scientists, all PhDs in biotechnology. The company is part of the Vesper Ventures portfolio, a venture builder fund focused on advanced biotechnology, which provided the company’s first pre-seed investment. The initial investment enabled the researchers to establish proof of concept. Now, with a validated platform and an international patent filed at the USPTO, the company has begun negotiations to license its solutions. “We have attracted the attention of companies that are committed to sustainable food development and that are also interested in preserving biodiversity,” says Viviane Silva, Chief Scientific Officer of the startup.

About InEdita Bio

InEdita Bio is an advanced biotechnology startup founded in 2022. The company uses plant genome-editing technologies aimed at sustainable food production, reducing the socio-economic and environmental impact of chemical fertilizers and pesticides, while increasing the resilience of global crops to the effects of climate change. The startup has developed a genome-editing platform for creating high-value biotech traits in any agricultural crop. With its robust genome-editing platform, InEdita Bio aims to transform global food production, ensuring the preservation of nature for future generations.

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