



## Mutti and IMEM-CNR launch the first trial of Bioristor sensor on tomato plants

***Monitoring their health in real time, the initial trials resulted in a 45% water savings compared to traditional practices***

**July 9<sup>th</sup> 2024, Parma** – To reduce water consumption and improve the quality of agricultural production, **Mutti**, a European leader in the tomato derivatives market, and the **Institute of Materials for Electronics and Magnetism of the National Research Council (IMEM-CNR)** have launched the first monitoring trial using **Bioristor on tomato plants**. The Bioristor, an innovative sensor applied directly to the plant stem, can monitor plant health in real-time by analyzing fundamental physiological processes and communicating directly with farmers using photovoltaic energy and an IoT connection system.

*“Global agriculture, responsible for 70% of the planet’s freshwater consumption, faces increasingly pressing challenges due to ongoing climate changes. Rising temperatures and decreasing rainfall make the adoption of new technologies crucial to address the water crisis,” states **Massimo Perboni, Director of the Agricultural Service at Mutti**. “The Bioristor offers an unprecedented opportunity in our sector to monitor and optimize water use in our crops, helping to ensure the quality of our products more efficiently and responsibly.”*

The Bioristor has been successfully used to monitor kiwi, vine, and apple trees during the production season, and in 2023, it was employed for the first time in a joint trial between IMEM-CNR and Mutti. This trial demonstrated the Bioristor’s effectiveness in improving water use efficiency under extreme drought conditions. Thanks to an AI-based irrigation protocol developed by IMEM-CNR, **a 45% water savings was achieved compared to conventional methods**. Despite a slight decrease in gross field yield, there was a significant increase in Brix – the soluble part of the tomato and an indicator of its quality – and product compliance.

*“The trial conducted by Mutti and IMEM-CNR highlights the potential of technology to improve the efficiency of agricultural resources, such as water, and increase the sustainability of the sector,” says **Michela Janni, a researcher at IMEM-CNR**. “The Bioristor, combined with the AI algorithm, represents a step forward in precision agriculture, allowing for maximized irrigation efficiency and high-quality production even under adverse conditions.”*

Starting from the next campaign, the goal will be to further refine the tools and algorithm to ensure optimal water resource management in agricultural fields and then expand their use on a larger scale, thus promoting greater environmental and economic sustainability in the agricultural sector.



## **About us**

MUTTI SPA - The historic Parma-based company is the European leader in the tomato product market. Marcellino and Callisto Mutti launched the first tomato processing campaign in 1899. Since then, focusing on the core values of quality and Italian tradition, along with respect for the supply chain and the local area, the Mutti family has been exclusively dedicated to 100% Italian tomatoes, producing tomato paste, purée and pulp, products that are now enjoyed all over the world. The desire to innovate, part of the company's DNA since it was founded, has led to the gradual expansion of Mutti's range to include a wide selection of ready-made sauces and soups. With 125 years of experience in the business, today the Mutti Group is present in 100 countries worldwide and in 2023 recorded a net turnover of 665 million euros, processing 525,000 tonnes of tomatoes. As for sales, in 2023 sales volumes in Italy were exceeded by export volumes thanks to years of double-digit growth in the international market. Montechiarugolo (PR) is the historic business headquarters of the Group which has gradually expanded to meet all the needs of its consumers. The Oliveto Citra plant (SA) processes typical southern Italian specialities, such as the plum tomato and the cherry tomato. Finally, in November 2017 Mutti acquired the CO.PAD.OR plant in Collecchio, setting up the new company Pomodoro 43044 Srl which was subsequently incorporated in Mutti SpA from 1 January 2021.

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