

## **BASF's vegetable seeds business and IUNU partner to advance digital phenotyping for the elevation and breeding of hydroponic lettuce varieties**

- **An advanced digital phenotyping platform consisting of computer vision and AI software to generate data on growing patterns and traits of hydroponic lettuce**
- **More accurate and objective data provided will enable BASF Agricultural Solutions to select the right lettuce varieties for elevation and breeding**
- **Partnership to help growers improve and scale up production**

NUNHEM, the Netherlands, December 1, 2022 — BASF's vegetable seeds business, operating in the market under the Nunhems® brand, announced today that it has chosen IUNU as its provider of computer vision and AI software for its lettuce breeding program. This partnership marks the continued movement toward data-driven and autonomous growing for BASF.

The demand for high-quality, high-yielding, and sustainably produced vegetables continues to rise. BASF has long believed that to deliver seeds at the highest caliber and meet this rising demand, breeding must be data-driven. BASF chose to implement IUNU's LUNA AI system in its breeding greenhouses to develop quantitative data on how plants are growing and to develop growth recipes for each individual variety.

"Growers who work with BASF Agricultural Solutions will benefit from this partnership", says Adam Greenberg, CEO of IUNU. LUNA AI will facilitate BASF's efforts to accelerate lettuce breeding and variety development, which in turn make their way into your greenhouses. And beyond the quality of seed, those customers who have a LUNA AI system in their greenhouse will be able to work with BASF to create ideal growing environments based on recipes developed in the breeding facilities,"

According to Dr. Ena Hartig, Vice-President of R&D Vegetable Seeds, BASF, the overarching goal is to better position our hydroponic lettuce portfolio with our customers. "By implementing IUNU's LUNA AI technology, we generate accurate and objective data about the performance of our varieties in similar growing systems and conditions to our customers", says Hartig.

BASF uses LUNA AI to continuously monitor and measure plant performance and to deliver these insights on plant performance to its lettuce customers.

The world demands more production, but we have fewer growers and face continued labor shortages. Greenhouse and vertical farming customers are increasingly moving toward autonomous growing to produce more and better products without adding labor. Technologies like LUNA AI augment the best grower capabilities and help growers scale up production.

The collaboration fits the digital strategy of BASF's Vegetable Seeds Business to improve data-driven decision-making through collaboration with partners. "By developing and applying algorithms with additional phenotyping, our breeding teams will improve the output of our predictive breeding efforts," says Hartig, "In our predictive breeding we bring together platforms and tools such as phenotyping, genomic selection, and statistics to help breeders make data-driven predictions of which lines will perform best in a given situation"

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### **About BASF's Agricultural Solutions division**

Farming is fundamental to providing enough healthy and affordable food for a rapidly growing population while reducing environmental impacts. Working with partners and agricultural experts and integrating sustainability criteria into all business decisions, we help farmers to create a positive impact on sustainable agriculture. That's why we invest in a strong R&D pipeline, connecting innovative thinking with practical action in the field. Our portfolio comprises seeds and specifically selected plant traits, chemical and biological crop protection, solutions for soil management, plant health, pest control, and digital farming. With expert teams in the lab, field, office, and production, we strive to find the right balance for success – for farmers, agriculture, and future generations. In 2021, our division generated sales of €8.2 billion. For more information, please visit [www.agriculture.basf.com](http://www.agriculture.basf.com) or any of our social media channels.

### **About IUNU**

Founded in 2013 and headquartered in Seattle, IUNU is closing the loop in greenhouse autonomy and is focused on being the world's leading controlled environment specialist. IUNU's flagship platform, LUNA AI, combines software with a variety of high-definition cameras — both fixed and mobile — and environmental sensors to keep track of the minutiae of plant growth and health in indoor ag settings. LUNA's goal is to turn commercial greenhouses into precise, predictable, demand-based manufacturers that optimize yield, labor, and product quality. [www.iunu.com](http://www.iunu.com)