FERMATA

Bayer & Fermata Collaboration

Artificial intelligence yields major dividends for growers

In the scorching heat and swirling dust of the Arava Desert, Bayer Crop Science, Israel, has just concluded a collaboration with Fermata on a project designed to validate a model for reducing the use of pesticides through the application of artificial intelligence. The project involved conducting a feasibility study of Fermata's automated pest & disease detection platform, Croptimus™, with the goal of verifying the capabilities of this computer vision system, and proving how early detection of pests and disease increases sustainability.

To this end, Croptimus™ was installed to monitor melons growing in mesh covered tunnels within this harsh environment.The system employs AI to analyze thousands of images collected daily by cameras installed within the facility to detect the tiniest indications of both pests and pathogens which, left untreated, quickly get out of hand — leading to crop loss and a reduction of produce quality. Early detection being key, Croptimus™ is designed to substantially reduce crop loss, crop inputs (including pesticides), and dramatically reduce scouting time — in aggregate a significant savings.

The endeavour was an unqualified success according to Imri Gabay, Crop Protection Customer Advisory Manager at Bayer, Israel, "The initial experiment was extremely successful, and the system copes well with the many challenges in the field. We are already working on continuing cooperation between our companies." Commenting further, he elaborated, "Early detection enables the application of less toxic substances, quickly dealing with the pest or disease before a major outbreak, allowing for precise spraying of a small area — and as a result, saving pesticides while obtaining cleaner produce."

Alon Kapon, the grower heading the study, concurred, "Often Fermata found things I did not see at the time. The later I discover a problem, the more treatment is needed. If I find problem later, I need to do two to three treatments before it helps, but if I find it early enough with Fermata, even one treatment can be enough and I can use targeted mitigation — without spraying the entire facility."

BAYER

"We at Fermata very much appreciate the opportunity to work with Bayer on reducing the amount of chemicals applied by growers. We are looking forward to this continuing collaboration and making our AI for early pest and disease detection available to farmers around the globe."

- Fermata CEO, Valeria Kogan PhD

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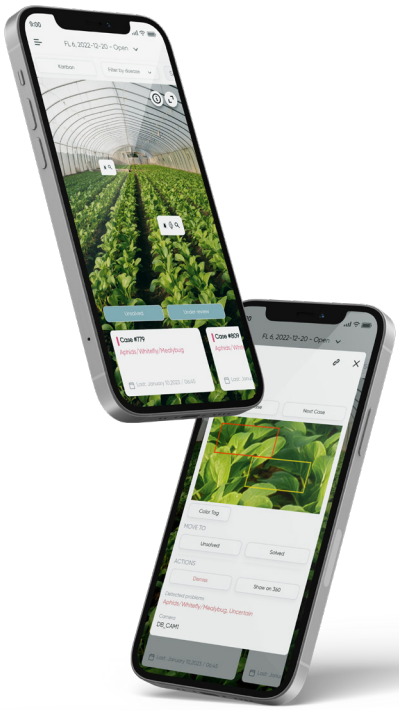
With energy prices soaring and greenhouse profits shrinking, Croptimus™ boosts the bottom line for growers while simultaneously reducing the need for pesticides and other inputs which would be otherwise wasted on lost crops — dramatically improving sustainability in agriculture.

Fermata CEO, Valeria Kogan PhD, added, "We at Fermata very much appreciate the opportunity to work with Bayer on reducing the amount of chemicals applied by growers. We are looking forward to this continuing collaboration and making our AI for early pest and disease detection available to farmers around the globe."



ABOUT FERMATA

Fermata is focused on the application of data science and computer vision solutions to challenges faced by commercial agriculture. Engaged in extensive research since the company's inception in 2020, Fermata has now developed an adaptive computer vision platform designed to automatically detect pests and diseases at their earliest stages. This early-detection platform enables growers to reliably mitigate these issues well in advance of the point crop loss becomes inevitable, and further reduces the amount of time and money spent on traditional scouting.

ABOUT BAYER

Bayer is a global enterprise with core competencies in the life science fields of health care and nutrition. Its products and services are designed to help people and the planet thrive by supporting efforts to master the major challenges presented by a growing and aging global population. Bayer is committed to driving sustainable development and generating a positive impact with its businesses. At the same time, the Group aims to increase its earning power and create value through innovation and growth. The Bayer brand stands for trust, reliability and quality throughout the world. In fiscal 2022, the Group employed around 101,000 people and had sales of 50.7 billion euros. R&D expenses before special items amounted to 6.2 billion euros.

For more information go to **www.bayer.com** or **www.fermata.tech**