

Press Release

InfraTec GmbH Infrarotsensorik und Messtechnik

Dresden, 15/07/2021

A Successful Cooperation against Plant Diseases

Data Fusion in Plant Phenotyping for Cercospora Detection in Sugarbeets

Supported by:



Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag

Various sensor technologies had been evaluated regarding their usability for the detection of the plant disease Cercospora in the joint project „Data Fusion in Plant Phenotyping for Cercospora Detection in Sugarbeets“ (DataPlant), funded by the German Ministry of Food and Agriculture. The sensor data acquired by georeferenced LIFT and hyperspectral systems, drone based RGB cameras and weather stations were processed and combined – among themselves as well as with traditional scoring methods - using sophisticated Big Data algorithms. Besides the already established RGB images, the determination of vegetation index values by hyperspectral measurements seems to be a promising sensor-based detection method.

The project partners Clausthal University of Technology, KWS SAAT SE & Co. KGaA, MG Optical Solutions GmbH and InfraTec GmbH Infrarotsensorik und Messtechnik developed an innovative sensor system, which shall detect a Cercospora infection by laser induced IR spectroscopy. The plant leaves are irradiated by a quantum cascade laser at wavelengths of typical absorption bands of Cercospora related molecules whereon the resulting surface temperature changes are detected by a radiometrically calibrated thermal camera VarioCAM® HD head by InfraTec.

So, the project „DataPlant“ demonstrated various sensor technologies which are potentially suited for an automated detection of plant diseases and could provide data for digital system solutions in plant production and breeding in future.

Information: 1,617 characters (incl. spaces)

About InfraTec

The InfraTec infrared sensor and measurement technology company was founded in 1991 and has its headquarters in Dresden, Germany. The privately held company employs more than 200 employees and has its own design, manufacturing and distribution capabilities.

Infrared sensors, with electrically tunable filters based on MOEMS, count among the products of the infrared sensor division, next to spectrally single and multi channel infrared detectors. These detectors can be used in gas analysis, fire and flame sensor technology and spectroscopy.

With its infrared measurement business unit, InfraTec is one of the leading suppliers of commercial thermal imaging technology. In addition to the high-end camera series ImageIR® and the VarioCAM® High Definition series, InfraTec offers turnkey thermographic automation solutions.

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Fig.: New IR spectroscopy system with the infrared camera VarioCAM® HD head for field measurements

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