Service ID S00001

Location Belgium

Hyperspectral and Spectrometer Testing for Agri-Food Product Quantific

Provider service

Instituut voor Landbouw-, Visserij- en Voedingsonderzoek

Link to content

https://www.agrifoodtef.eu/services/hyperspectral-and-spectrometer-testing-agri-food-product-quantification

Type of Sector

Arable farming, Food processing, Greenhouse, Horticulture, Tree Crops, Viticulture

Accepted type of products

Data, Design / Documentation, Physical system, Software or AI model

Type of service

Collection of test data, Performance evaluation, Provision of datasets, Test design, Test execution, Test setup

Description

This service offers pilot testing of hyperspectral and spectrometer technologies to evaluate their potential for non-destructive, at- or inline analysis in agri-food processing. Using VIS and NIR hyperspectral cameras and spectrometers, we conduct lab-scale measurements to assess the feasibility of these technologies for your specific products or applications, such as quality control or process monitoring. Based on the collected data and reference samples, we build statistical and machine learning-based chemometric models to quantify key properties. Additionally, we offer resampling services to explore the integration of multispectral devices, whether existing or custom-built, into your production processes for optimized performance.

How can the service help you

We support customers by offering pilot testing with VIS and NIR hyperspectral cameras, building chemometric models based on measurements and reference data and resampling to explore integration of multispectral devices into their production processes.

How the service will be delivered

We tailor the service by adjusting the type of hyperspectral cameras (VIS or NIR) and spectrometers used based on the specific characteristics of your product or application, such as quality control, process monitoring, or chemical composition analysis.

Additionally, the service allows for customization in data analysis, where we can develop chemometric models that meet your specific criteria, and perform resampling to explore the potential use of existing or custom-built multispectral devices for future integration into your processing environment.

Service customisation

We set up lab-scale testing using VIS or NIR hyperspectral cameras and spectrometers to capture detailed spectral data. The measurements are conducted in controlled lab environments to ensure accuracy and reliability.

After data collection, we analyze the results and build chemometric models using statistical and machine learning techniques tailored to your application. If needed, resampling is performed to evaluate the feasibility of integrating multispectral devices.

Finally, a comprehensive report with the findings and recommendations will be provided, along with ongoing support for integrating the results into your production processes.