

Avantes Spectroscopy in Agri- & Horticulture Applications

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Product Manager



Some key figures of Avantes

Develop and manufacture: compact spectrometers, light sources, fiber optics, and accessories

85 employees in Apeldoorn,
110 total worldwide

AVANTES

±50.000 spectrometers sold since 1994

16.5 Mio € worldwide annual sales

Sales offices in NL, US, China and Germany
44 Distributors all over the world

part of the Nynomic group

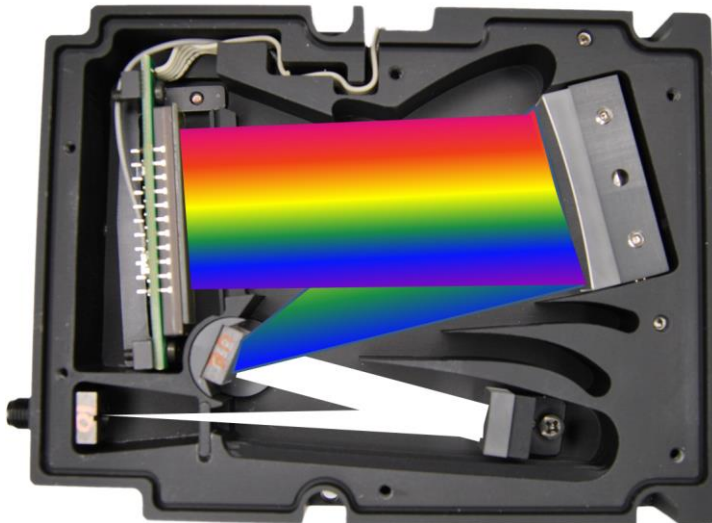


Avantes line of spectrometers

Compactline
Small/ compact spectrometers



Spectrometer - the core technology



StarLine
Price effective, flexible & configurable



SensLine
For the highest sensitivity



NIRLine
The best measurements in Near Infrared



Spectroscopy technologies/principles

- UV-VIS
- NIR, MIR, IR
- RAMAN
- LIBS

- Absorption / Transmission
- Reflection
- Fluorescence
- OES (Optical Emmission Spectroscopy)

4 Application Examples



NIR-Content Sensor

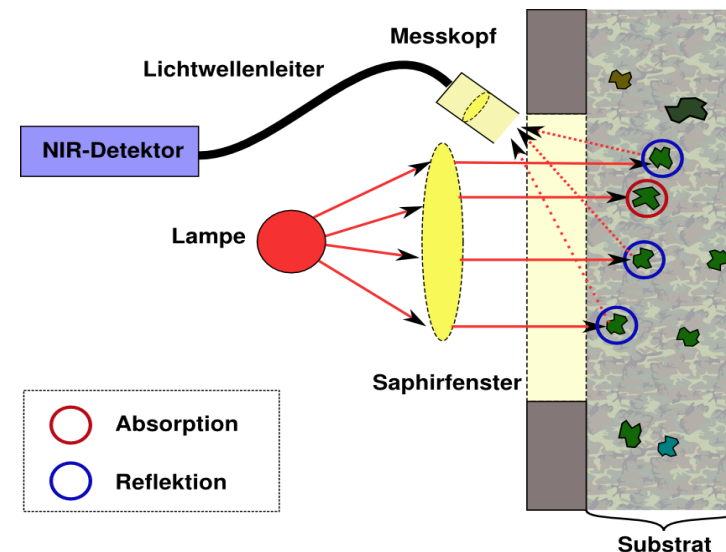
Green Tech

- Content analysis of corn, gras, alfalfa
- Parameters: dry matter, raw fiber, raw protein, raw fat, starch



Manure content measurement system

- Mobile or stationary manure content characterization at stables or biogas installations for settlement or documentation purposes,
- Parameters: Dry matter, Total Nitrogen, Ammonium Nitrogen, Phosphate, Potassium
- Registration/control manure transports, avoiding fraude
- Efficient distribution on the field based on known manure content



HortiSpec +

“Light is not what YOU see!”

Integrated System for Plant growth optimization

UV, PAR, IR

Photon flux

Radiation balance

IP65 housing



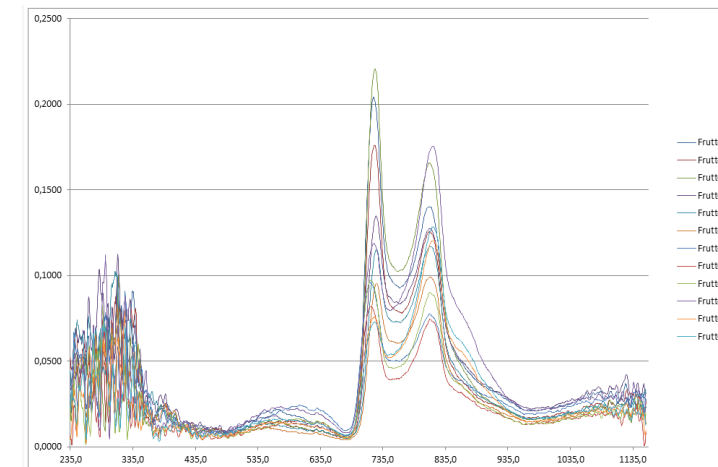
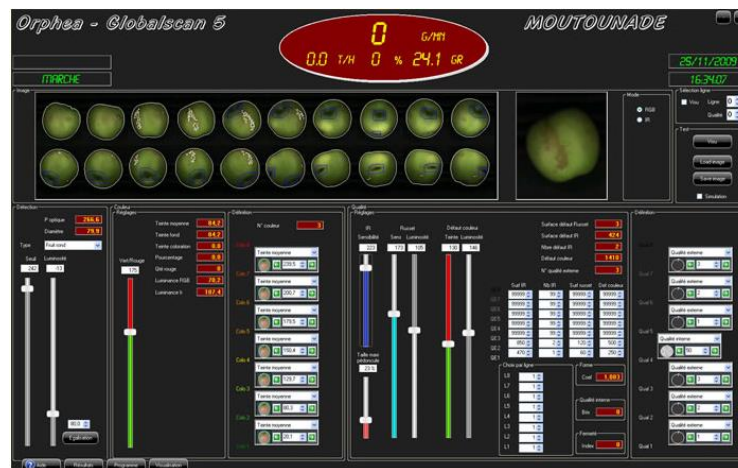
Fruit sorting - internal quality

All kind of fruits

Measure saccharin, detect rotten spots,

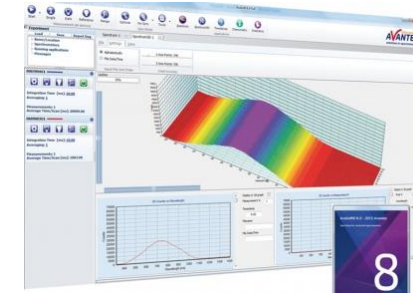
Requirements:

- High sensitivity,
- Thermal stability
- High speed
- Signal-to-Noise performance



We offer:

Spectrometers, Fiber Optics, Light Sources, Accessories, Software
Support and years of application knowledge and experience



We look for:

Companies (system integrator/ end-users) who add value to our products to offer a solution for the Agri- and Horticulture markets



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