NIREOS

Food Quality Control in the Meat Industry

The HERA hyperspectral camera presents new possibilities for quality assessment in the meat industry.

With our HERA SWIR (900–1700 nm) and Extended SWIR (900–2300 nm) we are able to detect contamination due to foreign objects such as bones, plastic, and metals.

With spectral analysis, we can also detect variations in the chemical composition of meat corresponding to lean/fat content, tenderness, and colour monitoring.
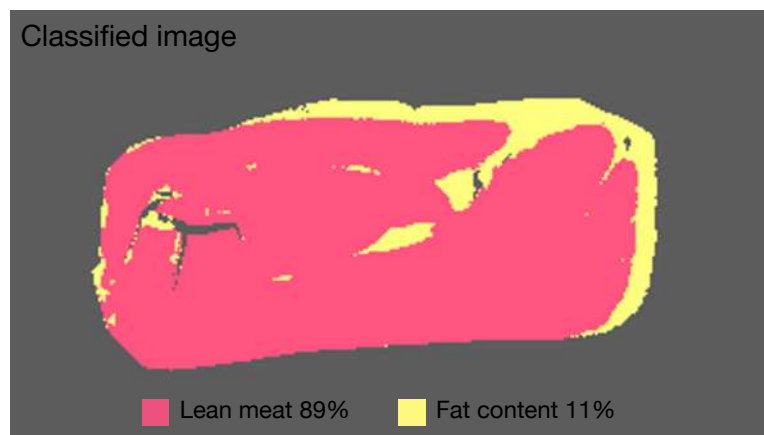
ADVANTAGES OF USING HERA

- High spatial & spectral resolution
- High sensitivity and throughput
- Fluorescence measurements
- Compact and lightweight
- Plug & Play
- Export data in ENVI format

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Test measurement :

We have taken measurements of a slice of ham using HERA SWIR and Ext. SWIR. We observed a clear spectral difference between the fat and lean meat. Using a classification algorithm, it was possible to automatically categorise these lean and fatty regions of the sample.

With similar measurements, it would be possible to also distinguish other objects with different spectral signatures such as plastic, wood, bones, and metal.

RGB Image

Classified image

Lean meat 89%   Fat content 11%

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The following spectra have been retrieved from hyperspectral measurements taken using the HERA SWIR and Ext. SWIR instruments. The red spectra represent the fat content of the product, while the blue spectra correspond to the leaner part.
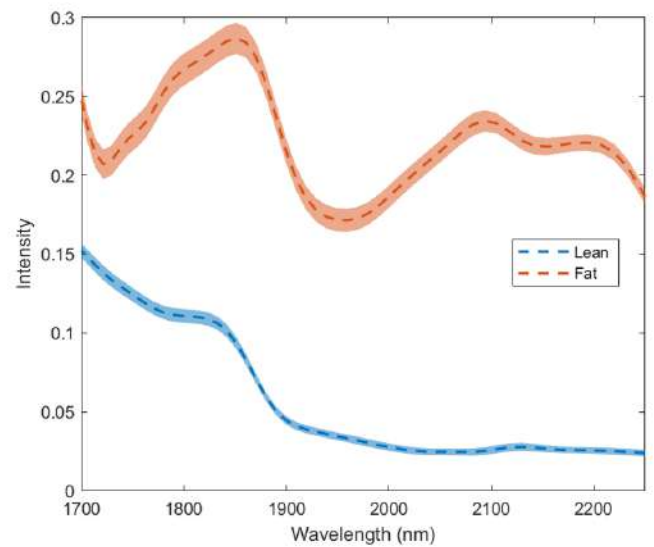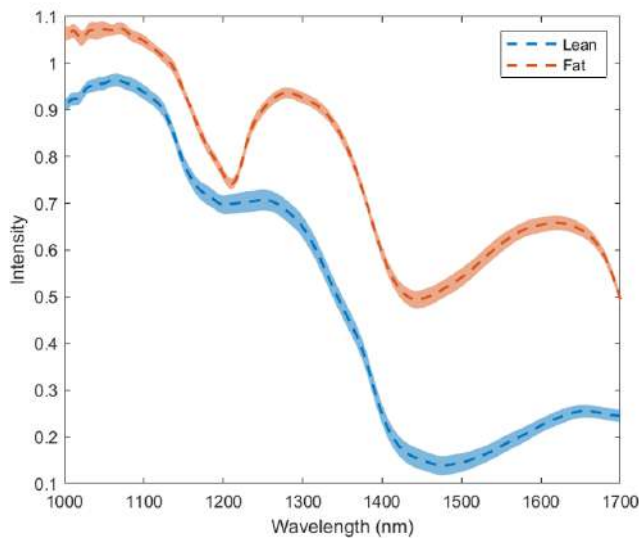
HERA SWIR: 900—1700 nm

HERA Extended SWIR: 900—2300 nm

For more information, please visit our website

www.nireos.com