

QSorter Explorer

HIGH-SPEED SINGLE-KERNEL ANALYSIS AND SORTING FOR THE RICE BREEDING AND FOOD INDUSTRY



The QSorter Explorer **analyses and sorts** rice grains according to multiple physical traits and compositional properties in one single pass. The level of chalkiness, length, shape, color or head rice yield are assessed in a fraction of a second.

Single-grain analyses

High speed - 1'200 kernels/minute

Fissured grains detection

Broken kernel identification

Length, width and thickness identification

Chalkiness grading

POSSIBLE FUTURE RICE APPLICATIONS

- Whiteness in rice
- Protein and amylose content
- Defects
- Detection of immature grains
- Moisture content

Contact us and find out more about the rice applications

Email: rice@qualysense.com

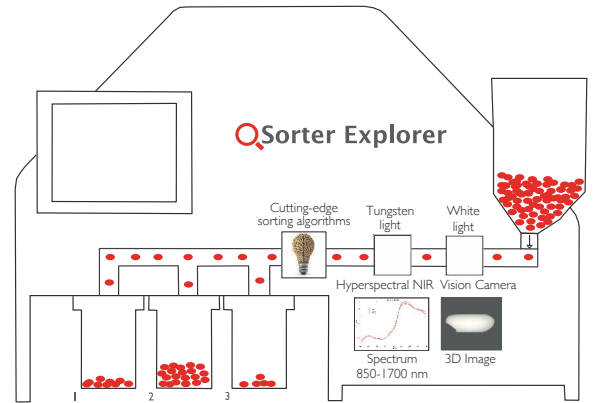
FAST, ACCURATE AND REPEATABLE ANALYSES

QualySense is helping seed breeders, food companies and inspection agencies to achieve excellence in nutrition, health and safety. By combining two sensing technologies - **3D Machine Vision** and **High Resolution Near-Infrared Spectroscopy** - with single-kernel analysis, the QSorter is delivering outstanding results in terms of accuracy and sorting capabilities.

Each grain is transported at high-speed and at a fixed orientation towards a light source. A color camera takes a 3D image of the grain, and the High Resolution Near-Infrared spectrometer measures the amount of absorbed light evaluating the biochemical properties of the grain.

These two datasets are processed by state-of-the-art algorithms that extract the geometrical parameters and biochemical fingerprints of each rice kernel.

The sample is sorted into different quality classes at a speed of 20 kernels per second.



QSORTER EXPLORER RESULTS

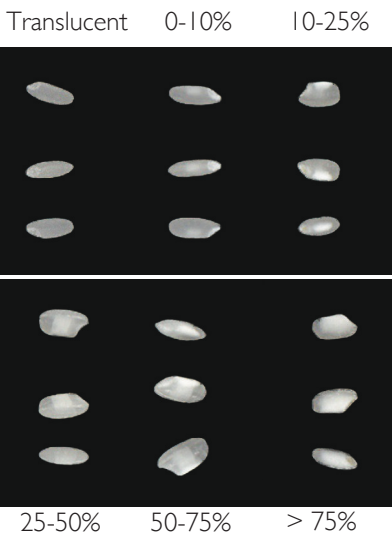


Fig. 1 - Chalkiness levels in rice kernels

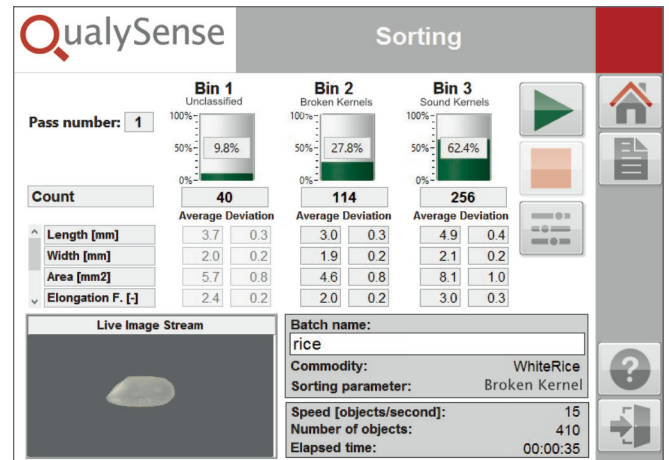


Fig. 2 - QSorter Explorer - Graphical User Interface

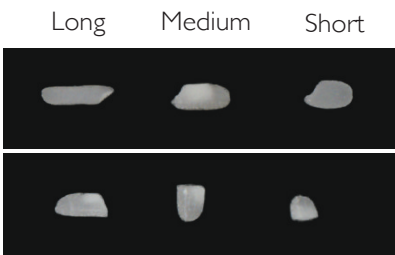


Fig. 3 - Sound vs broken kernels



Fig. 4 - Fissured kernels