

# SPECTROMETER PICKS OUT ROTTEN MANGOS

**From the outside, rotten mangos often look unblemished. WUR researchers developed a method to tell whether the fruit is rotten without having to slice it open.**

Researchers of the Post-harvest Technology group at Food & Biobased Research sliced open hundreds of mangos to check if the fruit was rotten. This was done by hand. 'We even had a special slicing device made at the workshop,' Suzan Gabriëls says. However, before opening the fruit, they measured the moisture content and chemical composition using a near-infrared spectrometer (NIR). Then all the sliced mangos were photographed in a chromometer (see the photo on page 2.) These images were translated into values, whereby all the brown and black pixels represent 'rotten' areas and the yellow pixels indicate 'healthy' flesh. Using these val-

ues, the researchers defined a healthy-to-brown ratio for each mango. The higher the ratio, the fewer brown pixels.

Then the researchers checked whether the NIR measurements could reveal the mangos containing rotten flesh beneath the skin with the help of this model. This showed that the predictions were correct in 80 per cent of the cases.

## **TRANSPORT**

This is an excellent result that will prove useful to mango traders, according to Gabriëls. They will be able to assess the quality of the mango using the spectrometer, send the unblemished mangos to more distant locations, sell the average mangos on the local market and discard the rotten mangos. Globally, some 1.1 million tons of mangos are traded annually, with a value of about 2 billion euros. **AS**