Non-destructive measurement of Strawberry taste

One of the goals of the GreenCHAINge project is to develop non-destructive methods to measure quality. Taste is an important feature of quality. The current assessment of taste with expert or consumer panels is expensive and time consuming. Therefore alternative methods are needed.
Scientists have explore the potential of volatile detection with PTR-Qi-TOF to assess the taste of strawberries. In addition, the volatile production of ripe and unripe strawberries during shelf life was monitored.

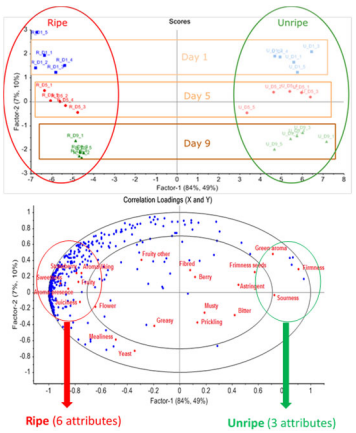
Taste attributes are linked to volatiles

Taste attributes linked to ripe strawberries are well related to several of the measured volatiles. A limited number of volatiles is present in higher concentration in unripe strawberries. These are related to the taste attributes firmness, green aroma and sourness. Mealiness and yeast are particularly correlated to ripe strawberries with longer storage time (day 9).

Non-destructive method for the industry

The PTR spectra correlate well with the expert panel. A number of volatiles measured with the PTR are linked to specific taste and flavour attributes measured by the expert panel. This study is a first step into the development of a new objective technique to assess the taste of strawberries.

A non-destructive and fast method to assess taste and flavour is interesting for the industry not only for the screening of new cultivars but also as a tool to monitor and improve the consumer taste perception of strawberries.



Upper figure: The PTR is able to discriminate between maturity stages and moment during shelf life (day 1, 5 or 9). Lower figure: good correlation between detected volatiles and taste attributes assessed by an expert panel.

For detailed information about this project result please visit www.wur.eu/greenchainge.

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