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**VENDOR WEBINAR:** 

## High-Throughput Analysis of Freshness Markers in Various Food Samples by SIFT-MS

## High-Throughput Analysis of Freshness Markers in Various Food Samples by SIFT-MS

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Consumer acceptance and food safety are key for wholesalers and retailers of fresh fruit, vegetable, fish or meat products. Although consumers provide the ultimate feedback on quality, suitable instrument-based methods can provide rapid analysis, objectivity and low costs per sample, which are not always possible using human subjects.

During ripening, fruits emit a diverse range of low molecular weight compounds arising from various hormonal and metabolic processes. The relative abundances of these volatiles change over time and are detected, quantified and monitored in a high-throughput manner by SIFT-MS.

SIFT-MS (Selected Ion Flow Tube Mass Spectrometry) is a very rapid, direct, and sensitive technique with detection limits matching those of human olfactory system and minimal samples preparation. Therefore, it is ideal for detecting spoiling of food at an early stage and for a wide-scale and high-throughput freshness screening.

SIFT-MS uses soft, precisely controlled chemical ionisation coupled with MS detection to rapidly quantify VOC down to pptv concentrations. For this study, it was combined with a headspace autosampler (Gerstel). Since no front-end separation but a direct analysis of all samples is performed, the setup provides a robust, easy to operate solution for sensitive, quantitative screening of hundreds of samples per day.